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RESEARCH ARTICLE OPEN ACCESS

# DRRM Action Plan for Typhoon-Related Hazards (Heavy Rainfall, Strong Winds, and Rain-Induced Landslide) for The Municipality of Cuenca, Batangas

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## Abstract:

The primary objective of this action plan is to reinforce the capacity of the communities of Barangay Don Juan, Calumayin, Poblacion 7, San Isidro, Dita,Balagbag,and Pinagkaisahan in the municipality of Cuenca to anticipate, prepare, respond to and recover from Multi hazards by instituting inclusive, science-based, community-driven methods that create disaster risk awareness, early warning systems and sustainable preparedness. The plan focuses on activities related to four thematic pillars: Disaster Prevention and Mitigation, Disaster Preparedness, Disaster Response and Early Recovery and Disaster Rehabilitation and Recovery. Various programs, projects, and activities (PPAs) were identified to support the goals and objectives outlined in this plan for year 2025-2030.

*Keywords:* **Hazards,Heavy Rainfall,Strong winds, Rain-induced landslide, MDRRMO, Disaster, Cuenca**

## I. INTRODUCTION

In the municipality of Cuenca, there are five barangays identified as landslide areas: Calumayin, Dita, Don Juan, Balagbag, Pinagkaisahan, and Poblacion 7. These areas are at risk during heavy rainfall and strong winds. On October 24, 2024, Typhoon Kristine brought significant rainfall to the province, with warnings for heavy rain in Batangas. The Cuenca Disaster Risk Reduction and Management Office reported a total rain accumulation of 568 mm during the typhoon. The local weather system confirmed the severe conditions, and Cuenca DRRMO has limited preparedness and prevention measures for the coastal and hillside barangays, especially in the face of typhoons and heavy rainfall.

## II. SCOPE AND LIMITATION

This action plan aims to create a strategy for managing heavy rainfall, strong winds, and rain-induced landslides in the Municipality of Cuenca. It focuses on reducing risks, improving response efforts, and developing policies. The plan specifically targets coastal communities and areas near Mt. Maculot, assessing the effectiveness of existing local disaster management measures. It seeks to enhance the response capabilities of local authorities during multiple hazards and improve rehabilitation efforts after disasters.

The action plan highlights the connection between heavy rainfall,strong winds, and landslides,which leads to the inadequate drainage, and slope protection for the barangays in the municipality at high risk. It notes that funding may be limited, so collaboration with external agencies may be necessary. Challenges include institutional restrictions, logistical issues in accessing coastal barangays, and outdated data from local sources. The local disaster management office has limited resources, including equipment and personnel.

The plan identifies issues, such as insufficient drainage systems leading to flooding, and emphasizes the urgency of its implementation for community benefit. Despite the challenges, it aims to provide effective solutions to hazards, ultimately reducing loss of life and property damage. The goal is to enhance community resilience and preparedness for future adverse weather events.

## III. SITUATION ANALYSIS

In 2021, there were 367 major natural disasters worldwide affecting 127 countries. The Global Natural Disaster Assessment Report 2021 noted that 206 were due to flooding (56. 13%), 82 were caused by storms (22. 34%), and 11 by landslides (3%). Although these disasters resulted in significant economic losses, the main goal is to reduce deaths and support affected families. Southeast Asia faces numerous climate-related disasters like typhoons and floods, leading to loss of life and damage to infrastructure.

The study by L. A. Acosta et al (2016). examined the impact of typhoon-induced flooding in two municipalities in the Philippines. The findings revealed that even resilient communities faced serious social and economic challenges during disasters. The study highlighted preferences for adaptation assistance, with household support as the top need, particularly for food. Over time, cargo ships and tropical cyclones have become more frequent due to climate change. Early warning signs include weather alerts and changes in nature, while effective measures to mitigate disaster impacts involve community education, infrastructure strengthening, and strict building codes.

