

# BUILDING SAFE SPACES FOR THE COMMUNITY

*A Practical Guide for Constructing Disaster-Resilient Community  
Evacuation Centres in the Philippines*



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## FOREWORD

The Philippines is frequently affected by natural disasters. The International Organization for Migration (IOM), in close cooperation with the Government of the Philippines and humanitarian partners, is actively engaged in emergency response and recovery efforts to help affected populations and to target the most vulnerable, particularly the internally displaced.

The “Enhancement of the Network of Evacuation Centres in Eastern Samar, Philippines” initiative, led by IOM and initiated after the devastating impact of Super Typhoon Haiyan in 2013, linked preparedness and response - two concepts that are virtually inseparable in the Philippines.

By constructing disaster-resilient community evacuation centres, the initiative aimed to equip vulnerable communities with a safe and disaster-resilient evacuation space. But as this collection of stories shows, it does much more than that.

These stories are about people who have gained the confidence to cope with natural disasters by participating in a process that consolidates disaster risk reduction and management activities, resilient public infrastructure projects, and camp coordination and camp management practices.

I can never emphasize enough my gratitude and appreciation to UNICEF Philippines for their continuous support and partnership in this venture.



My appreciation also goes to the many other donors whose generous contributions have made this initiative possible.

This project would not have achieved this level of success if not for the excellent support of local government counterparts and the valuable contributions of the affected communities.

The field of disaster risk reduction and management is developing rapidly and globally. We are seeing a number of best practices in emergency and recovery response and preparedness emerging.

I am confident that this document will add another best practice that demonstrates the importance of improving the resilience of vulnerable communities.

**Marco Boasso**

Chief of Mission  
IOM Philippines

## FOREWORD

The early morning hours of 8 November 2013 will forever be etched in the memory of those living in Guiuan, Eastern Samar. This was when the first impacts of Typhoon Haiyan were felt. In the next two years, UNICEF dedicated much of its time and effort to helping families recover from the devastating effects of the typhoon.

This publication celebrates the resilience of the people of Guiuan and Borongan. We hope that this document becomes a useful guide for local governments wanting to establish their own evacuation centres. This initiative truly shows the resilience and purposefulness of the community to build back better, and the Sirungan Ha Guiuan (Shelter of Guiuan) is a testament to this. Children are among the most vulnerable when emergencies happen. They suffer when they do not have safe spaces to wait out the storm.

Children miss out on their education when their schools are used as evacuation centres. They are also at greater risk of abuse, exploitation - such as trafficking - and neglect during disasters.

Sirungan Ha Guiuan represents a model for other local government units. It not only provides safety from the elements but also adds to the social cohesion of the community by acting as a multipurpose centre on a daily basis. It is designed for those who are vulnerable - the elderly, the disabled and especially the children.



This initiative taught us the importance of collaboration with the national and local government, humanitarian and development partners, and the community. We recognize the efforts of the Department of Social Welfare and Development, the local governments of Guiuan and Borongan, IOM, and the local community in making this vision a reality.

The impact of disasters on the lives and well-being of children is real. The policies and decisions we make today will affect the lives of the future generation. Let's make it our priority to ensure safer, more resilient communities for children.

**Lotta Sylwander**  
Country Representative  
UNICEF Philippines

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## ACRONYMS

<b>CCCM</b>	camp coordination and camp management
<b>CGI</b>	corrugated galvanized iron
<b>DRR</b>	disaster risk reduction
<b>DRRM</b>	disaster risk reduction and management
<b>DSWD</b>	Department of Social Welfare and Development
<b>IFRC</b>	International Federation of Red Cross and Red Crescent Societies
<b>IOM</b>	International Organization for Migration
<b>LGU</b>	local government unit
<b>MEND</b>	mass evacuations in natural disasters
<b>NOAH</b>	Nationwide Operational Assessment of Hazards
<b>PM</b>	project manager
<b>PMT</b>	project management team
<b>SFDRR</b>	Sendai Framework for Disaster Risk Reduction
<b>SDG</b>	Sustainable Development Goal
<b>TOR</b>	terms of reference
<b>TWG</b>	technical working group
<b>UNICEF</b>	United Nations Children's Fund
<b>UNISDR</b>	United Nations International Strategy for Disaster Reduction



## GLOSSARY

**Affected population** - People requiring immediate assistance during an emergency, including basic survival needs such as food, water, shelter, sanitation, and immediate medical assistance (CCCM Cluster, 2014:16).

**Build Back Better** - The use of the recovery, rehabilitation and reconstruction phases after a disaster to increase the resilience of nations and communities by integrating disaster risk reduction measures into the restoration of physical infrastructure and societal systems, and into the revitalization of livelihoods, economies and the environment (UNISDR, 2017).

**Building code** - A set of ordinances or regulations and associated standards intended to control aspects of the design, construction, materials, alteration and occupancy of structures which are necessary to ensure human safety and welfare, including resistance to collapse and damage (UNISDR, 2009).

