**Climate Change Adaptation and**

**Disaster Risk**

**Reduction**

Chapter 5

**INTRODUCTION**

**GENERAL SITUATION AND SCENARIOS**

The Municipality of Mangaldan is a low-lying land town located in Central Pangasinan. It is divided into 30 barangays nestled in sprawling 4,847 hectares. Mangaldan has an actual census population of 106,551 in 2015.

As the Philippines lies in the typhoon belt and in the western segment of the Pacific Ocean Ring of Fire, understandably the town is exposed to natural hazards such as tropical cyclones, flooding, erosion, earthquakes, drought, fire and ash falls as well.

Disaster and environmental management deals with the various hazards and risks confronting the community. These are either natural or human-induced events. Global warming, disease outbreaks, garbage disposal problem, drug addiction and even stampede are among these concerns.

In 1998 to 2012, the town incurred an estimated direct damages of P1.07 billion. The indirect and secondary impacts such as loss of livelihood opportunities and business interruption further increase this cost. Over 93,000 people were affected by these disasters and consequently were provided relief assistance by the local relief agencies, despite the limited capacity of the government.

As the town glides towards economic development, there are emerging human-induced hazards such as fire / conflagration, disease outbreaks, garbage problem, pollution, drug addiction including chemical and hazardous material spills. These continue to pose threats to the people and the environment. These could be attributed to population growth, urbanization, conflicting land uses and even poverty.

Other human-induced events such as New Year’s Day, Town Fiesta, religious gatherings/celebrations, all Saints Day and other similar crowd-drawing community assemblies also have to be reckoned with.









***Natural Risk Areas***

Mangaldan is located in the Central Plain of Luzon specifically on the northern part of Pangasinan and forms part of the southern shores of the Lingayen Gulf. The plain is bounded by a ring of inactive volcanoes to the south, some of which have been active within recorded history. There is a theoretical possibility that any of these may become active again but this is highly unlikely and too remote to justify being incorporated in these planning considerations. Mount Pinatubo that lies 95 km to the south and erupted in 1991 and 1992 ensued light ash fall in the municipality.

The Cayanga-Patalan River System between Mangaldan and San Fabian is one of the Allied River that discharges into the Lingayen Gulf. This river system carries sediments from mine tailings and eroded top soils from the highlands to the Lingayen Gulf. It has been noted that many fishponds become dry during the summer months. It is believed that siltation of the river beds is the cause of this problem.

Most of the area along the riverbanks is underlain by quaternary alluvial deposits, composed of sand, gravel and clay. The accumulation of sands and gravel are the result of repeated flooding and meandering of the rivers.

Ground deformations caused by the Luzon Earthquake of July 16, 1990 affected only the areas in Mangaldan along the river banks. A number of residential buildings were tilted at various degrees due to the liquefaction of their foundation soil. While in other cases, structural damages were also observed. The magnitude of the earthquake was 7.8 on the Ritcher scale. Not only were the loose alluvial deposits subjected to liquefaction during earthquakes but also the uncompacted man-made fills, placed in the fishponds and swampy areas. The liquefaction produced sand boils which were the most common evidence for the liquefaction phenomenon. Witnesses observed sand and water fountains a meter high or even greater.

Another considered natural risk areas are the flood and erosion prone areas along the northern most and eastern portions of the town which is being traversed by the Angalacan River and the Old Mangaldan River. Affected areas are 17 barangays namely: Inlambo, Pogo, Palua, Salaan, Macayug, Tebag, Nibaliw, Embarcadero, Guiguilonen, Navaluan, Osiem, Landas, Guesang, Bantayan, Talogtog, Bateng and Maasin. The most affected of these are Barangays Inlambo, Macayug and Guesang as they become isolated during floods.

**Table 119:** **VULNERABLE AREAS/POPULATION**

|  |  |  |  |
| --- | --- | --- | --- |
| **DESCRIPTION** | **AFFECTED AREAS** | **AFFECTED**  **POPULATION** | **RECOMMENDATIONS** |
| 1. Overflow of Flood  Water along the  Angalacan River | Guesang, David, Landas, Osiem, Embarcadero, Nibaliw, Salaan, Inlambo, Palua & Pogo | 28,000 | Periodic Dredging, Clearing; Embankment Protection |
| 2. Overflow of Flood  Water along Old  Mangaldan River | Poblacion, Salay, Lanas, Maasin Tebag, Salaan, Bantayan, Talogtog and Bateng | 32,000 | Periodic Dredging, Clearing; Embankment Protection |
| 3. Barangays which  have malnourished  children  (Rank 1-10 Priority) | Bateng, Tebag, Macayug, Landas,  Pogo, Inlambo,  Guesang, Navaluan, Lanas & Nibaliw | 205 | Supplemental Feeding  Nutrition Information Dissemination;  Backyard Gardening |
| 4.Banaoang  Controlled Dumpsite | Banaoang, Bari, Buenlag, Malabago | 15,000 | Implementation of RA 9003 |

Source: MDCC Secretariat

The typhoons Gading and Iliang in September and October 1998 respectively, had flooded all barangays due to heavy downpour of rain and release of water from Binga and Ambuklao Dams. The estimated costs of typhoon damages are presented in Table 3. Likewise, typhoon Feria in July 3, 2001 has brought an unprecedented depth of flood waters in Mangaldan. The ground floor of the new Municipal Building was soaked with flood waters. According to the random flood mark survey the inundation depth was generally 0.3 meter to 1.0 meter and flooding duration were 1 to 3 days. In the low-lying areas the water depth was 2 to 3 meters and the inundation lasted 10 to 20 days. It registered an estimated P91 million, as substantial cost of damages on crops, fishponds, livestock, public infrastructures and commercial/industrial establishments. Classes were suspended for a week due to heavily silted classrooms. Substantial quantity of textbooks school facilities and teaching aids were also destroyed.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **NATURE OF DAMAGES** | **DAMAGES (in million pesos)** | | | | | | |
| September,1998 | October, 1998 | July, 2001 | May, 2008 | October, 2009 | October,2010 | August, 2012 |
| (Typhoon Gading) | (Typhoon Iliang) | (Typhoon Feria) | (Typhoon Cosme) | (Typhoon Pepeng) | (Juan) | (Habagat) |
| **1. Agriculture** |  |  |  |  |  |  |  |
| Crop & Livestock damages | 61.5M | 15M | 12.0M | 16.35M | 99.632M | 30.294M | 470,750 |
| Fishpond losses | 4.94M | 5M | 10M | 7.2M | 15.548M | 0.450M |  |
| **2. Public Infrastructures** |  |  |  |  |  |  |  |
| School Building damages | 12.2M | 8M | 6M | 55.10M | 3.7M | 1.922M |  |
| Roads washed out | 2.3M | 1.3M | 3.5M | 4.9M | 9.5M |  |  |
| Bridges | 17.3M | 10M | 7M |  | 58.3M | 400,000 |  |
| Water Supply | 1.0M | .350M | 0.5M |  |  |  |  |
| Drainage canal damages | 5M | 3M | 7M |  | 100.0M |  |  |
| Rivers/creeks siltation | 12M | 5M | 10M |  | 75.0M |  |  |
| Other Public Buildings | 2M | 1M | 5M | 25.80M |  | 140,000 |  |
| Other Infrastructures |  |  |  |  | 0.2M |  |  |
| **3. Government Properties** |  |  |  |  |  |  |  |
| Municipal Government |  |  |  |  | 14.0M |  |  |
| National agencies/ GOCCs Stationed in Mangaldan |  |  |  |  | 22.5M |  |  |
| Barangays (Brgy. Halls, Day Care Centers, Brgy. Health Centers) |  |  |  |  | 2.0M |  |  |
| **4. Private Businesses** |  |  |  |  |  |  |  |
| Mangaldan Public Market Area |  |  |  |  | 98.0M |  |  |
| Central Business District & All Barangays |  |  |  |  | 220.0M |  |  |
| **5. Private Properties** |  |  |  |  |  |  |  |
| Houses |  |  |  |  | 65.14M |  |  |
| Private Properties(cars, vehicles, appliances, furnishing/fixtures/equipment) |  |  |  |  | 256.5M |  |  |
| **6. Commercial Establishments** | 10M | 15.0M | 30M |  | 318.0M |  |  |
| **7. Non- Infra** |  |  |  |  |  | 20,700 |  |
| **TOTAL** | **133.5M** | **59M** | **91M** | **109.35M** | **1.04B** | **41.11M** | **0.47M** |
| **Total Families Affected** | **3,284** | **4,204** | **10,970** | **7,934** | **18,580** | **807** | **60** |

**Table 120: Selected Typhoon Damages, 1998-2012**

Source: MDRRMC Secretariat

Spur dikes have been constructed at the river banks but are still inadequate. The absence of a good drainage system and effective flood control projects cause the overflowing of the Angalacan and the Old Mangaldan Rivers.