The Local Disaster Risk Reduction and Management Plan in Cuenca can improve response strategies for future disasters. By revisiting their LDRRM plan and ensuring proper funding allocation, the municipality can systematically prepare for and recover from hazards. Challenges in implementing the LDRRM Plan and Fund were noted, emphasizing the need for various programs and projects to support their objectives in disaster management. Especially in the five high risk barangays in the municipality.

## IV. RESEARCH DESIGN

This proposed action plan uses descriptive research design to understand the behavior and experiences of a sample population without any manipulation. It aims to gather information to develop hypotheses and propose solutions regarding the impacts of typhoons and heavy rainfall, leading to strong winds, flooding and landslides in the coastal and foot-slope Barangays of Cuenca. A quantitative approach will collect and analyze data on the preparedness of local residents and the capacity of the Barangay Disaster Risk Reduction and Management Council. Historical rainfall data from PAGASA and local weather monitoring will help analyze rainfall patterns and flooding frequency. The study also focuses on understanding local hazards through qualitative methods, capturing respondents' experiences, perceptions, and knowledge. Surveys will identify effective practices and assess vulnerable areas, while observational studies will document environmental conditions in high-risk areas. Key observations will include water passages, flood mitigation, soil conditions, and rainfall patterns to better understand community risk.

Additionally, the research will assess community readiness for strong winds, heavy rainfall and landslides, focusing on disaster preparedness awareness among residents in the five high risk barangays in the Municipality of Cuenca. It seeks to develop a risk assessment, response plan, and rehabilitation strategy for predicting landslides based on environmental signals. The ultimate goal is to provide recommendations to improve local policies, enhance early warning systems, and strengthen community and government efforts in disaster prevention, response, and recovery, ultimately reducing the risks associated with typhoons related hazards.

## V. RESULT FROM SURVEY

### Respondents of the Study

The study involved 30 residents from seven barangays in Cuenca, Batangas, known for being at risk of rain-induced landslides, strong winds, and heavy rainfall. Respondents were chosen randomly and had direct experiences with these hazards, particularly during typhoons. The demographic breakdown showed a mature population, with a significant portion aged 20-40 years. The barangays represented included a mix of coastal and foot-slope areas. Through surveys, residents shared their knowledge, behaviors, and views on the local government's disaster preparedness. The study aimed to gather insights on logistical challenges, awareness of local hazards, and public response to disaster initiatives. The findings will help improve disaster risk reduction strategies, enhance community involvement, and strengthen emergency response capabilities.

### Respondents experienced Typhoon Glenda and Kristine

Data was collected from 30 respondents randomly selected from seven barangays in Cuenca. The demographics included optional name, age, barangay, religion, and gender. All respondents had experienced Typhoon Glenda and Typhoon Kristine, impacting their confidence in handling future events. The random sampling provided a range of community experiences and perspectives.

**Table 1: Respondents with Go-Bag**

| Go-Bag | Frequency | Percentage |
|---|---|---|
| **With** | 15 | 50% |
| **Without** | 15 | 50% |
| **Total** | **30** | **100%** |

The survey showed that half of the 30 respondents had a go-bag, while the other half did not. Those living near Mount Maculot were more likely to have go-bags due to local officials urging them to prepare for landslides and evacuations. In contrast, coastal barangays were less prepared, with Barangay Don Juan having 4 out of 5 respondents without a go-bag, and Barangay Calumayin having all 3 without one. Notably, respondents from Barangay Dita, located on the foot slope, also did not have a go-bag. These results can help local officials improve readiness in coastal areas.

**Table 2: Training about first aid**

| First Aid | Frequency | Percentage |
|---|---|---|
| **With** | 16 | 53% |
| **Without** | 14 | 47% |
| **Total** | **30** | **100%** |

The survey found that 53% of people knew about first aid, while 47% did not. First aid knowledge is important in emergencies, especially when professional help is not nearby. In Barangay San Isidro, all respondents reported not knowing first aid. Since this area is at the base of Mt. Maculot and has limited road access, the risk of being cut off during emergencies is high. Therefore, it is very important for residents to learn basic first aid skills.

