BATAC WATER DISTRICT

Disaster Risk Reduction Management Plan

Chapter I

1.1 Introduction

Water crises and climate change are Batac Water District's societal and economic risks. Disaster as a whole has the ability to kill people and the business of selling water as well. It is crucial that in the aftermath of a disaster a water supply is operational as soon as possible to minimize the outbreak of diseases that may exacerbate the disaster.

Several earthquakes have been adversely affected water sources and have caused damage to pipelines, reservoirs and pump houses. The July 1990 earthquake partially damaged the water system of the Batac Water District. The operation was suspended because the water sources were damaged. The Batac Water District was then a recipient of a Calamity Fund in the amount of P 1,495,000.00 for the construction of series of shallow wells. The District resumed its operation on July 6, 1992 after two years. However, fifteen year after these series of shallow wells collapsed due perhaps to sudden lowering of water table because of Climate Change.

The recent deluge of disasters in many parts of the world has provoked governments around the world to put in place Disaster Risk Reduction Management Plan. In the Philippines, we have Republic Act No. 10211 or the Philippine Disaster Risk Reduction and Management Act of 2010 which institutionalizes risk reduction and management plans at the local level. Among others, the law mandates the creations of local risk reduction and management office in all provinces, cities, municipalities and barangays which shall be responsible for setting the direction, development, implementation and coordination of disaster risk management programs within their territorial jurisdiction.

Generally, there are two (2) types of disasters that we have to contend with and prepare for to wit:

1) Natural Disasters

Urban Infrastructure is highly vulnerable to natural disasters. Failures of these structures, such as water supply and other pipeline systems will most likely result to major impacts in terms of human lives and economic losses. Natural disasters can be any or combination of the following:

a) Typhoons
b) Floods
c) Heavy monsoon rains
d) Tsunamis
e) El Nino phenomenon
f) Droughts

g) Biological agents (micro-organisms, insects or vermin infestations)
h) Earthquakes
i) Volcanic eruptions
j) Hurricanes

2) Man-Made Disasters or Human Induced Disasters

Damage to or destruction of water supply facilities by terrorists attacks cam disrupt the delivery of vital human services, threaten public health and may even cause loss of lives. Some man-made disasters are:

a) Acts of war and terrorism
b) Vandalism
c) Fires/Conflagration
d) Explosions
e) Chemical Spills
f) Power Failures
g) Systems Failures
h) Accidents

Disasters in the operations of the Batac Water District may also occur due to neglect and/or failure of the organization to properly institute and adhere to maintenance procedures.

The concern now is whether Batac Water District can respond to disasters to avert its negative effects on water services due to contamination of water supplies, prolonged discontinuity of service, loss of fire-fighting capability and release of chlorine in the air among others.

1.2. Disaster Risk Reduction Management Plan

When a disaster hits the country, it is not always the national government that acts first. Batac Water District is tasked to come up with a framework for disaster risk reduction and management as well as supervise preparations for, and responses to, natural calamities and human induces disasters. Batac Water District is expected to be at the frontline of emergency measures in the aftermath of disasters to ensure the general welfare of its concessionaires.

Though one must always remember that it is not always possible to completely eliminate a risk, extensive experience and practice in the past have demonstrated that the damage caused by any disaster can be minimized largely by disaster preparedness, response, prevention and mitigation and rehabilitation and recovery.

The Disaster Risk Reduction Management Plan is consistent with the National Disaster Risk reduction Management Plan in which Republic Act 10121 is the enabling law and be implemented by the District's Officers and employees.

The Disaster Risk Reduction Management Plan of the Batac Water District is to be seen as an information guide to the relevant role players. It is a continuing process to be developed and it will always be everybody's business. The workflow and coordination is supposed to ensure and facilitate quick response before, during and after disaster situations.

1.3. Purpose of the Disaster Risk Reduction Management Plan

The Disaster Risk Reduction Management Plan of the Batac Water District aims to ensure the least possible impact on water supply and its public image during and after emergency and disaster situations. It also aims to enhance the capacity of the Batac Water District to prevent and to deal with disaster and to avoid developments which are subject to high risk of disaster.

Specifically, this plan aims to:

a) Provide policies and procedures to maintain quantity and quality of service even during adverse conditions;

b) Identify potential disaster situations and the methods for responding to these situations quickly and effectively;

c) Facilitate decision-making on critical issues in a potentially stressful environment and define responsibilities and roles during a crisis situation;

d) Establish guidelines in addressing public relations and communications issues that may potentially arise from disaster, dealing with the media and communicating with the concessionaires;

e) Protect employees and concessionaires, both minimizing injury and maintaining their security and integrity;

f) Protect the properties of the Batac Water District; and

g) Protect the public image of the Batac Water District and restore when necessary, after a disaster.

This Plan is also in accordance with the NDRRMP in which the four (4) distinct yet mutually reinforcing priority areas are to be achieved namely:

a) Disaster Prevention and Mitigation

b) Disaster Preparedness;

c) Disaster Response; and

d) Disaster Recovery and Rehabilitation.

Each priority area has its own long term goal, which when put together will lead to the attainment of the District and the country's over- all goal and vision in DRRM.

It is crucial to have an effective and efficient Disaster Risk Management Plan in order to save lives, properties and prevent escalation of emergencies and incidents and relieve suffering.

1.4. Phases of Disaster Risk Management

The Disaster Risk reduction Management Plan involves the following phases:

1) Disaster Prevention and Mitigation – Measures taken in advance of a hazard impact aimed at reducing its impact on society and environment. The activities include are:

a) Hazard/risk identification and assessment – develop, update and disseminate hazard maps and related information to decision makers, general public and communities at risk.
b) Enforcement of zoning, land-use and building and fire codes.
c) Integrating/mainstreaming disaster risk management
d) Developing early warning systems that are people-centered timely and understandable to those at risk

2) Disaster Preparedness – measures undertaken to prepare people to react appropriately during and following such emergencies. It involves the following activities:

a) Planning – disaster management plans, contingency plans, SOPs etc,
b) Advocacy – information dissemination through mass media, enhancing people's awareness through the conduct of disaster management fora/briefing, observance of disaster consciousness month, etc.
c) Education and training of officers, employees, deputized coordinators, BWDDRRMT, volunteers. The conduct of drills and exercises, community based disaster risk management trainings.

d) Resources – The 5Ms which are manpower, materials, methods, machines and money.

3) Disaster Response – undertaken immediately following the emergency. Such measures are directed towards saving life, property, and dealing with the immediate damage caused by the disaster. Below are the activities associated with response:

a) Early warning – timely and rapid dissemination of warnings to threatened communities/population

b) Notification – mobilization and activation of response teams or the BWDDRRMT

c) The "Golden Hour" Principle – the time within which most lives could be saved and injuries minimized

d) Incident Command System – on scene management of disaster operation activities.

4) Disaster Recovery and Rehabilitation – includes measures undertake to restore affected communities/areas to their proper or normal level of functioning and development with reduces vulnerability and increased sustainability. This can be categorized into:

1) Short Term – restoring necessary lifeline systems (i.e. power, communications, water and sewerage, transportation, etc.) providing for basic human needs (food, clothing and shelter) and monitoring law and order

2) Long Term – restoring economic activity and development, rebuilding community facilities and housing, healing, repair and reconstruction in a way that is less vulnerable to future hazard impacts.

c) The Cluster Approach – which is in line with the United Nations Humanitarian Reform Agenda in pursuing a reform program that seeks to improve the effectiveness of humanitarian response by ensuring greater predictability, accountability, and partnership.