***Manmade Risk Areas***

This area includes the 300 square meters National Power Corporation Sub-Station in Barangay Guilig although it is located within the agricultural zone. This operational power system is owned by the Central Pangasinan Electric Cooperative (CENPELCO) and nonetheless requires special attention though not located within the residential area.

**Table 121: Fire Incidence by Barangay, CY 2010-2012**

|  |  |  |
| --- | --- | --- |
| **YEAR** | **NUMBER OF CASES** | **AMOUNT DAMAGE** |
| **2010** | **26** | **1,687,950.00** |
| **2011** | **27** | **271,500.00** |
| **2012** | **31** | **24,000.00** |

Source: Mangaldan BFP

***Environmentally Critical Areas***

The overall economy of Mangaldan is largely agriculture based with 72 percent of its land area devoted to agriculture. The growth of this sector should keep pace with the demands of the growing population. The whole agricultural area is environmentally critical since it directly affects the general survival and the sustainability of the economic development of the municipality in the long term. This can be attained in ways such as increasing productivity with advance appropriate technologies; by increasing the land area for agriculture; maintaining or reducing the existing area of agricultural lands with improved farming techniques; or their combinations.

The constant flooding during rainy seasons of a wide area of around 3,400 hectares of agricultural lands and 260 hectares of fishponds for even a few days would entail huge losses to the farmers and fishpond owners. Flooding is aggravated by top soil erosion upstream and downstream siltation. The silt and sediments severely clogged the natural tributaries and the smaller creeks/canals are literally erased as ground features. Likewise, it is essential to limit the conversion of agricultural lands for other uses to sustain the town’s development especially for the next generation. The Municipal Development Plan however encourages urban expansion as an strategy for progress at the expense of those agricultural areas which are the least economically viable to operate.

***Solid Waste Disposal***

Generally, waste burning and open pits are predominant in the total 19,781 households in the municipality. In the Poblacion area, massive dumping has evolved due to the increasing population density and the decreasing available space for open pits.

Mangaldan has a poor system of waste management as manifested by weak collection characterized by wanton disregard for segregation and recycling; low level of knowledge on zero waste management to maximize the utilization value of all resources; low level of skills for waste recycling and the inadequate facilities and equipment for a total waste recycling system. This situation aggravates the flooding problem of the municipality as drainage canals become receptacles of solid wastes.

Garbage collected by the three (3) dump trucks in the public market area alone is about 20 cubic meters daily. At a daily average of 2 kilograms of waste generated per household, this means that the 30,000 kg of waste or roughly 70-80 cubic meters can be collected daily in the entire municipality. Other areas contributing to the volume of garbage are from the slaughterhouse and the commercial establishments. With the anticipated influx of fast food chain and other commercial establishments garbage generation is expected to increase.

It is estimated that half of the wastes generated are biodegradable, 20 percent recyclable and 30 percent “basura” or inert. This implies that we can make something out of the 70 percent. Of the recyclables, plastic items comprise 21 percent of the wastes followed by paper, wood, metal and glass.

Collected garbage are openly dumped in the 12,034 square meters dump site in Barangay Banaoang, 2.5 kms from Poblacion and about 400 m from the immediate residential area. The present coverage of solid waste collection is limited only to Poblacion (largely urban) and only represents some 7 percent of the total population.

At the end of the plan period, the estimated volume of garbage collected by the dump trucks will reach 28,800 cubic meters (28 tons). Since 70% is recyclable, the remaining 30% comprise about 8 tons, which can still be contained in the 10-ton-capacity dumpsite. An expansion of about three hectares is identified to accommodate future generation of solid wastes. These are lots adjacent to the site.

The municipality’s garbage collection is undertaken by the LGU through the General Services Department. For CY 2000 this department had a budget of P3.74 million for its personnel and maintenance and operating expenses and the amount of P300,000 was allocated for Solid Waste management in the Development Fund which was used for the concreting of the access road to the dump site. The LGU collects garbage fees to the commercial establishments at an annual rate ranging from P60-6,000. The Barangay Council of Poblacion collects garbage from the households once a week and collects P20.00 monthly.

An ordinance regulating the collection/disposal of garbage in the municipality was passed in 1997. Likewise, an ordinance prohibiting burning of waste was passed in 2000 in support to the Clean Air Act but still wanting strict implementation.

A series of public consultations since 1998 was conducted by the LGU to elicit public support and increase awareness for the garbage problem. This was highlighted by the Waste Management Summit. The municipality’s Solid Waste Management Plan was then formulated. The SWM Plan covers the period 2005 to 2015 and with interventions in waste reduction, reuse, recycling, collection and disposal.

***Pollutive and/or Hazardous Industries and Establishments***

Pollution at serious proportion from industries is not yet a major concern in the municipality. There are instances and these are in the case of foul odor from the small-to-medium livestock raisers, poultry and piggery farms such those located in Barangay Buenlag, Malabago, Nibaliw, Maasin and Banaoang which are the subject of periodic inspection of the Rural Sanitary Inspectors for their compliance to sanitation standards and guidelines.

**PROBABLE EMERGENCY SCENARIOS**

***Fire Worst Case Scenario***

***Description of the Event*** At least ten(10) residential/commercial

structures are totally damaged by fire

***Impact on Social Sectors***

1. Families affected 10-15 households
2. Deaths 3 persons
3. Injuries 10 persons
4. Missing 5 persons
5. Houses damaged 10 houses

***Impact on Economic Activities*** Loss of livelihood opportunities; business interruption

***Impact on Infrastructure*** P100 Million worth of damaged structures

***Impact on Agriculture*** P500,000 worth of damages in agriculture structures

Livestock, Palay, Corn & Others

***Response Capabilities of LGU*** Low (about 10% to 20%) in terms of funding

resources; Advocacy; Organized MDRRMC

***Flooding******Worst Case Scenario***

***Description of the Event*** Flood Waters with depth ranging from

0.5M to 1.5M lasting for at least four(4) days

affecting at least five (5) barangays.

***Impact on Social Sector***

1. Families affected 700 households
2. Deaths 2 persons
3. Injuries 5 persons
4. Missing 1 persons
5. Houses damaged 50 houses

***Impact on Agriculture*** P100 M worth of damages in Agriculture

***Impact on Economic*** Loss of livelihood opportunities; business interruption

***Impact on Infrastructure*** P100M worth of damaged roads, and bridges,

School building within the seven (7)

affected barangays

***Response capacity of LGU*** Low (about 5% to 10%) in terms of finding

resources advocacy; Presence of NGO volunteers;

organized MDRRMC

***Dam Break******Worst Case Scenario***

***Description of the Event*** Flood Waters coming from the San Roque Dam

with depth ranging from 3.0M to 5.0M lasting for

at least four (4) to seven (7) days affecting

at least half of the thirty (30) barangays.