**Table 3. Respondents knowledge about local hazards**

| Local Hazard | Frequency | Percentage |
|---|---|---|
| **Yes** | 19 | 53% |
| **No** | 11 | 47% |
| **Total** | **30** | **100%** |

The results from Personal Level no. 5 show that out of 30 respondents, 19 are aware of local hazards in their community. Most common hazards identified were Typhoon, Landslides, Rain-induced Landslides, Flooding, and Volcanic Eruption. Only 1 or 2 respondents mentioned Grass Fire, Fire, and Earthquake. Additionally, 11 out of 30 respondents do not know the local hazards they face. Awareness of local hazards is important for preparing and taking steps to prevent loss of life and property damage.

**Table 4. MDRRMO Information Dissemination**

| Satisfaction | Frequency | Percentage |
|---|---|---|
| Strongly Agree | 19 | 63.3% |
| Agree | 9 | 30.0% |
| Neither Agree or Disagree | 2 | 6.7% |
| Disagree | 0 | 0 |
| Strongly Disagree | 0 | 0 |

  

*Legend: 5 - Strongly Agree; 4 – Agree; 3 – Neither agree nor disagree, 2 – Disagree; 1 – Strongly Disagree*

The survey results indicated that 63. 3% of respondents were very satisfied with the MDRRMO's information dissemination before typhoons or heavy rain, while 30. 0% were satisfied. Only 6. 7% were neutral. With an average score of 4. 37, most respondents felt the efforts were effective, helping communities prepare and respond to disasters.

**Table 7. Landslide Prevention and Monitoring**

| Satisfaction | Frequency | Percentage |
|---|---|---|
| Strongly Agree | 24 | 80.0% |
| Agree | 5 | 16.7% |
| Neither Agree or Disagree | 1 | 3.3% |
| Disagree | 0 | 0 |
| Strongly Disagree | 0 | 0 |

*Legend: 5 - Strongly Agree; 4 – Agree; 3 – Neither agree nor disagree, 2 – Disagree; 1 – Strongly Disagree*

The survey results indicated that 80. 0% of respondents, totaling 24 individuals, were very satisfied with the trainings and seminars on disaster preparedness offered by the LGU. Additionally, 16. 7% or 5 respondents were satisfied with these programs, while only 3. 3% or 1 respondent was neutral. The trainings and seminars, organized with help from the Office of Civil Defense, Provincial DRRMO, and MDRRMC, received positive feedback from participants. Respondents gave an average satisfaction score of 4. 77 for the LGU's disaster-related training programs.

## SWOC ANALYSIS

**Table 8**
**SWOC ANALYSIS**

| STRENGTH | WEAKNESS |
|---|---|
| The Cuenca Disaster Risk Reduction and Management Office (DRRMO) supports municipal ordinances aligned with LDRRMO programs, including the Incident Command System and Emergency Operations Center, ensuring 24/7 operations. They focus on slope protection, line canals, and an early warning system with automated weather tools and sirens. The office conducts information and education campaigns about disasters, evacuation drills, and response drills. | Not all community members participate in disaster preparedness. Supplies and copies are limited, and hazard maps are not posted in barangay halls. |
| There are memorandums of understanding with various stakeholders, including transport groups and local cooperatives for food and pharmacies. Cuenca DRRMO has modern rescue equipment, including one search and rescue vehicle and two patient transport vehicles, along with a municipal evacuation center and 21 barangay temporary evacuation centers. The local government also maintains a weather monitoring system. | Families in high-risk areas do not all have Go Bags. Participation in drills and seminars is low. Not all evacuation centers are equipped for emergencies, and the municipal center can only host 350 individuals. |
| Cuenca DRRMO has technical rescue equipment, trained personnel, and volunteers, along with barangay patrols for emergency response. They have a partnership with local mountaineers for further support. The office also has a payloader and backhoe for road and debris clearing and ensures personnel receive RDANA and PDANA training. | Emergency sirens are absent in high-risk areas, and not all barangay officials are trained in disaster response. Coastal barangays lack rescue boats, and community knowledge about evacuation plans is limited. There is no coordination with other local government units regarding staging areas for coastal barangays, leading to a shortage of assessment teams in |