1.5. Acronyms and Abbreviations

BWD	Batac Water District
BWD DRRMPT	Batac Water District-Disaster Risk Reduction Management Plan
BWD DRRMT	Batac Water District-Disaster Risk Reduction Management Team
BDRRMC	Barangay Disaster Risk Reduction Management Council
CCA	Climate Change Adaptation
CCC	Climate Change Commission
CDRRMC	City Disaster Risk Reduction Management Council
CHED	Commission on Higher Education
DA	Department of Agriculture

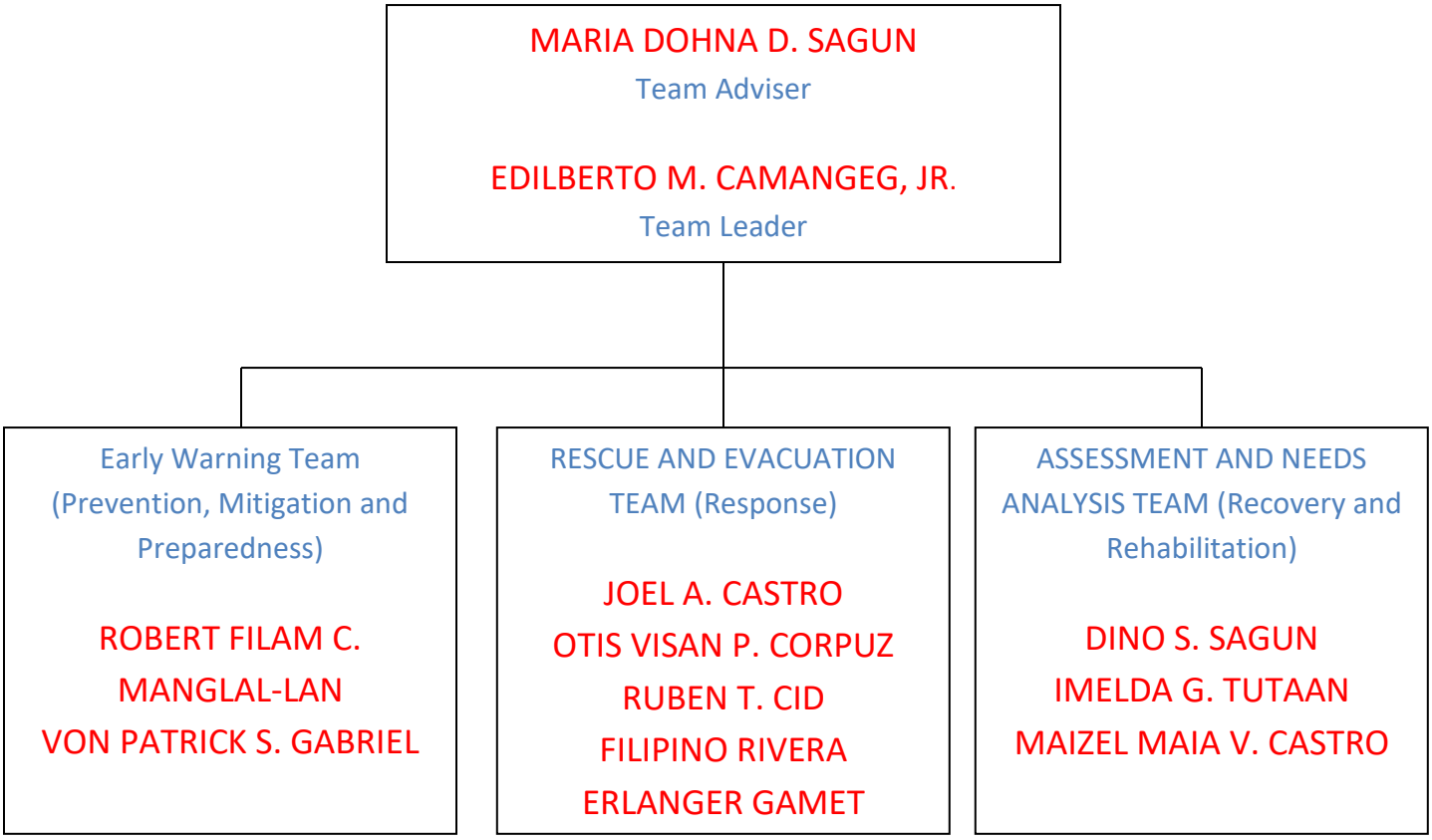
DAR	Department of Agrarian reform
DENR	Department of Environment and Natural Resources
DepEd	Department of Education
DILG	Department of Interior and Local Government
DOE	Department of Energy
DOH	Department of Health
DOST	Department of Science and Technology
DPWH	Department of Public Works and Highways
DRR	Disaster Risk reduction
DRRMP	Disaster Risk Reduction Management Plan
DSWD	Department of Social Welfare and Development
IEC	Information, Education and Communication
LGU	Local Government Unit
LWUA	Local Water Utilities Administration
MDG	Millenium Development Goals
NDRRMC	National Disaster Reduction Management Council
NEDA	National Economic and Development Authority
PAGASA	Philippine Atmospheric, Geophysical and Astronomical Services Administration
PAR	Philippine Area of Responsibility
PDP	Philippine Development Plan
PDRRMC	Provincial Disaster Risk Reduction Management Council

Chapter II

2.1. Batac Water District – Disaster Risk Reduction Management Team (BWD DRRMT) Structure

The Batac Water District Disaster Reduction Risk Management Team (BWDDRRMT) is a working team of officers and employees of the Batac Water District established pursuant to Republic Act No. 10121 series of 2009. It is led by the General Manager of the BWD. The Team is responsible for ensuring the protection and welfare of the BWD concessionaires and its employees, people and the community during disasters or emergencies.

BWDDRRMT STRUCTURE



2.2. Composition of the BWDDRRMT

The BWDDRRMT is a working team of the BWD in charge of planning, organizing and guiding the use of human, materials and financial resources and implementation of the four distinct yet mutually reinforcing priority areas, namely: (a) Disaster Prevention and Mitigation; (b) Disaster Preparedness; (c) Disaster Response; and (d) Disaster Recovery and Rehabilitation. Each priority area has its own long term goal, which when put together will lead to attainment of BWD's over-all vision/goal in DRRMP.

These priority areas are not autonomous from the other nor do they have clear start and end points. The 4 priority areas are not seen as mere cycle which starts in prevention and mitigation and ends in rehabilitation and recovery. They are:

a) Mutually reinforce to each other and are interoperable;
b) Do not, Should not, and Cannot stand alone;
c) Has no clear starting or ending points between each of the aspects and overlaps are to be expected;
d) Are problem needs and asset strengths centered; and
e) All point to one direction which is to reduce people's vulnerabilities and increasing their capabilities.