***Impact on Social Sector***

1. Families affected 1,000 households
2. Deaths at least 5 persons
3. Injuries at least 10 persons
4. Missing at least 3 persons
5. Houses damaged at least 100 houses

***Impact on Agriculture*** at least P200 M worth of damages in Agriculture

***Impact on Economic*** Loss of livelihood opportunities; business

interruption activities

***Impact on Infrastructure***  at least P150M worth of damaged roads,

and bridges, School buildings within the

fifteen (15) affected barangays

***Response capacity of LGU*** High (about 15-20%) in terms of finding resources

advocacy; Presence of NGO volunteers;

organized MDRRMC; Emergency Action Plan (EAP); availability and accessibility of evacuation sites

***Disease Outbreak******Worst Case Scenario***

***Description of the Event*** At least 10 – 20 confirmed worst cases of

dengue fever; 3 – 5 affected barangays

***Impact on the Social Sector***

1. Families affected 10-20 households; 50 persons affected
2. Deaths 3-10 mortality

***Effects on Livelihood*** Work stoppage due to illness

Diseased or no income due to absence from work

Loss of livelihood opportunity

***Effects on Health Facilities*** Barangay Health Center cannot function well

RHU referral cases to the Provincial /

Regional Hospital

***Response capabilities*** LGU, RHU Staff and PHO conduct IEC &

defogging; organized MDRRMC;

Presence of NGO volunteers

**RISK ASSESSMENT PROFILE**

**Table 122: Displaced Population Profile in FIVE (5) Directly Affected Barangays**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Barangay** | | **Population that will be directly / Indirectly affected**  **(Worst Case Scenario)** | | **Seriously Affected Population** | **Population Composition** | | | |
| From Where | To Where | |  |  | Women  (No.) | Children  (No.) | Men  (No.) | Elderly  (No.) |
| **IN CASE OF FIRE** | | | | | | | | |
| Bari | Malabago | | 5% (50) Households | 250 Gov’t. Workers  3 Farmers  15 Skilled Workers  12 Unemployed | 47 | 118 | 52 | 33 |
| **IN CASE OF FLOODING** | | | | | | | | |
| Inlambo | Inlambo Elem. School | | 10% (120) | 120 Pedicab / Tricycle drivers, farmers, vendors | 40 | 30 | 25 | 25 |
| Macayug | Macayug Elem. School | | 10% (210) | 210 Pedicab / Tricycle driver, vendors, farmers | 60 | 75 | 45 | 30 |
| **IN CASE OF DENGUE OUTBREAK** | | | | | | | | |
| Brgy. Health Station  RHU | RHU  Hospital | | 5% (55 cases) For diagnosis & treatment  For further management and treatment | 55 Indigents, children farmers, vendors | 5 | 42 | 5 | 3 |

**GENERAL POLICIES, GOALS AND OBJECTIVES**

***Policies***

1. The Municipal Disaster Risk Reduction Management Council (MDRRMC) shall coordinate all emergency management relevant activities in any stage of emergency management in the municipality.
2. The MDRRMC members have shared responsibility to ensure that all emergency management relevant activities are coordinated and acted upon.
3. All stakeholders shall abide to the principles of accountability and transparency.
4. The over-all goal of operation is to pull available resources and coordinate efforts and involve, as appropriate all stakeholders including among the local officials, NGOs and the constituents
5. Promote and encourage self-help and mutual assistance before asking assistance from neighboring entities or higher authority
6. Priority will be given to prevention and mitigation measures

***Goal***

To uplift the morale of disaster victims and hasten the return to normal in the disaster-stricken areas.

**Objectives**

1. To help the barangays find ways and mean to lessen vulnerability and reduce impact on the affected community residents.
2. To develop and implement measures to reduce disaster losses; adopt mounting, assessment and early warning systems.
3. To promptly respond to request for assistance in case of disaster within the municipality.
4. To take legislative, administrative, and other measures as necessary in addressing disaster risks.
5. To establish well-defined functions and responsibilities of the different government line agencies.
6. To sustain the provision of basic needs such as food, shelter, water, health case, sanitation and others.
7. To come up with a common data/geographic census of affected population.
8. To increase the awareness of the community on hazard and vulnerability.
9. To improve and build-up community participation especially in the vulnerable areas.

***Task Analysis***

**Table 123: Designation of Tasks of Various Sectors to Different Disaster Needs**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| ***NEEDS*** | ***SECTORS*** | | | | | ***LEAD AGENCY*** |
| 1. 1. Health & 2. Sanitation | LGU-MHO | PHO | DOH | PNRC |  | MHO/DOH |
| 1. 2. Food, Relief, 2. Registration | LGU-MSWDO | PSWDO | PSWDO | PNRC | NGOs | MSWDO/ PSWDO/ DSWD |
| 1. 3. Information, 2. Communication   & Warning | LGU | PHO | PDCC | AFCS | PAGASA | Tri-Media PAGASA |
| 1. 4. Transportation 2. & Engineering | LGU-GSO, MEO | PED | DPWH | NGOS |  | LGU, GSO, MEO |
| 1. 5. Coordination, 2. Command & 3. Control | LGU ACTION OFFICER | DILG |  |  |  | LGU Action Officer |
| 1. 6. Evacuation & 2. Shelter | LGU-MSWDO, MEO | PSWDO | DEPED | PED | DPWH | PNP, PSWDO, DEPED |
| 1. 7. Water Supply | LGU | MAWAD | Mineral Water Suppliers | NGOs |  | LGU, MAWAD, BFP |
| 1. 8. Security | PNP | PA | Barangay Tanods |  |  | PNP/PA/MTSO |
| 1. 9. Mortuary | LGU-MSWDO, MHO | PSWDO | DSWD | Funeral Parlors | District Hospitals | MSWDO/PSWDO |

**SECTORAL PLANS AND ARRANGEMENT**

***Needs and Activities Inventory***

***Fire Incident***

**Table 124: Inventory of Needs and Activities for Fire Incident Cases**

|  |  |  |  |
| --- | --- | --- | --- |
| **Needs that will Arise** | **Activities to meet the Needs** | **Agencies Likely to Undertake the Activities**  **(By whom)** | **Timeframe**  **(By when)** |
| Rice | -Purchase  -Solicit | BDRRMC, MDRRMC, DSWD, PDRRMC,NGOs | 1week |
| Groceries (noodles, sardines, coffee, sugar) | -Purchase  -Solicit | BDRRMC, MDRRMC, DSWD, PDRRMC,NGOs | 1week |
| Medicines | -Purchase  -Solicit | DOH, BDRRMC, MDRRMC, PCSO | 1week |
| Clothing | -Voluntary Contribution  -Donations | NGOs, Private Sector | 2week |
| Flashlight, candles, batteries, boots, matches, kitchen utensil, mats, blanket | -Purchase  -Solicit  -Voluntary contribution  -Donation | BDRRMC,PDRRMC, MDRRMC,DSWD,NGOs | 1-2 weeks |

***Flooding***

**Table 125: Inventory of Needs and Activities for Flooding Cases**

|  |  |  |  |
| --- | --- | --- | --- |
| **Needs that will Arise** | **Activities to meet the Needs** | **Agencies Likely to Undertake the Activities**  **(By whom)** | **Timeframe**  **(By when)** |
| Food | -Solicitation  -Donation  -Purchase | LGUs, DSWD, OCD, NGOs (FCCC) | ASAP |
| Medicine | -Donation  -Purchase | DOH, MHO, RHU, NGOs, Religious Sectors | ASAP |
| Shelter | -Hospitability  -Evacuation centers | LGUs, PNRC, DSWD, PNP | ASAP |
| Clothing | -Donation  -Purchase | DSWD, PNRC, NGOs, LGUs | ASAP |