  

| | |
|---|---|
| | worst-case scenarios and slow assessments. |
| **OPPORTUNITIES** | **CHALLENGES** |
| Prevention and Mitigation Projects are supported by local government units. The legislative body assists in creating laws for disaster risk reduction and management programs. | There is a lack of coordination between the Department of Public Works and Highways (DPWH) and local governments regarding infrastructure projects for disaster prevention and mitigation plans. |
| There is a focus on partnerships between the public and private sectors for disaster response and collaboration on simulation drills. | There is also a need for uniformity in the Commission on Audit (COA) funding plan for Local Disaster Risk Reduction Management (LDRRM) plans. |
| Community education on disaster preparedness is important, with NGOs and government agencies providing resources like Go-Bags. | Communities face poverty when trying to obtain emergency Go-Bags, and people in high-risk areas often have a low perception of disaster management risks. |
| Volunteer groups can enhance training programs, and Barangay Emergency Response Teams should connect with the Municipal Disaster Risk Reduction and Management Office for coordinated responses, supported by regional and provincial offices in assessments. | Weather conditions around Taal Lake and in Cuenca, Batangas, pose additional challenges. Responders struggle with evacuating high-risk areas due to unclear orders and unsafe routes. Vulnerable groups have difficulty evacuating because of a lack of guidance or knowledge about evacuation routes. Finally, there are funding limitations due to insufficient support and donations from the National Government. |

## VI. PESTEL ANALYSIS

### Political

The local government, led by Hon. Alexander "Alex" Magpantay, is focusing on improving disaster risk management. They have made significant updates, such as promoting personnel within the Local Disaster Risk Reduction and Management Office (LDRRMO) and hiring new staff. The office now has three regular members and nine temporary workers, with roles defined in the organizational chart. To ensure continuous operations, staff can be reallocated as needed. The local government is also emphasizing training to boost personnel skills in disaster management. The Cuenca Comprehensive Land Use Plan (2024-2034) identifies certain areas as unfit for living due to landslide risks, highlighting the need for strong disaster planning.

### Economic

The Local Disaster Risk Reduction and Management (LDRRM) Fund is made up of 5% of the municipal budget, split into 30% for the Quick Response Fund and 70% for the Trust Fund. The Quick Response Fund helps with immediate disaster needs, while the Trust Fund supports equipment, infrastructure, training, and other projects. The local economy is mainly based on fishing and aquaculture in Taal Lake, with 20 licensed fish cages in use. However, poor farm-to-market roads hurt logistics and the jobs of coastal communities. Additionally, the closure of Mt. Maculot has negatively affected tourism, impacting local guides and vendors.

### Social

The Cuenca MDRRMO offers free services such as patient transport, emergency response, training, and rescue operations. Around 4,654 individuals live in high-risk areas, while 13,099 are in low-risk zones. The office focuses on community safety and welfare..

### Technological

The MDRRMO uses modern technology for emergency response, including dispatch and incident command systems. It has a centralized early warning system and local weather monitoring to help with timely evacuations. Emergency sirens provide information, with maintenance checks every Friday. Social media is used to share disaster preparedness information, weather updates, and advisories. This enhances the community awareness and improves response capacity.

### Environmental

The public believes in the Cuenca MDRRMO to carry out its duties as per RA 10121. The closing of Mt. Maculot and restrictions from the pandemic have helped nature recover. Locals are actively working to protect the biodiversity around Taal Lake and Mt. Maculot, and pollution levels in municipal waters are low due to fewer fish cage operations. The community's commitment to environmental conservation is noteworthy.

### Legal

The local government wants to provide insurance for MDRRMO personnel. They have established standard operating procedures, plans, and protocols for disaster management. This includes activating the incident command system and the emergency operation center.