Team	Members	Responsibility
Team Adviser	GM Maria Dohna D. Sagun	1) Establishes policy guidelines and set priorities in the allocation of resources and facilities; 2) Direct and coordinate all the BWDDRRM teams of the BWD; 3) Directs and monitors all emergency activities; 4) Assigns personnel as needed; 5) Advises the Team Leader to closely monitor information/advisory given by warning agencies; and 6) Announces the suspension of offices on the basis of advisories given by warning agencies;
Team Leader	Mr. Edilberto M. Camangeg, Jr.	1) Reports to the GM all the activities of the BWDDRRMT; 2) Overseas the activities of all teams; 3) Coordinate with CDRRMC and other warning agencies of the plans and actions of the BWDDRRMT whenver crisis occurs; 4) Monitor the probable consequences of potential, on-going and past disasters;

		5) Coordinate pre-defined and post disaster operational activities being undertaken by the BWDDRRMT; 6) Notifies and updates the GM on the status of water quality, production and distribution immediately before, during and after the disasters; 7) Determines the resumption of normal operation can begin; 8) Assess the conditions of structural, electrical, and mechanical components of all facilities of BWD including but not limited to the pump stations, transmission and distribution lines and reservoirs; 9) Does related work as may be assigned by the GM.
Early Warning Team (Prevention, Mitigation and Preparedness)	1) Robert Filam C. Manglal-lan 2) Von Patrick S. Gabriel	1) Provide warning in close coordination with warning agencies and through all available means to the service areas, concessionaires and employees and providing a clear understanding of what to expect and advises on appropriate precautionary measures to be undertaken; 2) Alert the BWDDRRMT and closely monitor the conduct of disaster response operations, mobilizing additional resources available as may be needed in the field; 3) Maintain an updated database of relevant baseline information (Pump Stations); 4) Document all all past disaster situations to include a review of the pre-post disaster activities undertaken by all key actors, and maintain a database of these documents; 5) Determine courses of actions to be taken based on the recommendations of the Team Leader; 6) Coordinates with the Rescue and Evacuation Team of the operations being undertaken and those to be implemented;
Rescue and Evacuation Team (Disaster Response)	1) Mr. Joel A. Castro 2) Mr. Otis Visan Corpuz 3) Mr. Ruben Cid	1) Ensure availability of personnel and materials and maintain a current list of personnel location;

	4) Mr. Filipino Rivera 5) Erlanger Gamet	2) In the event of evacuation, account all personnel and immediately inform the BWDDRRMT of any missing personnel; 3) Facilitate flow of information to officers and employees; 4) Coordinate the administration of First Aid including the identification and disposition of people receiving such care. 5) Ensure that available funds are mobilized quickly and effectively for the procurement of supplies and payment of services; 6) Ensure availability of in-house and rental vehicles and machinery for quick mobilization; 7)Determine the safest route out of an emergency area and ensure security of people and property; 8) Assist the Police in determining the disasters and the situations; 9) In case of fire, assigns a sub-group to the fire scene and coordinate with the BFP to prevent looting and looters; 10) Systematically store properties brought to the evacuation area and safeguard their release to their respective owners; 11) Maintains a guarding system for personnel, materials and other installations; 12) Make an inventory of the returned documents, equipment, and supplies and submit a report of losses/damages to the Team Leader and who shall submit the same to the GM; 13) Maintain an adequate sanitation and hygienic standards and deal with matters related to emergency services; 14) Monitor the storage of medicines, goods, food, drinking water, equipment, machineries and other supplies; 15)Do related work as the need arises; 16) Organize and supervise the evacuation, search and rescue, fire suppression; and rehabilitation; 17) Determine courses of action to be taken based on the recommendations of the Team Leader of the GM;

		18) Systematically evacuate personnel, properties and records during emergency situations; 19) Upon receipt of information from the Early Warning Team, the team shall immediately establish an evacuation area and take charge of evacuation in the ff order of priority: occupants of the building especially the injured; cash; valuable documents and records; personal belongings of personnel; office equipment and other movable facilities; 20) Locate/remove injured or trapped persons in the area; 21) Obtain appropriate equipment for search and rescue operations; 22) Coordinate with CDRRMC and other response agencies on matters relative to search and rescue operations;
Damage Assessment and Needs Analysis Team (Disaster Recovery and Rehabilitation)	1) Mr. Dino S. sagun 2) Ms. Imelda G. Tutaan 3) Ms. Maizel Maia V. Castro	1) Evaluate crisis situations and determine courses of actions to be followed, formulate guideline in assessing the situation; 2) Assess information and advise the Team Leader of BWDDRRMT on possible measures to be undertaken in order to lesses the impact of the crisis; 3) Submit recommendation for allocation of needed resource; 4) Coordinate the plans and actions of the BWDDRRMT with the proper authorities; 5) Monitor the probable consequences of potential, on-going and past disasters or emergency situations around the country in close coordination with other water districts; 6) Coordinate pre-defined and post disaster operational activities being undertaken by relevant agencies and ensure that all key actors are taken on board; 7) Initiate and lead the conduct of damage and needs assessment mission as the post disaster situation warrants; 8)Facilitate the conduct of debriefing of past disaster situation to look into areas of strength and areas for improvement;

		9) Allocate working stations of all teams; 10) Condct monitoring and damage assessment of BWD properties and reports the same to the Team Leader ad to the GM; 11) Validate report and determine cost of damages for budget allocation; 12) Repair and rehabilitate damage structures; 13) Recommend appropriate intervention for damaged structures

2.3. Functions of the BWDDRRMT

The role of the Batac Water District Disaster Risk Reduction Management Team is to conceptualize the promotion of hazard/disaster awareness, to manage impacts, and to help all employees and the community to reduce the risk of threats from natural and human-made/induced disasters.

The Disaster Risk Reduction Management Plan of the Batac Water District provides procedures pursuant to Republic Act 10121 otherwise known as the Philippine Disaster Risk Reduction and Management Act of 2010. This Manual serves as the guide of the BWDDRRMT not just from the disaster preparedness and response but on how to manage and reduce risk. The adopted 4-phase strategy: prevention and mitigation, preparedness, response and recovery and rehabilitation illustrate the basic procedures that the BWDDRRMT will employ before, during and after the occurrence of a disaster.

The ultimate goal of this Manual is to protect the lives of the officers and employees of the District, the properties of the District, to ensure the uninterrupted or continuous water supply and services, and the immediate restoration of water supply after a disaster.

The officers and members of the BWDDRRMT must:

1) Analyze the condition of the District and its water system or conduct situational analysis;
2) Identify possible hazards/threats faced by the District;
3) Follow and strictly act according to the BWDDRRMP especially in times of emergencies, calamity/disaster;
4) Provide feedback to the General Manager and the Board of Directors for policy formulation;
5) Request the officers of the BWD, CDRRMC, NGOs, GAs, LWUA and water districts for any assistance.

To effectively achieve the expectecd response in times of emergency and calamity, BWD Officers and employees and BWDDRRMT must take time to understand the contents of this

Manual, practice and internalize the risk reduction measures to eventually make a habit of being prepared before, during and after calamity, be it natural or human-made/induced hazard.

2.4. Designated Emergency Areas

In order to respond in a coordinated fashion to an emergency or disaster, the Conference Room beside the Office of the General Manager is designated as Command Post. It shall be the meeting place of the BWDDRRMT and all other personnel as may be called upon by the Team Adviser or the GM and BWDDRRMT Team Leader during an emergency situation. The BWDDRRMT command post shall be at the control and disposal of the BWDDRRMT Adviser and Team Leader.

In disasters where there is a need to evacuate employees and concessionaires outside the BWD Building, the assembly area shall be at the open parking area.

Chapter III- Natural Hazards

The Philippine Islands are prone to all kinds of natural hazards because of their geographical location and physical environment. The country is strategically located in the path of turbulent and destructive cyclones in the Pacific, and the "Ring of Fire". This situation has adverse effects, not only on the lives and properties of the Filipino people, but also on the economy of the nation, as hazard impacts may result in widespread environmental and property damages.

Natural hazards may cause danger to people, to the District's concessionaires, its system and properties and may lead to disaster if they are not mitigated against and prepared for. Phenomena that are atmospheric, hydrometeorological or oceanographic and geographical in nature may cause the loss of life or injury, property damage, social and economic disruption and/or environmental degradation. Hydrometeorological and geographical hazards can be single, sequential or a combination in origin and effects. The common hazards associated with these are heavy rains, strong winds, storm surge, floods and landslides/mudslide and mud flow.