***Dam Outbreak***

**Table 126: Inventory of Needs and Activities for Dam Outbreak Cases**

|  |  |  |  |
| --- | --- | --- | --- |
| **Needs that will Arise** | **Activities to meet the Needs** | **Agencies Likely to Undertake the Activities**  **(By whom)** | **Timeframe**  **(By when)** |
| Food | -Solicitation  -Donation  -Purchase | LGUs, DSWD, OCD, NGOs (FCCC) | ASAP |
| Medicine | -Donation  -Purchase | DOH, MHO, RHU, NGOs, Religious Sectors | ASAP |
| Shelter | -Hospitability  -Evacuation centers | LGUs, PNRC, DSWD, PNP | ASAP |
| Clothing | -Donation  -Purchase | DSWD, PNRC, NGOs, LGUs | ASAP |

***Dengue Outbreak***

**Table 127: Inventory of Needs and Activities for Dengue Outbreak Cases**

|  |  |  |  |
| --- | --- | --- | --- |
| **Needs that will Arise** | **Activities to meet the Needs** | **Agencies Likely to Undertake the Activities**  **(By whom)** | **Timeframe**  **(By when)** |
| Medicine | -Purchase  -Solicit | DSWD, MSWD, DOH, MHO, Brgy. Officials, Municipal Officials | 1 year |
| Food/clothing | -Purchase  -Stockfiling  -Solicit  -Donation | DSWD, MSWD, DOH, MHO, Brgy. Officials, Municipal Officials | 1 year |
| Non-food  -clothes  -emergency lights/ flashlight  -candles  -mats/pillow (for evacuees)  -rubberboats  -gas stoves/gas range  -needs that will arise | -Purchase  -Solicit  -Donors | MSWD, PNP, MDRRMC, BDRRMC, Quick Response Team | ANA |

***Resources and Inventory***

***Fire Incident***

**Table 128: Inventory of Resources for Fire Incident Cases**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Resources** | **Unit** | **Number** | **Location** | **Agency** | **Remarks** |
| Rice | Sacks | 10 | Barangay Bari | BDRRMC, DSWD, MDRRMC, NGOs | Purchase/ Donations |
| Groceries (Noodles, Sardines, coffee, sugar) | Box | 10/item | Barangay Bari | BDRRMC, DSWD, MDRRMC, NGOs | Purchase/ Donations |
| Medicines   * Paracetamol * Antibiotics * Diatabs * Neozep * Multi vitamins * Mefenamic acids * Aerosol | * Box/ bottle * Box/ bottle * Box * Box/ bottle * Box/ bottle * Box/ bottle * Sachet | * 5bxs/50 bots * 5bxs/50 bots * 1 box * 5bxs/50 bots * 5bxs/50 bots * 1bx/5bots * 10 | Barangay Bari | DOH, DSWD, MDRRMC, BDRRMC | Purchase/ Donations |
| Clothing | Pcs | 300 | Barangay Bari | BDRRMC, DSWD, MDRRMC, NGOs | Purchase/Donations |
| Water | Liter | 1,875 | Barangay Bari | -do- | Purchase/Donations |
| Flashlight | Pcs | 50 | Barangay Bari | -do- | Purchase/Donations |
| Matches | Pcs | 50 | Barangay Bari | -do- | Purchase/Donations |
| Batteries | Pcs | 100 | Barangay Bari | -do- | Purchase/Donations |
| Kitchen Utensils | Pcs | 50 | Barangay Bari | -do- | Purchase/Donations |
| Mats | Pcs | 100 | Barangay Bari | -do- | Purchase/Donations |
| Blankets | Pcs | 250 | Barangay Bari | -do- | Purchase/Donations |

***Flooding***

**Table 129: Inventory of Resources for Flooding Cases**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Resources** | **Unit** | **No.** | **Location** | **Agency** | **Remarks** |
| Rice | Sacks | 9 | MSWDO | MSWDO, Voluntary Groups, PNP, PA, VFP | * 3 days consumption * can withdraw anytime |
| Canned goods | Boxes | 10 | MSWDO | MSWDO, Voluntary Groups, PNP, PA, VFP | - can purchase/ withdraw anytime  - 3 days consumption |
| Biscuits | Boxes | 20 | MSWDO | MSWDO, Voluntary Groups, PNP, PA, VFP | can purchase/ withdraw anytime  - 3 days consumption |
| Noodles | Boxes | 10 | MSWDO | MSWDO, Voluntary Groups, PNP, PA, VFP | -do- |
| Medicines | Boxes | 5 | RHU | RHU | -do- |
| Coffee | Boxes | 5 | MSWDO | MSWDO, Voluntary Groups, PNP, PA, VFP | -do- |
| Sugar | Kilos | 10 | MSWDO | MSWDO, Voluntary Groups, PNP, PA, VFP | -do- |
| Bottled mineral water | Boxes | 20 | MSWDO | MSWDO, Voluntary Groups, PNP, PA, VFP | -do- |
| Blankets | Pcs. | 50 | MSWDO | MSWDO, Voluntary Groups, PNP, PA, VFP | -do- |
| Mats | Pcs | 50 | MSWDO | MSWDO, Voluntary Groups, PNP, PA, VFP | -do- |
| Candles | Boxes | 5 | MSWDO | MSWDO, Voluntary Groups, PNP, PA, VFP | -do- |
| Matches | Boxes | 4 | MSWDO | MSWDO, Voluntary Groups, PNP, PA, VFP | -do- |
| Flashlights | Pcs | 20 | MSWDO | MSWDO, Voluntary Groups, PNP, PA, VFP | -do- |
| Batteries | Pcs | 40 | MSWDO | MSWDO, Voluntary Groups, PNP, PA, VFP | -do- |

***Dam Break***

**Table 130: Inventory of Resources for Dam break Cases**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Resources** | **Unit** | **No.** | **Location** | **Agency** | **Remarks** |
| Rice | Sacks | 20 | MSWDO | MSWDO, Voluntary Groups, PNP, PA, VFP | * 3 days consumption * can withdraw anytime |
| Canned goods | Boxes | 20 | MSWDO | MSWDO, Voluntary Groups, PNP, PA, VFP | - can purchase/ withdraw anytime  - 3 days consumption |
| Biscuits | Boxes | 40 | MSWDO | MSWDO, Voluntary Groups, PNP, PA, VFP | can purchase/ withdraw anytime  - 3 days consumption |
| Noodles | Boxes | 20 | MSWDO | MSWDO, Voluntary Groups, PNP, PA, VFP | -do- |
| Medicines | Boxes | 10 | RHU | RHU | -do- |
| Coffee | Boxes | 10 | MSWDO | MSWDO, Voluntary Groups, PNP, PA, VFP | -do- |
| Sugar | Kilos | 20 | MSWDO | MSWDO, Voluntary Groups, PNP, PA, VFP | -do- |
| Bottled mineral water | Boxes | 40 | MSWDO | MSWDO, Voluntary Groups, PNP, PA, VFP | -do- |
| Blankets | Pcs. | 100 | MSWDO | MSWDO, Voluntary Groups, PNP, PA, VFP | -do- |
| Mats | Pcs | 100 | MSWDO | MSWDO, Voluntary Groups, PNP, PA, VFP | -do- |
| Candles | Boxes | 10 | MSWDO | MSWDO, Voluntary Groups, PNP, PA, VFP | -do- |
| Matches | Boxes | 10 | MSWDO | MSWDO, Voluntary Groups, PNP, PA, VFP | -do- |
| Flashlights | Pcs | 40 | MSWDO | MSWDO, Voluntary Groups, PNP, PA, VFP | -do- |
| Batteries | Pcs | 40 | MSWDO | MSWDO, Voluntary Groups, PNP, PA, VFP | -do- |