## ACTION PLAN

### VII.Disaster Prevention and Mitigation

**Table 9**
**Action Plan for Goal 1 Objective 1.1**

| | |
|---|---|
| **Goal 1** | Reduce disaster vulnerability in the Municipality of Cuenca by avoiding hazards and potential impacts to the communities by mitigation by year 2025-2030. |
| **Objective 1.1** | To create and enforce the Land-Use planning policies of the municipality<br><br>of Cuenca to prevent construction within the hazard- prone areas and soil<br><br>stabilization in the landslide prone area by 2028. |
| **Outcome** | The outcome is to have updated landslide-prone areas and an<br><br>audit of biodiversity risk assessment in the target areas. The time frame is expected<br><br>August 2025 onwards to have an accurate assessment. |
| **Programs, Projects, and Activities (PPA)** | 1. Public Consultation and Public Hearing on No Build Zone<br><br>2. Conduct of Mountain and Terrain Assessment Analysis<br><br>3. Conduct Tree Planting Activity and Tree conservation activity |

The objective is to establish and enforce land-use planning policies in Cuenca to prevent construction in hazard-prone areas, particularly in Barangay Don Juan, where landslides are common. A public consultation and hearing will be held to discuss the no-build zone in these high-risk areas starting in early 2025. Several offices, including the Municipal Planning and Development Council and the Municipal Engineering Office, will be responsible for this.

Additionally, a Mountain and Terrain Assessment Analysis will be conducted in August 2025 to update landslide data and assess biodiversity risks, costing Php 400,000 from the development fund. Finally, tree planting activities in Mt. Maculot aim to stabilize soil, producing 5,000 seedlings per year, with a budget of Php 50,000 for maintenance. The Municipal Environment and Natural Resources Office will coordinate the sourcing of seedlings.

**Table 10**
**Action Plan for Goal 1 Objective 1.2**

| | |
|---|---|
| **Goal 1** | Reduce disaster vulnerability in the Municipality of Cuenca by avoiding hazards and potential impacts to the communities by mitigation by year 2025-2030. |
| **Objective 1.2** | To establish proper communication system for Early Warning System and<br><br>All Weather Monitoring System for the locality by 2030. |
| **Outcome** | To enhance the capacity of centralized communication to all stakeholders and establishment of Early Warning System |
| **Programs, Projects, and Activities (PPA)** | 1.Procurement and installation of Early warning System (Siren with PA<br><br>system)<br><br>2. Procurement and installation of Automated Weather Monitoring<br><br>System<br><br>3. Procurement and installation of Centralized Radio Communication |

The plan focuses on establishing a centralized communication system for an early warning and all-weather monitoring system. The first point of action involves procuring and installing an early warning system with sirens and public address systems in seven barangays: Don Juan, Calumayin, Pob 7, San Isidro, Pinagkaisahan, Dita, and Balagbag, for easy dissemination of emergency announcements in high-risk areas, with a budget of Php 800,000. The timeframe is set for 2026 onwards, led by the LDRRMO using 70% of its mitigation fund.

The next step is the procurement and installation of Automated Weather Monitoring Systems (AWMS) for Sitio Napapanayan and Sitio Lumampao in the same barangays, costing Php 3,300,000, aimed at high-risk isolated coastal areas. This will also be funded by the mitigation fund and will take 3-4 years.

Lastly, the purchase and installation of centralized radio communication for all 21 barangays is planned, including one radio repeater, one base radio, and portable radios, totaling Php 1,191,000 and expected to be completed in 1-2 years. This is also funded by the mitigation fund and covers a 5-year plan.