Geological hazards are normal and their processes occur as irregular events with direct interaction with the environment. They are capable of causing significant negative impact on human well-being. Their non-rhythmic occurrence makes their predictability difficult. An important characteristic of many geological hazards is their prime land preference – the characteristic of preferentially occupying areas targeted by man for his use. Almost all types of geological hazards occur in the Philippines except hazards associated with glaciers and seasonal snowfall. Hazards arising from volcanic eruptions, earthquakes and other related geotectonic phenomena such as landslide, tsunami and faulting are the most mitigated ones due to the frequency of their occurrence.

The natural hazards are further categorized in this Manual as water supply service crisis. The water supply service crisis may potentially and directly affect the water system and consequently the continuous provision of water supply.

The following are the natural hazards that may be further categorized as water supply service crisis, their effects on the water supply system of the BWD and the adopted 4-phase strategy of this Manual.

Natural Hazards	Description	Effects on BWD	Prevention, Mitigation & Preparedness (What to do before?)	Response (What to do during?)	Recovery & Rehabilitation (What to do after?)
1) Earthquake	It is the shaking of the ground caused by the sudden slippage of rock masses below or at the surface of the earth. An earthquake may be classified as tectonic or volcanic. A very severe earthquake is usually associated with shocks. Foreshocks are a series of tremors that occur before the main earthquake while aftershocks are weaker earthquakes and can cause further damage to weaken buildings.	1) Total or partial destruction of water sources, transmission and distribution lines, chlorinator houses, reservoirs, storage and office building. 2) Interruption of electric power, communication lines and access routes. 3) Deterioration of the water quality at the source due to landslides and other phenomena. 4) Loss or reduction in production from ground water sources.	1) Evaluate the structural soundness of the office building, pump houses, water sources, transmission and distribution lines, reservoirs and storage. 2) Familiarize officers & employees with the easiest exit or evacuation route to take. 3) Develop evacuation plan and hang/post it in the office building and pump houses. 4) Teach employees	1) Advise employees to stay in a sound building or place. 2) Perform the Drop, Cover and Hold protocol. (Drop from the floor, cover your head & hold on to solid object) 3) When inside a vehicle, pull at the side of the road and stop. 4) Stay away from power lines, walls or posts & other structures that may fall or collapse. 5) Stay away from buildings with large glass panes. 6) Move	1) Get out calmly and in orderly manner from the building. 2) Check themselves for cuts and injuries. 3) Check the surroundings of the office building & pump houses. 3) Inspect all the power lines. 4) Inspect all the transmission & distribution lines, water sources and reservoirs. 5) Clean the building, pump stations and reservoirs, check if there is any spill of chemical.

			how to use the fire extinguishers, first aid kits, alarm and exits. 5) Prepare and maintain survival kits in the office and in pump stations. 6) Request assistance from the BFP for the conduct of orientation and earthquake drill.	away from steep escarpments which may be affected by landslides.	6) Report to the Team Leader and to the GM the status of the office building & the whole system. 7) Help to reduce the number of casualties.
2) Volcanic Eruptions	It is a process wherein volcanic materials such as molten or hot fragmented rocks or gaseous materials are ejected from a volcano. The volume and magnitude of the eruption varies depending on the quantity of gases, the viscosity of the magma and the permeability of the ducts and chimneys of the	1) Total destruction of the infrastructure in the areas directly affected by pyroclastic flows and surges. 2) Obstruction caused by ash infiltrating surface water intakes, intake screens, transmission pipes, filters	1) Close windows and doors of the office building & pump houses to reduce entry of ash if heavy ash fall is expected to hit the community. 2) Bring tools, machineries, equipment, vehicles &	1) Stay alert and awake. 2) Follow instructions that go with the warnings. 3) Give priority for evacuation outside the area of ash shower to employees with breathing problems. 4) Cover the nose with wet cloth.	1) Clear the office building, pump stations, reservoirs, canals & pathways of ash & other debris. 2) Hose down the accumulated ash in the plant leaves and roofs of the office building & pump stations.

	volcano.	etc. 3) Deterioration of water quality due to contaminatio n of rivers, streams and springs in lahar deposition areas.	other supplies & materials into closed shelters. 3) Develop evacuation plans and conduct evacuation drills. 4) Avoid low place or areas vulnerable to mud flows, lava etc. 5) The Early Warning Team should spread the information coming from the warning agencies. 6) Always have a copy of hotline numbers and post it inside the office building & pump houses.	5) Wear goggles and eye glasses. 6) Avoid driving in heavy ash falls unless absolutely required.	3) Stay away from slide area. 4) Check for injured or trapped persons near the slide areas without entering the slide areas. 5) Direct the rescuers to their locations. 6) Listen to radio or television for latest information. 7) Watch out for flooding which may occur after a landslide or debris flow. 8. Report broken transmission & distribution lines or even power lines and suspected damaged of the office building, pump houses or reservoirs to the Team

					Leader and to the GM. 9) Stay indoors until local health officials advise that it is safe to stay outside. 10) Assess the damage of properties and analyze the needs of the BWD employees, concessionaires and the whole system.
3) Landslides	It is a massive outward & downward movement of slope-forming materials. These masses may range in size up to entire mountainside. Their movements may vary in velocity. A landslide is initiated when a section of a hill slope or sloping section of a sea bed is rendered too weak to support its own weight. This is	1) Changes in the physical or chemical characteristics of intake water which will affect treatment. 2) Total or partial destruction of the facilities, particularly intake and transmission components in the path of active landslides. 3) Contaminatio	1) Maintain the list contact numbers for emergency situations. 2) Prepare evacuation of tools, machineries, equipment and vehicles upon the direction of warning agencies. 3) Continue planting seedlings to cover slopes. 4) Build	1) Evacuate the tools, equipment, machineries and vehicles if warned of an impending landslide. 2) Advise the technical staff to stay away from the path of the landslide debris or seek refuge behind a sturdy tree or boulder. 3) Get out	1) Recommend to proper authorities to examine thoroughly the damaged structures and facilities before re-occupying and reutilizing. 2) Stay away from landslide area. There may be danger of additional landslide.

	generally triggered by other natural hazards such as prolonged, heavy rainfall or by other sources of water which increase the water content of the slope materials. Landslide as a geological hazard is caused by earthquake or volcanic eruption. Susceptibility of hill slope to landslide is developed as a result of denudation of mountainsides which remove the trees or ground cover that holds the soil, or alteration of the surface of the ground like grading for roads or building constructions.	n of the water at surface intakes located in the mountain areas.	riprap to prevent soil erosion at the pump houses and water sources. 5) Reinforce the foundation surrounding the water sources and pump houses. 6) Conduct regular drills on evacuation procedures. 7) Recommend to proper authorities to enforce land use regulation geared at mitigating landslides. 8) Promote public awareness & involvement on landslide mitigation. 9) Recommend to proper authorities the constructio	from the pump stations as soon as possible when rumbling sounds are heard from upstream or the trembling of the ground is felt indicating a possible mudflow. 4) Run across the slopes not downward. 5)	3) Check with caution the injured or trapped persons within the landslide area. 4) Direct rescuers to the locations. 5) Listen to radio and television for information and warnings. 6) Seek the advice of a geotechnical expert for evaluating landslide hazards or designing corrective techniques to reduce landslide risk.