***Dengue Outbreak***

**Table 131: Inventory of Resources for Dengue Outbreak Cases**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Resources** | **Unit** | **Number** | **Location** | **Agency** | **Remarks** |
| Medicines  - Paracetamol  - Oresol | Tablets  250ml | * 700   - 7 | * Guesang * David * Banaoang * Amansabina * Alitaya * Gueguesangen * Buenlag | - MHO   * DOH * Brgys. Officials * MSWDO * LCEs, SB |  |
| IEC Materials  (posters, leaflet/flyers) | - | - |
| Blood Donors | - | 21 |
| Gasoline | Liter | 20/brgy |
| Manpower | - | 140 |
| Fogging Solution | 1 liter | 22 |
| Honorarium of Speakers |  |  |  |  |  |

***Needs Projection and Resource Gap Identification***

***Fire Incident***

**Table 132: Needs Projection and Resource Gap Identification for Fire Incident Cases**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Item** | **No. of Pop. Likely to be Affected** | **Standard** | **Existing Resources** | **Projected Needs** | **Gap** | **Possible**  **Source** |
| Rice | 250 | 5/person | 0 | 10 sacks | 10 | PNRC, BDRRMCs, MDRRMC, DSWD, NGOs |
| Groceries (Noodles, Sardines, coffee, sugar) | 250 | 2/person | 0 | 10boxes/  item | 10 | -do- |
| Medicines   * Paracetamol * Antibiotics * Diatabs * Neozep * Multi vitamins * Mefenamic acids * Aerosol | 250 | 3/person | 0 | 750 |  | -do- |
| Clothing | 250 | 1/person | 0 | 300 | 300 | -do- |
| Water | 250 | 7.5ltrs/pax | 0 | 1,875 | 1,875 | -do- |
| Flashlight | 250 | 1/HH | 0 | 250 | 250 | -do- |
| Matches | 250 | 1/HH | 0 | 250 | 250 | -do- |
| Batteries | 250 | 2/HH | 0 | 500 | 500 | -do- |
| Kitchen Utensils | 250 | 1/HH | 0 | 250 | 250 | -do- |
| Mats | 250 | 2pcs/HH | 0 | 500 | 500 | -do- |
| Blankets | 250 | 1pc/ pax | 0 | 250 | 250 | -do- |

***Flooding* (Brgy. Inlambo & Brgy. Macayug)**

**Table 133: Needs Projection and Resource Gap Identification for Flooding Cases**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Item** | **No. of Pop. Likely to be Affected** | **Standard** | **Existing Resources** | **Projected Needs** | **Gap** | **Possible**  **Source** |
| Rice | 350 persons | 140kls | 5 sacks | 9 sacks | 4 sacks | Bryg. Fund, Solicitation |
| Bottled Mineral Water | 350 persons | 1,050 liters | 0 | 1,050 liters | 1,050 liters | Brgy. Fund, Donations, Solicitation |
| Canned Goods/ Biscuits | 350 persons | 10boxes/  5boxes | 0 | 10boxes/  5boxes | 10boxes/  5boxes | NGOs, Brgy. Fund |
| Flashlight/ Batteries | 350 persons | 20pcs/  40pcs | 0 | 20pcs/  40pcs | 20pcs/  40pcs | NGOs, Brgy. Fund |
| Medicines | 350 persons | 2boxes | 1box | 2boxes | 1box | NGOs, Brgy. Fund |
| Noodles | 350 persons | 10boxes | 5boxes | 10boxes | 5boxes | NGOs, Brgy. Fund |
| Blanket/Mat | 350 persons | 50pcs | 0 | 50pcs | 50pcs | NGOs, Brgy. Fund |
| Coffee/ Sugar | 350 persons | 5boxes/ 20kls | 3boxes/ 10kls | 5boxes/20kls | 2boxes/10kls | NGOs, Brgy. Fund |

***Dam Break* (Brgy. Inlambo & Macayug)**

**Table 134: Needs Projection and Resource Gap Identification for Dam Break Cases**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Item** | **No. of Pop. Likely to be Affected** | **Standard** | **Existing Resources** | **Projected Needs** | **Gap** | **Possible**  **Source** |
| Rice | 700 persons | 280kls | 5 sacks | 18 sacks | 13 sacks | Bryg. Fund, Solicitation |
| Bottled Mineral Water | 700 persons | 2,100 liters | 0 | 2,100 liters | 2,100 liters | Brgy. Fund, Donations, Solicitation |
| Canned Goods/ Biscuits | 700 persons | 20boxes/  10boxes | 0 | 20boxes/  10boxes | 20boxes/  10boxes | NGOs, Brgy. Fund |
| Flashlight/Batteries | 700 persons | 40pcs/  80pcs | 0 | 40pcs/  80pcs | 40pcs/  80pcs | NGOs, Brgy. Fund |
| Medicines | 700 persons | 1box | 1box | 4boxes | 3boxes | NGOs, Brgy. Fund |
| Noodles | 700 persons | 20boxes | 5boxes | 20boxes | 15boxes | NGOs, Brgy. Fund |
| Blanket/Mat | 700 persons | 100pcs | 0 | 100pcs | 100pcs | NGOs, Brgy. Fund |
| Coffee/Sugar | 700 persons | 10boxes/ 40kls | 3boxes/10kls | 10boxes/40kls | 7boxes/6kls | NGOs, Brgy. Fund |

***Dengue Outbreak***

**Table 135: Needs Projection and Resource Gap Identification**

**for Dengue Outbreak Cases**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Item** | **No. of Pop. Likely to be Affected** | **Standard** | **Existing Resources** | **Projected Needs** | **Gap** | **Possible**  **Source** |
| Paracetamol (tablet/syrups) | 10 persons/brgs  (70 persons/ 7 brgys.) | * 1 tab every 4hr (adult) * 1 tsp every 4hr (child) | * 7,000 tabs * 740 bottles | * 7,980 tablets * 140 bottles syrup | * 980 * 600 | Brgy Fund, MHO |
| Oresol | 10 persons/brgs  (70 persons/ 7 brgys.) | - 10 sachet/ patient every 24hrs within 2 days | 1,000 sachets | 1,400 sachets | - 400 sachets | RHU, JDV, Governor, Brgys |
| Blood Donor | 30 blood donors/ brgy | 3 blood donors per 1 patient | 140 listed blood donor | 210 listed blood donors | - 70 listed blood donors | Relatives of patient/ volunteer Brgy Tanods, PNP, PNRC |
| Fogging Solution | 350 household members | 3.4 liters/ Brgy. of fogging sol’n | P10,000.00/brgy  P70,000.00/7brgys. | P112,000.00  (4,000/ ltrs/brgy) | P42,000 | Brgy Fund, Municpal Fund, etc |
| Gasoline/ Diesel |  | -1liter gasoline/  household  - 1liter diesel/  household | P2,000.00   * 25 ltrs/brgy * 23 ltrs/brgy | * 70 liters/brgy * 70 liters/ brgy | * 45 ltrs/ brgy * 47ltrs/ brgy | Brgy Fund, Municpal Fund, etc |
| IEC Materials |  | 1/  household | 700 leaflets | 4,200 leaflets/IEC materials/600HH/brgy | 3,500 leaflets | MDCC, PDCC, BDCCs |

**PROCEDURES FOR FEEDBACK, UPGRADING AND FUTURE ACTION**

***Considerations For Contingency Plan***

a). The budget for the operating costs of the Task Service Units should be regularly updated.

b). Regular updating of officials responsible for certain task unit and the disaster preparedness plan every 3rd quarter of each year.

c). Coordination must be strongly enhanced from the Barangay to the municipal and provincial level.