**Table 11**
**Action Plan for Goal 1 Objective 1.3**

| | |
|---|---|
| **Goal 1** | Reduce the dangers and effects of man-made and natural hazards by taking preventative action and adopting sustainable environmental practices. |
| **Objective 1.3** | To establish relocation plan, risk assessment and vulnerability analysis of<br><br>High risk barangays in the Municipality, Utilizing all analytical tools such<br><br>as GIS, Hazard Maps, and updated Assessment of the Agency involved in<br><br>community awareness by 2028. |
| **Outcome** | Community awareness and participation are strengthened that leads to improved local stewardship of reforested areas and sustained environmental resilience. |
| **Programs, Projects, and Activities (PPA)** | 1.Trainings and Seminar on Using GIS and Relocation plan<br><br>2. Procurement of lot for relocation area (Socialized Housing)<br><br>3. Construction of Socialized Housing |

This action plan to address relocation, risk assessment, and vulnerability analysis for high-risk barangays in the municipality. It includes training and seminars for creating relocation and evacuation plans for 21 barangays, with a target completion date of 2028. The responsible offices are the Municipal Engineering, LDRRMO, and MPDC, with a budget of Php 200,000. 00 from the BDRRM Fund and 70% Mitigation Fund. There is also a plan to procure land for relocating 100 families from high-risk coastal areas, costing Php 12,000,000. 00 from the 20% Development fund or National Agency Funding. Lastly, socialized housing for these families will be constructed, costing Php 100,000,000. 00 from National Agency funding.

## VIII. Disaster Preparedness

**Table 12**
**Action Plan for Goal 2 Objective 2.1**

| | |
|---|---|
| **Goal 2** | Enhance disaster preparedness capabilities in Municipality of Cuenca through improved and Strengthen Capacities of Communities to Anticipate, Cope, and recover from the possible negative impact of<br><br>Disaster, and regular emergency preparedness activities by 2026-2030. |
| **Objective 2.1** | To Construct and Equip the LDRRMO Emergency Operation Center together with the Barangays by 2030 |
| **Outcome** | By 2030, A knowledgeable, proactive, and well-organized community that can effectively respond to calamities in the Municipality of Cuenca. |
| **Programs, Projects, and Activities (PPA)** | 1. Conduct of Trainings about Disaster for Barangay Functionaries<br><br>2. Appointing of the Barangay local DRRM Focal persons.<br><br>3. Conduct of Barangay Emergency Drills / SIMEX |

  

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| | 4. Purchase of Emergency Go-Bags |

The PPA will conduct capacity-building activities in barangays, focusing on disaster training. This aims to create policies and protocols related to disaster response. The LDRRMO is responsible for the budget of Php 5,000. 00 for barangay needs from the BDRRMC fund.

A barangay kagawad will be appointed as the local DRRM focal person for better coordination and monitoring, not the barangay chairman. This aims to strengthen local DRRM capabilities. Additionally, simulation exercises for multi-hazard scenarios will be conducted to improve response systems. Lastly, 100 Emergency Go-Bags will be purchased for two coastal barangays and distributed to families, funded by 70% of the LDRRM mitigation fund.

**Table 13**
**Action Plan for Goal 2 Objective 2.2**

| | |
|---|---|
| **Goal 2** | Enhance disaster preparedness capabilities in Municipality of Cuenca through improved and Strengthen Capacities of Communities to<br><br>Anticipate, Cope, and recover from the possible negative impact of<br><br>Disaster, and regular emergency preparedness activities. |
| **Objective 2.2** | To Conduct IEC campaign and Public consultations, Distributions of<br><br>IEC materials, installation of warning signages or hazard prone<br><br>signages on high risk areas and Utilizing Social media to inform the<br><br>general public by 2030. |
| **Outcome** | The utilizing and creation of IEC campaign which focuses on the high risk areas for information dissemination of activities. |
| **Programs, Projects, and Activities (PPA)** | 1. Printing and distribution of IEC booklets<br><br>2. Production of local hazard Safety videos<br><br>3.Intallation of reflectorized warning signages or hazard prone signages. |

The PPA describes an IEC campaign focused on disaster resilience and public consultations. It includes the purchase and installation of disaster resiliency signages. First, it mentions producing printable IEC booklets that detail local hazards in Cuenca, translated into English and Tagalog for wider understanding, and these will be distributed at seminars and public places. Additionally, local hazard safety videos will be created, highlighting tourist spots and safety preparedness. Finally, warning signages will be installed in high-risk areas based on hazard maps to inform the communities.