			n of channels, irrigation canals, pathways, dams & similar structures to protect the Quiaoit River and the BWD systems and structures.		
4) Floods	It is the result of excessive rainfall, unusually high sea levels, or the rupture of dams and dikes. Increasingly, floods result from human activities causing environmental degradation, deforestation, and in appropriate land use. On the other hand, some floods are the result of the changes in geomorphology and climatology of water catchment areas. Rainfall intensity and duration are also factors that	1) Damage to pump stations close to flooding waterways. 2) Rupture of exposed pipes across and along rivers and streams. 3) Contaminatio n in water catchment areas. 4) Power cuts, road blockages, and disruption of communicati ons 5) Intrusion of salt water into continental aquifers, contaminatin	1) Find out the occurrence of flood in all the pump stations, reservoirs, water sources and office building. 2) Know the flood warning system of the BWD& the City. 3) Research from previous occurrences how fast the flood occurrences occur and how high it rises. 4)	1) Always update employees especially at the field of the situation. 2) Keep updated through radio or to the CDRRMC. 3) Remind pump operators to utilize gen set if it is possible. 4) Warn the pump operators of snakes and falling debris around the pump stations. 5) All technical	1) Report busted transmission & distribution lines to the Team Leader and to the GM. 2) Ensure that electrical lines of the pumping equipment, are checked properly before switching. 3) Avoid affected areas. 4) Continue listening to radios & other updates. 5) Stay away from the

	contributory to flood. Floods can be slow or fast rising, but generally develop over a period of hours or days.	g or reducing the availability of groundwater.	Announce to the public to fill their drums with water 5) Watch out for rapidly rising water & notify Pump operators and employees for evacuation. 6) Have a handy survival kit 7) Offer services & perform the assigned tasks in the event that the office building & pump stations are designated as evacuation areas. 8) Always be updated and inform Technical Staff detailed at the field. 9) Protect the BWD properties. 10) Check	staff must be on duty. 6) Evacuate the office building & pump stations if the situation gets worse.	pump stations that are flooded. 6) Construct barriers or ripraps to stop flood from entering water sources & pump stations. 7) Check any damage of the system and repair if any immediately to avoid water interruptions. 8) Continue checking the potability of the water. 9) Check the service areas if all concessionaires have water supply immediately after the flooding.

			up the gen set, fuels and extra fuels. 11) If possible all gen sets must be operational with at least 2 or more operators per pump station. 12) Keep documents and other valuables in a safe deposit box in a safe place.		
5) Extreme Climatic Variabilities (i.e. El Nino, La Nina, Heat waves, Droughts, etc.	Climate Change is the direct impact of global warming. Rising temperatures will cause changes to weather pattern. As global warming occurs, most places will be warmer. This will cause changes in the amount and pattern of rain & snow, in the length of growing seasons, in the frequency and severity of	During drought or El Nino: 1) Loss or reduction of surface & groundwater sources and deterioration of water quality. 2) A decline in water levels at intake points & in storage facilities. 3) Compulsory rationing of water supply. During La	1) Continue disseminating extreme climatic variabilities or climate change issues. 2) Give warnings on the effect of climate change. 3) Update the employees on the Emergency Response Plan of the BWD. 4) Advocate	1) Plan changes in the daily activities of the BWD especially in the field. 2) Announce to the public or to the concessionaires of water rationing. 3) Warn the public to save water and fill their drums during off peak hours for future consumptio	During drought: 1) Assess the affected areas, document for future references. 2) Provide assistance to those who were severely affected. 3) Bring employees or victims of heat at the clinic or hospital. During La Nina:

	storms and in sea level rises. Droughts are prolonged dry periods during climatic cycles caused by a complex set of hydrometeorological elements that affect the soil and the atmosphere. La Nina is characterized by unusually cold temperatures in the equatorial Pacific as compared to El Nino which is characterized by unusually warm ocean temperatures in the Equatorial Pacific. The system oscillates between warm (El Nino) to neutral, or cold (La Nina) conditions with an average of 3-4 years.	Nina: 1) Rupture of exposed pipes across and along rivers and streams. 2) Contamination in water catchment areas. 3) Power cuts, road blockages, and disruption of communications.	for the recycle/reuse of everyday materials to help conserve resources, lead to less energy & less elements used in manufacturing them while recycling paper lead to less trees being cut down. 5) Save energy by saving electricity through the use of energy efficient lightning and appliances, biking/walking. 6) Advocate the use of renewable energy such as those from hydro-electric dams, wind, power, solar &	n. 4) Operators must be on duty 24 hours in a shifting mode. 5) Utilize all the water sources including stand by. 6) Continue monitoring water level of all sources. 7) Continue monitoring the potability of the water. 8) Warn employees stationed at the field to always bring with them water to drink. 9) Provide employees rain coats & other supplies for protection during La Nina. 10)	1) Assess damage. 2) Repair all busted pipes immediately 3) Monitor supply of water. 4) Monitor the potability of water. 5) Continue disseminating information on climate change and the role of everyone in mitigating and preventing the occurrence of climate change. 6) Update every now and then the Emergency Response Plan and this Manual.

			other radiation & bio fuels. 7) Continue the tree annual tree planting activity of the BWD. 8) Conserve water & other natural resources. 9) Be environmen t friendly.		
6) Hurricanes/Se vere Storms/Typho ons.	Depending on wind speeds, these natural hazards are called tropical depressions (winds up to 63km/hr accompanied by changes in atmospheric pressure); tropical storms (winds between 64 & 119 km/hr accompanied by intense rainfall) or hurricanes (wind speeds of 120km/hr or higher accompanied by heavy rainfall & significant changes in atmospheric pressure)	1) Partial or total damage to facilities, pump stations, command posts & building, including broken windows, damaged roofs & doors, and flooding. 2) Rupture of mains & pipes in exposed areas such as rivers and streams. 3) Rupture of disjointing of pipes due to landslides and water	1) Establish & maintain coordinatio n with all the members of the BWDDRRM T & the GM. 2) Ensure that the office building, pump stations & electrical posts can stand heavy rains & strong winds. 3) Learn about typhoons & other weather disturbance	1) Monitor through radio or other information sources the latest update on the typhoon. 2) Coordinate with the BWDDRRMT & the GM on possible immediate evacuation of employees, records, tools, machineries & equipment. 3) Advise technical	1) Check the office building, pump stations, reservoirs, transmission & distribution lines & power lines for any damage. 2) Assess the damage and immediately repair or purchase to avoid inconvenien ce to the concessionai res & employees. 3) Restore water

		torrents. 4) Rupture and damage to tanks & reservoirs. 5) Damage to electrical transmission lines & distribution systems.	, their signs & warnings, effects & dangers & how to protect the employees, records, facilities & the whole system. 4) Educate all employees especially those at the field on natural hazards. 5) Participate actively in disaster response – drill or simulation. 6) Update this Manual for the employees & the whole community. 7) Inspect all the properties, facilities & systems of the BWD to ensure the best protection. 8) Secure megaphone as	staff to get away from structures, trees, electrical posts, power lines or telephone lines if out in the open. 4) Advise the technical staff at the field to watch out fallen debris. 5)	supply immediately. 4) Coordinate with the Brgy. Officials and City Officials if necessary. 5) Remind employees stationed at the field to continually observe safety measures in inspecting the whole system and in putting back the supply of water into normal condition. 6) Continue listening to local radio for update and further warnings. 7) Coordinate with proper authorities for assistance.

			alternative alarm system. 9) Listen to radio & TV for information & updates. 10) Store flashlights & back up batteries to receive warnings. 11) Recommend trimming and removal of dead or rotting trees that could fall and may cause damage or injury. 12) Secure outdoor objects that could be blown away & cause damage. 13)		

Chapter IV- Human Induced Hazards

Human made or induced hazards are threats having elements of human intent, negligence, error and involving a failure of a system. Human induced disasters are a result of inadequately managed human induced hazards such as Technological Hazards, Environmental Hazards and Socio, Economic, Political, Security Hazards.

Technological hazards have little or no warning to precede the incident. These dangers originate from industrial accidents, dangerous procedures, infrastructure failures or certain human activities, which may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation. Some of the technological hazards which are discussed in this Manual are structure collapse, fire, vehicular related accidents, chemical spill, electrical black out/massive power failure, food poisoning and system failure.