d). Population levels – rising cost, alternate evacuation centers and a database be considered in replanning activities

***Future Actions***

**Table 136: Future Actions for the MDRRM Plan**

|  |  |  |
| --- | --- | --- |
| **ACTIVITIES** | **WHO** | **WHEN** |
| a). Meeting / Review of MDRRM  Plan (CP) draft | LDRRMO Members | Every October - December |
| b). LDRRMO meeting for consolidation of draft plan | -do- | Every January |
| c). Presentation of draft to LCE | -do- | Every January |
| d). Presentation of Plan during  MDRRMC Mtg. | -do- | Every February |
| e). Endorsement of Plan for Sanggunian  Bayan approval | LCE, MPDC, LDRRMO | Every April |
| f). Integration of the Municipal  Disaster Risk Reduction  Management Preparedness Plan in the AIP/ CDP | CP Core Group Members | Every April |
| g). Contingency Plan / Disaster  Preparedness Plan Implementation | MDRRMC | January-December |
| h). Plan Monitoring | MDRRMC | Quarterly |
| i). Plan Evaluation | MDRRMC | 2 X a year |
| j). Annual Replanning for 2014-2025 | MDRRMC | Every 3rd Quarter |







**RISK PROFILE**

Our country is the third world’s most-exposed country to disasters and hazards based on the 2011 World Risk Report published by the United Nations University and the Institute of Environment and Human Security, due to its geography and geology including the presence of internal disputes in some areas. The Philippines is located in the western rim of the Pacific Ocean (referred to as the Western Segment of the Pacific Ring of Fire). This is said to be the most active part of the earth and is characterized by a belt of active volcanoes and earthquake generators (faults); hence, we are prone to various natural hazards including typhoons, flooding, storm surges, earthquakes, tsunamis and volcanic eruption. The occurrence of such disasters is further aggravated by epidemics or complex emergencies and by the global warming phenomenon. These are compelling reasons why LGUs like Mangaldan, should adopt Disaster Risk Reduction and Management (DRRM) and Climate Change Adaptation (CCA).

Tropical cyclones and its sequential effects of rain, strong winds as well as floods are the most prevalent types of hydro-meteorological hazards in the country. Between 1997 and 2007, eighty-four (84) tropical cyclones entered the Philippine Area of Responsibility (PAR). Based on the data of the National Disaster Risk Reduction and Management Council (NDRRMC), these typhoons resulted in 13,155 human casualty and more than 51 million families were affected. Economic losses in agriculture, infrastructures and private properties were estimated to reach more than Php 152 billion. Some of the most devastating floods and landslides within this period were triggered by these typhoons. Denuded forests aggravate flood risks. Since the deforestation in the 1930s, the effects of loose soil and reduced forest coves are being felt in frequent landslides and severe flooding in most lowlands of the country. In 2011, increased rainfall caused massive flash flooding in areas which do not normally experience such. Typhoon Sendong alone caused the lives of more than 1,000 people and damaged properties in billions of pesos.

The data from the Pangasinan DRRMC revealed that the frequent occurrences of typhoons from the period of May to November, brings more than 90% of the annual rainfall of 3,000 mm pose threats to the province. The heavy rains cause the Agno River, Allied Rivers and their tributaries to overflow in the low lying areas of Pangasinan. Super typhoons accompanied by strong winds and floodwaters had caused severe damages to agriculture/aquaculture, infrastructures, environment and claimed people’s lives and properties. Typhoon “Cosme” (May 17, 2008) left the province with forty one (41) fatalities and about Php 8.88 billion in total damages. Typhoon “Emong” (May 07, 2009) has recorded forty five (45) persons dead and about Php2.2 billion in total damages. Likewise, Typhoon “Pepeng” (October 6-9, 2009) registered sixty three (63) persons dead and about Php 7.7 billion in total damages and Typhoon “Juan” (October 18, 2010) with fourteen (14) persons dead and about Php2.4 billion in total damages.

The towns and cities traversed by the Agno River System get inundated ranging from less than 1 meter to as high as 3 meters. Flooding in these towns and cities was reduced with the completion of the San Roque Dam in August 2002 and the Agno and Allied Rivers Rehab Project Phase I. During typhoons the water released by Binga and Ambuklao Dams are impounded and regulated in the San Roque Dam for power production and irrigation system. Dredging, widening of river beds and the construction of cut-off channels hastened the accommodation of more volume of water and the flow of water to the Lingayen Gulf.

Rain waters coming from Mt. Ampucao fills up the Allied Rivers particularly the Cayanga-Patalan River and the Pantal-Sinocalan River System cause the perennial flooding problem in the low-lying areas of Sta. Barbara, Calasiao, Mangaldan, Binalonan and the two cities of Dagupan and Urdaneta. During flooding, these major rivers carry sediments (eg. mine tailings, soil erosion, quarrying within mountain slopes, dumping of solid wastes, agricultural run-off and lahar intrusion) downstream. The siltation level in the river channels varies from severe to slight. Various road lines and bridges were either washed out, eroded shoulders, cut-off approaches, rendered impassable and unsafe for the commuters and damaged irrigation system, flood control infra, public buildings, schools, health and day care centers and others.

In addition, the country’s location in the highly seismic area lying along the Pacific Ring of Fire and is highly-prone to earthquakes. The country experiences an average of five (5) earthquakes a day according to the Philippine Institute of Volcanology and Seismology (PHIVOLCS). Earthquake disasters are not as frequent as the typhoons and flooding that take place in the country. However, the impacts generated by earthquakes on affected communities were usually massive and devastating. The 1990 Luzon Earthquake was the most devastating earthquake disaster that hit Pangasinan. Based on the data from the NDRRMC between 1990 and 2006, the annual direct damages caused by disasters amount to Php 20-Billion per year.

Hazards become disasters only if vulnerable people and resources are exposed to them. People living in poverty and adverse socio-economic conditions are highly vulnerable to disasters. Those living in river pathways, in low lying areas and along the most hazard-prone areas are highly vulnerable. This explains why some parts of Pangasinan and Mangaldan are more prone to specific hazards than others.

**FRAMEWORK FOR PRIORITIES OF ACTION**

1. Make Disaster Risk Reduction a priority and ensure that disaster risk reduction is a local priority with a strong institutional basis for implementation.
2. Know the risks and take action; and identify, assess and monitor disaster risks and enhance early warning.
3. Build Understanding and Awareness; and Use knowledge, innovation, and education to build a culture of safety and resilience up to the family level.
4. Reduce Risk and Reduce the underlying risk factors.
5. Be prepared and Ready to Act Strengthen disaster preparedness for e
6. ffective response up to the family level.

**Figure 8:**

**Municipal Disaster Risk Reduction Management Framework**

Safer, adaptive and disaster-resilient

**MANGALDAN**

towards sustainable development

**RISK FACTORS**

Hazards

Exposures

Vulnerabilities

Capacities

**MAINSTREAMING**

DRR and CCA

Gender Sensitivity in Planning & Implementation

Prevention & Mitigation

Preparedness

Response

Rehabilitation & Recovery

The framework is in conformity and captures the essence and priorities of Republic Act 10121. It envisions **MANGALDAN** as a “***safer, adaptive and disaster-resilient community towards sustainable development”.*** The goal is a shift to proactive DRRM, men and women have increased awareness and understanding on DRRM and with the end in view of increasing the people’s resilience and decreasing their vulnerabilities. This term is about building better from our learning, good practices, research and experiences, addressing the underlying causes of our people’s vulnerability and increasing their ability to adjust to the situation they are in. By being adaptive, we learn to innovate and level up.

A disaster-resilient community is one where it’s people have increasing ability to bounce back after a disaster, are safety conscious and with decreased disaster losses and impact making the lives of Mangaldanians become sustainably better.