**Table 14**
**Action Plan for Goal 2 Objective 2.3**

| | |
|---|---|
| **Goal 2** | Enhance disaster preparedness capabilities in Municipality of Cuenca through improved and Strengthen Capacities of Communities to Anticipate, Cope, and recover from the possible negative impact of Disaster, and regular emergency preparedness activities. |
| **Objective 2.3** | To Construct and Equip the LDRRMO Emergency Operation Center<br><br>together with the Barangays by 2030 |
| **Outcome** | The utilizing of operational Emergency operation center. |
| **Programs, Projects, and Activities (PPA)** | 1.Construction of Emergency Operation Center Building<br><br>2. Procurement of Rescue Truck with Equipment<br><br>3. Procurement of Emergency dispatch System<br><br>4. Procurement of LED wall for IEC |

  

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|---|---|
| | 5. Basic Search,Rescue, and Retrieval Tools<br><br>6. Conduct of Search, Rescue, and Retrieval Training |

The PPA discusses the establishment and enhancement of emergency operations in Cuenca. Currently, there is no suitable building for the Cuenca emergency operation center, as all operations are conducted from a single office. The construction of a new facility will be funded by the National Agency. Additional plans include purchasing a rescue truck with necessary equipment to improve response capabilities for landslides and other emergencies, funded by 70% mitigation funds and grants. An emergency dispatch system will be set up for better communication and monitoring. A LED wall will be procured for announcements and educational campaigns. Basic search and rescue tools will be distributed to the 21 barangays, and training for search and rescue operations will be conducted by the Philippine Red Cross, enhancing teamwork and disaster preparedness.

## IX. Disaster Response and Early Recovery

**Table 15**
**Action Plan for Goal 3 Objective 3.1**

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|---|---|
| **Goal 3** | Provide life preservation and meet the basic needs of affected<br><br>population based on acceptable standards during or immediately<br><br>after a disaster by 2026-2030. |
| **Objective 3.1** | To enhance the Capability of Water assets and logistical vehicles of<br><br>the Local Government Unit of Cuenca by 2030. |
| **Outcome** | Cuenca will have enhancement of water asset and logistical support. |
| **Programs, Projects, and Activities (PPA)** | 1.Purchase of Fiberglass rescue boat<br><br>2.Purchase of Rubber Boat<br><br>3. Conduct of Water Search and Rescue Trainings<br><br>4. Purchase of Rescue Evacuation or logistic Truck |

The Local DRRM office of Cuenca aims to improve its disaster response capabilities by enhancing water assets and logistics. This includes purchasing a fiberglass rescue boat with 10-15 seats for rough seas and a rubber boat with a capacity of 6-10 people for quick emergency deployment. Additionally, training sessions for water search and rescue will be held for LDRRM personnel and two coastal barangays, certified by the Philippine Coast Guard. Finally, a rescue evacuation and logistics truck will be acquired for better evacuation and support.

**Table 16**
**Action Plan for Goal 3 Objective 3.2**

| | |
|---|---|
| **Goal 3** | Provide life preservation and meet the basic needs of affected<br><br>population based on acceptable standards during or immediately after a disaster by 2026-2030. |
| **Objective 3.2** | To enhance the Capacity of the Municipal DRRMO personnel and<br><br>council members in responding to the hazards by 2027. |
| **Outcome** | Functional and ready capacitated Cuenca MDRRMO and council members. |
| **Programs, Projects, and Activities (PPA)** | 1.Conduct of Emergency Medical Technician Training<br><br>2. Conduct of Mountain Search and Rescue Technician<br><br>3. Conduct of Collapse Structure Search and Rescue<br><br>4. Insurance for the Municipal DRRMO Personnel<br><br>5. Provide Assessment Trainings (RDANA) |