Environmental hazards are events that pose a threat from the surrounding environment encompassing the broad spectrum of acute and chronic effects of industrial, agricultural and naturally occurring microorganisms, chemicals and radiation in our soil, water, air, food and wastes. Some environmental hazards included in this Manual are red tide and water pollution.

Socio-economic, political, security hazards are caused by criminal and human violence which pose threat to the security of a great number of people, and may be motivated by political or economic reasons. Some of these are robbery, bomb threats/explosion, kidnapping threats, civil disorder, work stoppage, theft, terrorists attack/sabotage, suicide/death within the premises, misinformation and scandal.

In this Manual these human induced hazards are categorized as Non-Water Supply Service Hazards/Disaster. These will not only affect the provision of water supply but will potentially harm or distort the public image of the Batac Water District and the goodwill that it has established, or put to risk the health and life of its employees and concessionaires.

Human Induced Disasters	Description	Potential Effects on BWD	Prevention, Mitigation & Preparedness (What to do before?)	Response (What to do during?)	Recovery & Rehabilitation (What to do after?)
1) Technological Hazards a) Structure Collapse	It is often caused by engineering failures such as under design of structural components, by corrosion attack, & by aerodynamic resonance in structures.	1) Injuries 2) Fatalities 3) Psychological Damage 4)Economic Consequences 5) Water Supply interruption 6) Loss of good reputation	1) Conduct inspection of the office building, pump stations & reservoirs. 2) Conduct inspection of the ripraps or protection walls in Colo, Baay & Payao Pump Stations. 3) Repair or rehabilitate structures to put them in good condition. 4)	1) Vacate the building, pump stations or reservoirs immediately. 2) Apply first aid and in cases of injuries or fatalities bring the victims to the nearest hospital.	1) Secure the area. 2) Assess and evaluate the damaged structures through the help of experts. 3) Report the extent of damages to authorities for proper action. 4) BWDDRRMT recommends the abandonment of structures upon recommendations of authorities, if necessary.
2) Fire	Fire is composed of three elements – heat, fuel & oxygen which when combined will result in a chemical reaction called burning. Fire consumes the oxygen in the air, while	1) Negative impact on public image or loss of good reputation. 2) Panic among employees & concessionaires. 3) Possible	1) Revisit the Emergency Response Plan of the BWD. 2) Develop building evacuation plans for each of the building & pump	1) On the alarm. 2) Advise the BFP. 3) Fight the fire with readily available equipment. 4) Seek the nearest exit not blocked by the fire.	1) Conduct inventory of personnel. 2) Seek medical assistance for the injured if any. 3) Coordinate with the BFP & City Engineering Office for the

	increasing the concentration of the deadly carbon monoxide & other toxic gases in the atmosphere. Inhaling carbon monoxide can cause loss of consciousness or death within minutes.	water interruption. 4) Injuries or fatalities if not properly managed. 5) Economic Consequences	stations. 3) Install fire extinguisher & alarm in the office building & in pump stations. 4) Maintain proper signage for fire exits. 5) Insure the building, pump stations, reservoirs & other properties of the BWD. 6) Requests the BFP for their assistance I the conduct of fire & earthquake drills. 7) Assign personnel who will always check the fire prone areas of the building.	5) Close windows & doors as you escape from the fire scene to delay the spread of the fire. 6) Get out as safely & quickly as you can. 7) Stay away from toxic smoke & gases. 8) Do not panic. 9) Do not run. 10) Shut off the main switch. 11) Do not jump out from an upper floor.	assessment of the damage. 4) Conduct inventory of equipment, fixtures & facilities. 5) Report damage/s to authorities. 6) Stay out of fire damaged office building & pump stations until BFY declared it is safe to re-enter.
3) Vehicular Accident	The BWD has several service vehicles to be used by the Technical Staff attending maintenance &	1) Negative impact on public image. 2) Loss of good reputation.	1) Keep the vehicle in good condition. Always check the brakes, tires	1) Bring the passengers employees out of the vehicle immediately .	1) Assess the damage of the service vehicle. 2) immediately repair the

	installation requests, Meter reader to read meters, Bill Collectors to collect payments & other employees. This presents certain risks to the employees' safety. Potential dangers happen especially when board & alight from the service vehicles & even during transporting/driving.	3) Economic consequences. 4) Delay of response time to maintenance & service requests.	& fuel. 2) Observe traffic rules, dive defensively & practice road courtesy. 3) Never sleep inside the vehicle. Stay alert & prepare yourself for any emergency.	2) Apply first air & bring to the nearest hospital the injured employees if necessary. 3) Check the medical record & contact persons of the employees in their IDs. 4)	damage if any to avoid delay in the implementation of requests.
4. Chemical Spill	Chemical spillage/leak may pose a threat t the environment, human life and death. An individual may be considered exposed to chemicals by inhaling or by the chemical coming in contact with food, water, medicine or clothing thus making it hazardous to people. The best way to avoid chemical	1) Caused death or injury if inhaled by employees & humans. 2) Degrade the environment. 3) Pollute the atmosphere, groundwater, soil wetlands & waterways causing danger to human health & even deaths. 4) Loss of	1) Take proper precautions when handling chemicals. 2) Educate employees concerned on handling chemicals. 3) Keep safe storage of chemicals. 4) Dispose chemicals properly. 5) Use gloves & masks when handling chemicals. 6) Maintain	1) Vacate the affected area. 2) Avoid throwing water or touching the chemicals with bare hands. 3) Inform proper authorities. 4) Cover the nose with wet cloth & transfer casualty to a safer place. 5) For ingested chemical induce	1) Call paramedic assistance. 2) Bring the victim to the nearest hospital.

	accident is to read & follow direction for use, storage & disposal of the product.	good reputation or public image of the BWD.	a stable environment in the office building, pump stations & reservoirs. 7) Provide fire & chemical extinguishers in office & in the pump stations.	vomiting & give milk or starch. 6) Ensure adequate air circulation around the victim.	
5) Electrical Black out or power failure	It is a short or long term loss of the electric power covering a very wide area.	1) Total or partial disruption of water supply. 2) Loss of goodwill with the concessionaires.	1) Make sure that there is enough fuel supply in all the pump stations. 2) Check the gen sets if they are in good condition. 3) Announce to the concessionaires of the situation for them to fill their drums of water for future use. 4) Install emergency lightning in dark places & on stairs. 5) Keep flashlights in accessible	1) Unplug all electrical appliances. 2) Stay put in one place to avoid accidents. 3) Record the operation time of the gen set including fuels consumed. 4) Make sure to shut off the gen set every after 8 hours (2hours rest time).	1) Check electrical outlets & switches. 2) Transfer the pumping equipment from gen set to INEC power immediately. 3) Record everything in log book for future reference.

			places. 6) Prepare ready gas/lamps, candles for emergencies 7) Make sure that there are operators on duty when the gen set is on.		
6) System Failure	This happen when the BWD failed to meet the expected outcome of a water source, & thereby could not provide the requirements needed by the concessionaires.	1) Total or partial disruption of water supply. 2) Loss of goodwill with the concessionaires.	1) Conduct feasibility before starting a project. 2) Award the project to a LWUA accredited contractor with vast experience in water system. 3) Supervise the construction of the project following all the rules & regulations contained in the BID documents. 4) Check the water system before the	1) Announce to the concessionaires the situation and provide measures to mitigate inconveniences. 2) Repair the system immediately. 3) Take all precautionary measures during repair.	1) Assess the damage and report to proper authorities. 2) Record the damage and the repair which was done for future reference. 3) Document all the proceedings for submission to proper authorities. 4) Announce to the public the resumption of the service.