**GOAL AND OBJECTIVES**

***Goal***

To provide a well-coordinated direction and control of manpower, materials, logistics, equipment and other necessary resources responsive to the disaster/calamity that may occur anywhere in the municipality.

***Objectives***

1. To establish an efficient and effective means of supervision, control, coordination and communication in all disaster relief and rehabilitation activities in Mangaldan and in the 30 barangays thru the Municipal DRRM Office;
2. To provide quick response for rescue, evacuation, relief and rehabilitation to ensure survival, minimize casualties and destruction of properties in the affected residents;
3. To provide a system of coordination and networking among the 30 Barangay DRRM Committees in Mangaldan in coping with disaster with a spirit of mutual assistance;
4. To provide a continuing program for capacity development among the vulnerable sectors, LDRRMO staff, LDRRMC members;
5. To ensure efficient use of the LDRRM Fund compliant to COA auditing and accounting rules and guidelines.

**ORGANIZATION/FUNCTION**

Pursuant to Executive Order No. 2013-67 - Organizing and Reconstituting the Municipal Disaster Risk Reduction and Management Council in the municipality of Mangaldan, Pangasinan, the Council is composed of the following:

Municipal Mayor -Chairman

The Chief of Police -Vice Chairman

Municipal DRRM Officer -Executive Officer

Heads of Municipal Offices/Sections -Members

Heads of National Agencies

Stationed in Mangaldan -Members

Four (4) SB accredited NGOs -Members

The MDRRM Council shall establish a Disaster Operation Center to be manned 24 hours in the event of a disaster/calamity by the Secretariat and Staff elements from the Intelligence and Disaster Analysis, Plans and Operations and Resources Committees. The Secretariat shall be headed by the MDRRM Officer assisted by the Municipal Social Welfare and Development Officer (MSWDO) with members coming from the PNP, OMPDC, GSO, MEO and MAO. The Secretariat shall be responsible for the documentation of procedures, meetings, preparation of reports and other support services as may be required in the discharge of its functions.

The Mangaldan DRRM Operations Center shall be based at the Municipal Hall, Mangaldan, Pangasinan.

The Council is mandated to execute the following functions:

(1) Approve, monitor and evaluate the implementation of the Municipal DRRM Plan and regularly review its consistency with the other national and local plans;

(2) Ensure the integration of DRR and climate change adaptation (CCA) into local development plans, programs and budgets as a strategy in sustainable development and poverty reduction;

(3) Recommend the implementation of forced or preemptive evacuation of local residents, if necessary;

(4) To make assessments, prepare reports and recommendations on the disaster situation in Mangaldan to the NDRRMC thru the province and the region; and

(5) Convene once every three (3) months or as necessary to recommend appropriate measures to enhance disaster management in Mangaldan.

**GUIDING PRINCIPLES**

1. DRR is directly linked to poverty alleviation and sustainable development;
2. DRR mainstreaming entails the participation of various stakeholders in the community.

**DRRM PRIORITY AREAS**

***(1) Disaster Prevention and Mitigation***

Avoid hazards and mitigate their potential impacts by reducing vulnerabilities and exposure and enhancing capacities of the community

***(2) Disaster Preparedness***

Establish and strengthen capacities of the community to anticipate, cope and recover from the negative impacts of emergency and disasters

**(3) Disaster Response**

Provide life preservation and meet the basic subsistence needs of the affected population based on acceptable standards during or immediately after a disaster.

***(4) Disaster Rehabilitation and Recovery***

Restore and improve facilities, livelihood and living conditions, and organizational capacities of affected barangays, and helping them to build back better.

**PROGRAMS AND ACTIVITIES**

***Prevention and Mitigation***

1) DRR and CCA mainstreaming into local plans (CLUP, CDP, LDIP, AIP,

Building Code, use of green technology)

2) Municipal DRRM Office institutionalization (given staff & budget)

3) Hazard and Risk Mapping

4) Designation of evacuation centers

5) Info dissemination on the calamity, cause and other precautionary measures

thru partnership with various media and the Liga ng mga Barangays and other

venue.

6) Designation of distribution centers of relief goods in strategic places

7) Listing of indigenous resources and equipment that may be used in relief,

rescue and rehabilitation operations

8) Stockpiling of adequate relief goods, groceries, food supplies and medicines by

the concerned/implementing office

9) Access to effective and applicable disaster risk financing and Insurance

10) Develop community-based and local early warning systems for various

Hazards

***Preparedness***

1) Reorganization and training of DRRMCs at the municipal and barangay levels

2) Preparation and publication/reproduction of IEC materials

3) Conduct of simulation exercises at various levels

4) Conduct of trainings on disaster preparedness and response, search,

Rescue and retrieval operations

5) Provision of communication facilities, rescue and response equipment, other equipage

6) Develop standard Manual of Operations for Disaster Operation Center

7) Conduct multi-stakeholders dialogue

8) Conduct regular review of contingency plans

9) Develop information and database generation

10) Inventory resources for disaster operations and response

***Response***

1) Activation of MDRRMC Operations Center

2) Issuance of public advisories

3) Activation of relief distribution points/centers

4) Activation of assessment teams in all the 30 barangays

5) Activation of evacuation center/s (ECs)

6) Provision of tents or temporary shelter facilities

7) Establish child-friendly spaces in the ECs and provision of spaces for people’s

livestock and pets in the ECs

8) Conduct livelihood-oriented activities for displaced persons

9) Conduct of medical consultations and nutritional assessment

10) Assessment of water quality, conduct quick repair of damages and road

clearing operations

11) Determination of existing and available hospital services

12) Immediate restoration of lifelines

13) Ensure coordination of Mental Health and Psychosocial Services

14) Conduct of psychosocial programs and/or psychological stress debriefings

15) Implement a system for early recovery

16) Develop partnership mechanisms with utility providers and key stakeholders

17) Design and implement temporary livelihood or income generating activities

(i.e. cash/food for work, micro enterprise recovery)

***Rehabilitation and Recovery***

1) Conduct Post-Disaster Needs Assessment

2) Identify the needed assistance and implement appropriate programs

addressing the different needs, capacities, vulnerabilities of men, women,

children, people with disabilities, older persons and others

3) Identify and mobilize funding sources

4) Identify or provide suitable relocation sites for affected population

5) Undertake the needed rehabilitation or repair of damaged infrastructure

6) Build capacities of psychosocial care providers

***Timelines***

Short Term 2013-2015

Medium Term 2016-2018

Long Term 2019-2030

However, specifically for the priority areas on Response and Rehabilitation and Recovery, Operational Timelines will be to give an overall guidance on “rapid” provision of humanitarian activities and recovery from disasters.