  

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| | 6. Provide Public Service Continuity Plan training |

The PPA outlines plans for training and capacity building for DRRMO personnel and council members to improve their response to hazards. This includes enhancing Emergency Medical Services, Mountain Search and Rescue, and Collapse Structure Search and Rescue for Cuenca DRRMO personnel. There is also a plan to provide insurance for DRRMO personnel and volunteers for extra protection. Additionally, it mentions conducting Rapid Damage Assessment Needs Analysis for quick and accurate assessments. Finally, training for the Public Service Continuity Plan for LDRRMC is proposed to ensure government operations continue smoothly during emergencies.

**Disaster Rehabilitation and Recovery**

**Table 17**
**Action Plan for Goal 4 Objective 4.1**

| | |
|---|---|
| **Goal 4** | Ensure to restore and enhance the quality of life for the damaged population in accordance with the Build back better principle in the Municipality of Cuenca by 2030. |
| **Objective 4.1** | Prepare the LGU to help in the rehabilitation and Recovery of the affected by the disaster in the locality by 2028. |
| **Outcome** | This is to enhance and prepare the rehabilitation and recovery of the Municipality of Cuenca. |
| **Programs, Projects, and Activities (PPA)** | 1.Conduct RDANA trainings (Rapid Disaster Assessment Needs Analysis)<br>2. Assistance from the Regional Office of Civil Defense and Provincial DRRMO |

The goal is to prepare the Local Government Unit (LGU) for disaster rehabilitation and recovery efforts. This includes conducting a Rapid Disaster Assessment Needs Analysis (RDANA) for quick and reliable assessments. The focus will be on the Local Disaster Risk Reduction and Management Council (LDRRMC) and the Barangay Disaster Risk Reduction and Management Council (BDRRMC) to form RDANA teams. Funding will come from the Local Disaster Risk Reduction and Management Fund, with 70% allocated for mitigation. Each participant from the Barangay and LDRRMC will receive Php 11,500, with at least 45 participants required as per the Office of the Civil Defense. Additionally, the Provincial disaster risk reduction and management office and the regional office of civil defense will assist with rehabilitation and recovery in Cuenca.

**Table 18**
**Action Plan for Goal 4 Objective 4.2**

| | |
|---|---|
| **Goal 4** | Ensure to restore and enhance the quality of life for the damaged population in accordance with the Build back better principle in the Municipality of Cuenca by 2030. |
| **Objective 4.2** | To develop comprehensive rehabilitation plans for infrastructure recovery by 2029. |
| **Outcome** | This is to minimize the affected in the high risk area of the Municipality of Cuenca. |
| **Programs, Projects, and Activities (PPA)** | 1.Implementation of No Build Zones to Danger Zones. |

  

The focus is on creating detailed rehabilitation plans for recovering infrastructure in the municipality. No build zones will be established in high-risk areas to keep people safe from danger and reduce property damage. This aims to ensure a safe community. The Municipal Planning and Development Council will also use data from the Comprehensive Land Use Plan to guide these efforts.

## X. AKNOWLEDGEMENT

This Action plan is a result of dedication and love for the work in Disaster Risk

Reduction and Management, to be a journey of success. Undoubtedly, the researcher has had unheard battles that even the Action plan adviser, family, friends, and colleagues did not hear about or had the chance to know. Through sleepless nights, duties in the emergency operation center, finding time to work on the Action plan, and still in times of

emergency, the researcher finds time to accomplish the action plan. wherein every student swears that an action plan is a path that no one would like to cross from as it brings out the bad and good versions of an individual. However, as time passed by, the researcher realized that this is a two-way process to produce a hard work assessment and find data. hence, the corroboration of ideas and camaraderie urges to encourage one another to not

lose the fight this action plan is dedicated to the people of Cuenca and the author's

family, a testament to their unwavering love, support, and belief in the author's abilities.

## XI. REFERENCES

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