			contractor will turn over. 5) Commission the project and request for warranty. 6) If after commissioning fails, report to proper authorities.		
2. Environmental Hazards 1) Water pollution	Water is polluted by substances like sewage, marine litter, oil & chemical spills, fertilizers & pesticides entering the groundwater sources of the BWD.	1) Pollute the water supply of the BWD. 2) Cause death or injury when consumed.	1) Educate the proper disposal of wastes, human & chemical. 2) Implement the Environment Management Plan of the BWD.	1) Clean up the Quiaoit River and surrounding areas of all water sources of the BWD. 2) Boil water for consumption 3) Provide warnings on affected areas. 4) Strictly monitoring the potability of water supply.	1) Seek medical assistance for water borne disease casualty. 2) Continue monitor the potability of water supply.
2) Red Tide	Refers to the discoloration of water bodies due to the presence of high level of “bloom” of a group algae	Employees file leave of absence due to food poisoning which may lead to	1) Disseminate red tide information, symptoms & progressions 2) Keep	1) Monitor progression of symptoms & seek medical advice.	1) Seek medical advice.

	called dinoflagellates which are tozic & responsible for paralytic shellfish poisoning.	water supply interruption.	track of & warn regarding media information on outbreaks of red tide. 3) Avoid ingestion of fish, shellfish mollusks & crabs.	2) Avoid or refrain from eating sea foods while danger exists.	
3. Socio-economic, political, security hazards 1) Robbery	Robbery is the crime of taking or attempting to take something of value by force or threat of force or by putting the victim in fear. Among the types of robbery is armed robbery involving the use of weapon.	1) Panic among employees & concessionaires within the premises of the BWD. 2) Affect cash flow 3) Injury or possibly death, if not properly managed.	1) Tighten security measures by installing guard or CCTV at the office. 2) Employ precautionary strategies such as password. 3) Be vigilant about the safety of everyone. 4) Provide alarm connected with the PNP.	1) On the alarm. 2) Report to proper authorities. 3) Listen to the advice of the Police & other authorities. 4) Be vigilant while the robber are still inside the building.	1) Bring the victim to the hospital for medical check-up/psychological- social counseling. 2) Support the employee in seeking justice. 3) Assess the amount taken by the robber. 4) Convene with proper authorities on what to do & how to solve the problem.
2) Theft	Theft is the taking of another person's property without that person's permission or	1) Negative impact on public image (erosion of public trust & confidence on capability	1) Keep safe storage of personal belongings. 2) Install cctv camera. 3) Record all the	1) Report to proper authorities. 2) Listen to the advice of the Police & other authorities.	1) Conduct physical count of the properties of the BWD every end of the month. 2) Lock the

	knowledge with the intent to deprive the rightful owner of it.	to deliver service) 2) Negative impact on employee's morale & performance 3) May affect cash flow. 4) Loss of property of the District.	properties of the BWD. 4) If employees are taking care of these properties provide MR. 5) Provide warnings that unauthorized persons are not allowed to enter the premises.	3) Keep the evidence. 4) Document everything.	storage room & the pump stations. 3) Provide sanctions.
3. Bomb Threat/Explosions.	A bomb threat is generally defined as a threat, usually verbal or written, to detonate an explosive or incendiary device to cause property damage, death or injuries, whether or not such a device actually exists. Explosion is a violent release of energy that may cause injury and/or damage to property.	1) Panic among employees & concessionaires within the premises of the BWD. 2) Affect cash flow 3) Injury, or possibly death, if not properly managed. 4) Damage to facilities) Water service interruption	1) Prepare a BWD bomb threat emergency plan. 2) Encourage employees to be constantly aware of bomb threats and emergency plan. 3) Provide security or CCTV camera for the protection of employees, property, facilities & materials	1) Treat all bomb threats received as real & report immediately to authorities. 2) Remain calm & courteous. 3) Try to obtain as much information as possible as to: the identity of the caller, the characteristic of the caller. 4) Ask the exact	1) Request proper authorities to search the building or pump stations, reservoirs immediately & thoroughly 2) Strictly implement security measures within the premises. 3) Post incident stress debriefing, if necessary.

			against unauthorized entry. 4)	location of the bomb 5) Apply delaying tactics 6) Report all details to the authorized persons immediately	
4) Terrorists Attack/Sabotage	A situation involving actual or threatened violence, which can be sudden and random in nature. In a workplace	1) Panic among employees and concessionaires within the premises of BWD 2) Water service interruption 3) Injury, or possibly death, if not properly managed	1) Tighten security measures. 2) Educate employees about the risk.	1) Report to proper authorities. 2) Listen to the advice of the Police Officers.	1) Concentrate on survival. 2) Assess any damage. 3) Repair or rehabilitate immediately. 4) Always be vigilant.
5) Work Stoppage	Mass refusal of employees to work usually taking place as a result of unresolved employee grievance.	1) Negative impact on public image (erosion of public's trust & confidence on capability to deliver service) 2) Sales drop 3) Slower productivity	1) Conduct consultative meeting with employees on the issues 2) Provide Operations Manual to officers & employees to know their responsibilities & what t the BWD	1) Implement work rotation & multi-tasking. 2) Have a dialogue with the employees who stopped from working. 3) Meet halfway with the	1) Assess who joined the work stoppage. 2) Report to proper authorities. 3) Document all the proceedings for future reference.

			expects to do & act. 3) Provide seminars on employees' rights & privileges & Values on Work. 4) Implement work rotation for all employees to be familiarized with all kinds of jobs. 5) Discourage employees to join rally or protest that will disrupt the delivery of service.	demands of the employees concerned without sacrificing services to concessionaires and the BWD as a whole. 4) If no final decision has been made between the two, implement the existing policy on the BWD regarding the situation. 5) Report to proper authorities.	
6) Misinformation	The act of disseminating false/malicious information among concessionaires, employees or other stakeholders of the BWD either by somebody within the agency or a third person	1) Negative impact on public image (erosion of public's trust & confidence on capability to deliver service. 2) Loss of good reputation 3) Conflict	1) Make the employees & concessionaires aware of the Operations Manual, Freedom of Information Manual & Citizens Charter 2) If there is	1) Report to proper authorities. 2) Investigate the matter. 3) Correct the wrong information. 4) Settle and document every proceeding.	1) After the settlement, public apology should be done by the person who spread the wrong information through any form of media. 2) If the image of the BWD

	with the intent of destroying the public image of the BWD.	among employees which may affect productivity.	dispute among employees, investigate and if possible settle within the office. 3) If there is issue between BWD & its concessionaire, investigate & settle within the office. 4) Correct as early as possible any misinformation 5) Stop as soon as possible the spread of misinformation. 6) Report to proper authorities.		was put to bad light, provide sanction to the doer or the person who spread misinformation.
7) Scandal	Refers to the behavior or widely publicized allegation or set of allegations that damages (or tries to damage) the reputation of the BWD, individual or	1) Negative impact on public image (erosion of public's trust & confidence on capability to deliver service) 2) Negative impact on	1) Make the employees aware of office mechanisms such as Sexual Harrashment, Values on Work & Operations Manual.	1) Report to proper authorities. 2) Listen to the advice of the authorities. 3) Investigate the scandal. 4) Document	1) Require public apology to the doer in any form of media. 2) Provide sanction pursuant to existing laws to the doer. 3) Provide assistance to

	creed. These may be based on true or false allegations or a mixture of both.	employee's morale & productivity.	2) Make the employees aware of the do's & don'ts as a public official.	every proceeding.	the victim.

Chapter V – Alert Levels

For purpose of the declaration of crisis level, crises shall be categorized whether it is water supply service crisis or non-water supply service crisis.