Immediate Term within 1 year after the occurrence of the disaster

Short Term within 1 to 3 years after the disaster

Medium Term within 3 to 6 years after the disaster

Long Term beyond 6 years after the occurrence of the disaster

***Indicators***

1) % reduction of loss of lives, livelihood and assets

2) % of reduction in poverty incidence

3) No. of barangays participating in risk reduction activities

4) No. of barangays with increased awareness

5) 100% utilization of the 5% LDRRMF for the implementation of DRRM-related

activities

6) Municipal DRRM Council and Office created and functional

7) No. of critical infrastructures assessed and retrofitted

8) Hazards and risk assessments based on hazard data and vulnerability

information are available for key sectors

9) Fully functioning LDRRM Office to act as repository of data and information

10) Municipal government assets are insured

11) Accessible and available risk financing options for LGU

12) Number of Early Warning System established

13) Local Policies on early warning systems

14) Number of IEC materials developed, IEC campaigns conducted and target

population reached

15) No. of Barangay DRRM Committees trained on disaster preparedness and

response

16) Number of teams with specialized training for response

17) Number of operational and self-reliant Barangay DRRM Committees

18) Number of MOUs/MOAs signed with CSOs and the private sector

19) Increased participation of CSOs in preparedness activities

20) Updated directory of key players/partners

21) Number of deaths, injured, and missing

22) Number of persons, families served

23) Number of restored basic services

24) Rapid needs assessment conducted in all affected areas

25) Number of persons rescued

26) Number of bodies retrieved, identified and turned-over to their families

27) Number of persons transported or evacuated voluntarily, pre-emptive and

Mandatory actions

28) Number of evacuation centers with areas for nursing mothers and separate

area for livestock, animals and pets

29) Number of affected population provided with mental health and

psychosocial services

30) Number of persons with continuing government/LGU assistance (financial,

livelihood)

***Implementation Strategies and Mechanisms***

1. Massive and continuous Advocacy and Information, Education and

Communication

2. Competency-based capability building for DRRM workers/responders

3. Contingency Planning

4. Institutionalizing DRRMCs and MDRRMO

5. Mainstreaming of DRRM in ALL plans

6. Knowledge Management

7. Monitoring, evaluation and learning

8. Networking and building partnership between and among stakeholders,

media, and private sector

***Resource Mobilization***

The following sources can be tapped to fund the various DRRM programs and projects in the municipality:

1) Municipal DRRM Fund

2) National DRRM Fund

3) Existing budgets of the national line government agencies

4) Priority Development Assistance Fund

5) Donor Funds

6) Risk Financing

Aside from fund sources, the non-monetary resources available can be tapped to attain the targets in the plan, such as:

a) Community-based good practices for replication

b) Indigenous practices on DRRM

c) Public-Private Partnerships

d) Networks of key stakeholders

***Monitoring, Evaluation and Learning***

The Municipal DRRM Office, together with the key stakeholders and partners will take the lead in the process of looking into the progress as against the targets of the Municipal DRRM plan. A report will be submitted to the Municipal DRRM Council for validation. Once finalized, a report will be submitted to the provincial DRRMC.

Monitoring and evaluation are essential components of results-based programming in the local DRRM to ensure the plan’s on-time implementation and that learning from past experiences become input to plan review/revisit. Appropriate and needed revisions or adjustments can be identified in the process to improve plan implementation with focus on relevance, effectiveness, efficiency and sustainability.

Monitoring and evaluation will be based primarily on the indicators, targets and activities in the four (4) DRRM priority areas. The Municipal DRRM plan will be mainstreamed into the CDP and CLUP and will form part of the LGU mandated plans. An audit report on the use and status of the Municipal DRRM Fund will also be included.

Throughout all activities, ensuring “Safer, Adaptive and Disaster-Resilient MANGALDAN toward Sustainable Development” will be the main focus. It will be essential that learning will be documented and shared among the various stakeholders, leads and partners. Progress reports will be communicated through the various media and partners.

**Table 137: 5% Calamity Fund Projections CY 2013-2018**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **2013** | **2014** | **2015** | **2016** | **2017** | **2018** |
| **IRA** | **101,748,466.00** | **106,900,546.00** | **112,052,626.00** | **117,204,706.00** | **122,356,786.00** | **127,508,866.00** |
| **5% CalamityFund** | ***5,087,423.30*** | ***5,345,072.30*** | ***5,602,631.30*** | ***5,860,235.30*** | ***6,117,839.30*** | ***6,375,443.30*** |

**Table 138: CY 2013 5% Calamity Fund per Barangay**





**PROCEDURES FOR FEEDBACK, UPGRADING AND FUTURE ACTION**

***Considerations for Contingency Plan***

1. The budget for the operating costs of the Task Service Units should be regularly updated.
2. Regular updating of officials responsible for certain task unit and the disaster preparedness plan every 3rd quarter of each year.
3. Coordination must be strongly enhanced from the Barangay to the municipal and provincial level.
4. Population levels – rising cost, alternate evacuation centers and a database be considered in replanning activities

***Future Actions***

**Table 139: Future Actions for the MDRRM Plan**

|  |  |  |
| --- | --- | --- |
| **ACTIVITIES** | **WHO** | **WHEN** |
| a). Meeting / Review of MDRRM  Plan (CP) draft | LDRRMO Members | Every October - December |
| b). LDRRMO meeting for consolidation of draft plan | -do- | Every January |
| c). Presentation of draft to LCE | -do- | Every January |
| d). Presentation of Plan during  MDRRMC Mtg. | -do- | Every February |
| e). Endorsement of Plan for Sanggunian Bayan approval | LCE, MPDC, LDRRMO | Every April |
| f). Integration of the Municipal  Disaster Risk Reduction  Management Preparedness Plan in the AIP/ CDP | CP Core Group Members | Every April |
| g). Contingency Plan / Disaster  Preparednes Plan Implementation | MDRRMC | January-December |
| h). Plan Monitoring | MDRRMC | Quarterly |
| i). Plan Evaluation | MDRRMC | 2 X a year |
| j). Annual Replanning for 2014-2025 | MDRRMC | Every 3rd Quarter |

**Table 140: Designated Evacuation Centers and Disaster Operation Centers**

|  |  |  |
| --- | --- | --- |
| **Evacuation Centers/**  **Disaster Operations Center** | **Direct Distance**  **From Mun. Hall** | **Distance via Roadline from Municipal hall** |
| Mangaldan Municipal Building-3rd Floor | 0 | 0 |
| Macario Ydia Development Center (MYDC) | 0.15KM | 0.2 KM |
| Mangaldan National High School | .5 KM | .6 KM |
| David Barangay Hall-2nd Floor | 4.216 KM | 4.994 KM |
| 1. Alitaya DOC | 4.154 KM | 6.301 KM |
| 1. Amansabina DOC | 3.234 KM | 3.465 KM |
| 1. Anolid DOC | 3.19 KM | 3.553 KM |
| 1. Banaoang DOC | 1.206 KM | 1.673 KM |
| 1. Bantayan DOC | 2.66 KM | 2.682 KM |
| 1. Bari DOC | 1.439 KM | 1.714 KM |
| 1. Bateng DOC | 3.94 KM | 5.628 KM |
| 1. Buenlag DOC | 2.687 KM | 2.864 KM |
| 1. David DOC | 4.216 KM | 4.994 KM |
| 1. Embarcadero DOC | 1.383 KM | 1.474 KM |
| 1. Gueguesangen DOC | 4.639 KM | 4.773 KM |
| 1. Guesang DOC | 4.04 KM | 5.466 KM |
| 1. Guiguilonen DOC | 0.429 KM | 0.5 KM |
| 1. Guilig DOC | 0.284 KM | 0.414 KM |
| 1. Inlambo DOC | 3.365 KM | 5.197 KM |
| 1. Lanas DOC | 1.901 KM | 2.561 KM |
| 1. Landas DOC | 2.694 KM | 3.27 KM |
| 1. Maasin DOC | 3.167 KM | 4.984 KM |
| 1. Macayug DOC | 2.49 KM | 3.794 KM |
| 1. Malabagop DOC | 2.386 KM | 2.747 KM |
| 1. Navaluan DOC | 1.376 KM | 1.907 KM |
| 1. Nibaliw DOC | 1.045 KM | 1.328 KM |
| 1. Osiem DOC | 2.218 KM | 2.988 KM |
| 1. Palua DOC | 2.42 KM | 3.767 KM |
| 1. Poblacion DOC | 0.219 KM | 0.275 KM |
| 1. Pogo DOC | 2.765 KM | 3.274 KM |
| 1. Salaan DOC | 1.746 KM | 2.759 KM |
| 1. Salay DOC | 1.279 KM | 1.32 KM |
| 1. Talogtog | 3.267 KM | 4.776 KM |
| 1. Tebag DOC | 1.17 KM | 1.601 KM |