5.1. Alert Levels- Water Supply Service Crisis

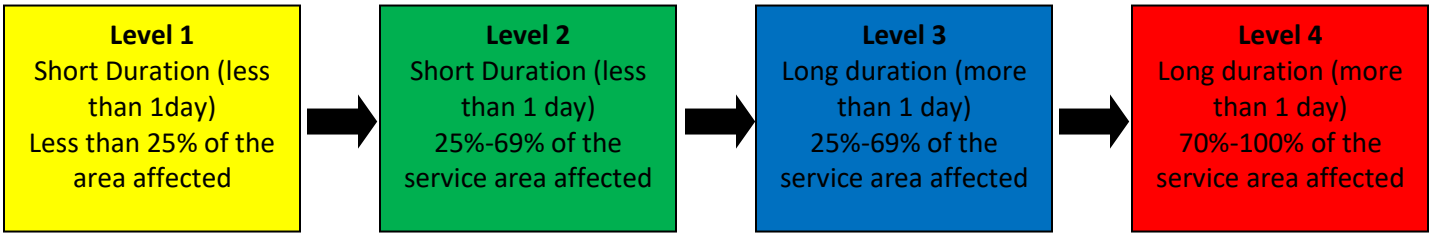
A water service crisis that would necessitate the activation and execution of this BWDDRRMP will be based on the severity of damage to its capability to supply its service area, such damage to be measured based on duration of non-delivery of service and the extent of affected area where:

Level 1 – Classified as short duration of crisis situation (less than one day) and with less than 25% of the service area affected, or that which may result to easily-managed and controlled damage or effect.

Level 2 – Classified as short duration of crisis situation (less than one day) and with 25% -69% of the service area affected, or that which may result to significant but manageable damage or effect.

Level 3 – Classified as long duration of crisis situation (more than one day) and with 25%-69% service area affected, or that which may result to significant and more complicated management of the damage or effect.

Level 4 – Classified as long duration of crisis (more than one day) and with 70%-100% of the service area affected, or that which may result to substantial and catastrophic damage or effect to the facilities.



In case of gradual onset of emergencies as in typhoons and slow-rising floods, alert levels may be declared by the BWDDRRMT in order to take appropriate measures and address potential effects of the phenomenon in question.

In Level 1 Crisis, information dissemination shall be confined within the affected area, including the barangay covering the area.

In Level 2 Crisis, information dissemination shall be confined within the affected area but the Early Warning Team shall immediately monitor news, blogs and other websites for inaccuracies. The Rescue and Recovery Team shall provide updated information to the Early Warning Team.

In Level 3 Crisis, information dissemination shall be confined within the affected area but the Early Warning Team shall immediately monitor news, blogs and other websites for inaccuracies. It shall also be prepared to set up media station anytime. The Rescue and Evacuation Team shall provide information to Early Warning Team on the progress of service restoration and delivery.

In Level 4 Crisis, information dissemination shall be confined within the affected area but the Early Warning Team shall immediately monitor news, blogs and other websites for inaccuracies. It shall at once develop, in coordination with the Rescue and Recovery Team, the official statement that will be relayed to the officers, employees and to the concessionaires. The Rescue and Recovery Team shall likewise provide updated information to the Early Warning Team on the progress of service restoration and delivery.

5.2. Alert Level of Non-Water Supply Service Crisis

All Non-Water Supply Service crises shall be given the following codes:

a) Code Blue – where the crisis situation is confined to a limited area. It indicates the need to stay put and “lock down” behind closed or locked doors.

b) Code Red – where the crisis situation disrupts all or a large part of the functions of the Batac Water District or endangers the health and safety of its employees or its concessionaires. Code Red indicates the need for evacuation.

Chapter VI- BWDDRRMP Framework

The BWDDRRMP is aligned with the National NDRRM Plan pursuant to Republic Act 10121 otherwise known as the Philippine Disaster Risk Reduction and Management Act of 2010.

The BWDDRRMP serves as a road map on how disaster risk reduction and management will contribute to the attainment of sustainable development, build the adaptive capacities of communities, increase the resilience of vulnerable sectors and optimize mitigation opportunities with the end in view of promoting people's welfare and security towards gender-responsive and rights based sustainable development.

The BWDDRRMP just like the NDRRMP is also anchored on Hyogo Framework for Action (HFA). The HFA is comprehensive, action-oriented response to international concern about the growing impacts of disasters on individuals, communities and national development.

Hyogo Framework for Action priorities for action	
1	Make Disaster Risk Reduction a Priority
	Ensure that disaster risk reduction is a national and a local priority with a strong institutional basis for implementation
2	Know the Risks and Take Action
	Identify, assess, and monitor disaster risks – and enhance early warning
3	Build Understanding and Awareness
	Use knowledge, innovation, and education to build a culture of safety and resilience at all levels
4	Reduce Risk
	Reduce the underlying risk factors
5	Be prepared and Ready to Act
	Strengthen disaster preparedness for effective response at all levels

Chapter 7 – BWDDRRMP Proposed Plans and Projects

The BWDDRRMP proposed priority plans and projects for the years 2018-2022 were formulated by the BWDDRRMT for each of the 4 pillar to wit:

1. Disaster Prevention and Mitigation

a) Review and integration of BDWDRRM/CCA policies in the BWD policies, plans and budgets.
b) To draft resolution for earthquake, flood and typhoon trust fund
c) To conduct seminars, workshops on capacity building
d) To conduct trainings on green agriculture
e) To conduct risk analysis and vulnerability assessment
f) To update hazards maps
g) To install warning and forecasting system
h) To update the BWDDRRM Manual
i) To designate resettlement sites and evacuation centers
j) To provide flood control measures
k) To promote the BWDDRRM Manual to all employees, concessionaires and other agencies.
l) To establish BWDDRRM/CCA database systems

2) Disaster Preparedness

a) To establish the guides/protocols for BWDDRRMT
b) To conduct regular and periodic drills and simulation exercises
c) To integrate BWDDRRM during activity of the officers and employees
d) To conduct capacity building and BWDDRRM Skills training
e) To establish of Emergency Response Teams at all sections
f) To install early warning systems, disaster command, and communication centers.
g) To conduct inventory of existing resources.
h) To evaluate the existing systems.
i) To continuously research on BWDDRRM/CCA
j) To purchase CCTV cameras
k) To purchase emergency rescue equipment
l) To stockpile commodities
m) To formulate guidelines for the preparation and distribution of relief goods.

n) To conduct blood-letting activity
o) To conduct trainings on food storage, water storage, food preservation, seedling and planting materials.
p) Creation of BWDDRRMT office
q) To prepare a contingency plan
r) To strictly implement RA 10121 and CCA RA 9729
s) To draft resolution on pre-emptive evacuation
t) To formulate green technologies.

3. Disaster Response

a) To activate Incident Command System
b) Deployment of Rescue and Evacuation Team
c) Submission of Disaster Report to the BWDDRRMT Team Leader and to the General Manager
d) To repack goods
e) Deployment of Assessment and Needs Analysis Team
f) Relief good distribution
g) To conduct of coordination meeting
h) To conduct clearing operations
i) Deployment of medical teams
j) Establishment of first aid tents
k) Establishment of evacuation centers
l) Pre-emptive evacuation
m) Profiling of displaced families
n) Assessment of factors to determine transition to recovery/rehab phase
o) Profiling of damaged properties, equipment, machineries and facilities

4. Disaster Rehabilitation and Recovery

a) Profiling of displaced families
b) Profiling of damaged properties, equipment, machineries and facilities
c) Repair and rehabilitation of damages
d) Improvement/renovation of facilities and procurement of equipment
e) Skills training for early recovery
f) Construction and repair of major infrastructures
g) Construction/repair/rehabilitation of the systems
h) Rehabilitation of flood protection (riprap), canals or drainages
i) Trainings/briefings on stress debriefing