**Capacity** - The combination of all the strengths, attributes, and resources available within an organization, community or society to manage and reduce disaster risks and strengthen resilience (UNISDR, 2009).

**Capacity building** - A process that strengthens the knowledge and skills of people, organizations, and society to achieve social and economic goals, through improvement of knowledge, skills, systems, and institutions.

**Climate change** - Meteorological changes attributed directly or indirectly to human activity or to natural climate variability that alter the composition of the global atmosphere (Jha et al., 2010:361).

**Collective centre** - Pre-existing buildings and structures used for the collective and communal settlement of the displaced population in the event of conflict or natural disaster (CCCM Cluster, 2014:5).

**Community** - Group of households that identify themselves in some way as having a common interest, bond, values, resources or needs as well as physical space. A social group of any size whose members reside in a specific locality, share the same government and often have a common cultural and historical heritage (Jha et al., 2010:361).

**Community-based disaster risk management** - This promotes the involvement of potentially affected communities in disaster risk management at the local level. It includes community assessments of hazards, vulnerabilities and capacities, and their involvement in planning, implementation, monitoring, and evaluation of local action for disaster risk reduction (UNISDR, 2009).

**Community participation** - Process whereby the affected population can influence development by contributing to project design, influencing public choices, and holding public institutions accountable for the goods and services they provide (Jha et al., 2010:361).

**Disaster** - A serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceed the ability of the affected community or society to cope using its own resources (UNISDR, 2009).

**Disaster response** - Actions taken directly before, during, or immediately after a disaster to save lives, reduce health impacts, ensure public safety, and meet the basic subsistence needs of the people affected (UNISDR, 2009).

**Disaster risk** - The potential loss of life, occurrence of injury, or destruction of assets which could occur to a system, society, or a community in a specific period of time, determined probabilistically as a function of hazard, exposure, vulnerability, and capacity (UNISDR, 2009).

**Disaster risk management** - The systematic process of using administrative directives, organizations, and operational skills, and capacities to implement strategies, policies, and improved coping capacities in order to lessen the adverse impacts of hazards and the possibility of disaster (UNISDR, 2009).

**Disaster risk reduction** - The concept and practice of reducing disaster risks through systematic efforts to analyse and manage the causal factors of disasters, including through reduced exposure to hazards, lessened vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse events (UNISDR, 2009).

**Emergency shelter** - Short-term shelter that provides life-saving support or the most basic shelter support that can be provided immediately after the disaster (IFRC, 2013:2).

**Evacuation** - The rapid movement of people away from the immediate threat or impact of a disaster to a safer place of shelter. It is commonly characterized by a short time frame, from hours to weeks, within which emergency procedures need to be enacted to save lives and minimize exposure to harm (CCCM Cluster, 2014:16).

**Evacuation centre** - A temporary or provisional safe space that provides a basic shelter for people affected by a disaster.

**Evacuation plan** - Pre-identified and agreed operating procedures, responsibilities, and resources, usually recorded and shared in written form, to facilitate and organize the timely and coordinated actions of all relevant stakeholders in case an emergency evacuation is necessary. Stakeholders include responsible authorities, other emergency responders, public service providers, and people living and working in areas identified as potential evacuation zones and in places of shelter for evacuees (CCCM Cluster, 2014).

**Evacuation route** - A rapid way to transfer people from the disaster-prone area to a safe place (Martinez and Navaza, 2013).

**Evacuee** - A person who has evacuated a hazardous location in response to the immediate threat or impact of a disaster, either through their own initiative and resources (self-evacuated) or through the direction and assistance of authorities and/or emergency responder (CCCM Cluster, 2014:18).

**Exposure** - The situation of people, infrastructure, housing, production capacities and other tangible human assets located in hazard-prone areas (UNISDR, 2009).

**Hazard** - A potentially damaging physical event, phenomenon, or human activity that may cause the loss of life, injury, property damage, social and economic disruption, or environmental degradation (UNISDR, 2009).

**Hazard mapping** - The process of establishing geographically where and to what extent particular hazards are likely to pose a threat to people, property, or the environment (Jha et al., 2010:363).

**Internally displaced persons** - Persons or groups of persons who have been forced or obliged to flee or leave their homes or places of habitual residence, in particular as a result of or in order to avoid the effects of armed conflict, situations of generalized violence, violations of human rights, or natural or human-made disasters, and who have not crossed an internationally recognized State border (Jha et al., 2010:364).

**Natural hazard** - Natural process or phenomenon that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage (UNISDR, 2009).

**Mitigation** - The lessening or limitation of the adverse impacts of hazards and related disasters (UNISDR, 2009).

**Preparedness** - The knowledge and capacities developed by governments, professional response and recovery organizations, communities, and individuals to effectively anticipate, respond to, and recover from, the impacts of likely, imminent or current hazard events or conditions (UNISDR, 2009).

**Project risk** - An uncertain event or condition that, if it occurs, has a positive or negative impact on one or more project objectives such as scope, schedule, cost, and quality (Project Management Institute, 2013).

**Rapid assessment** - Assessment that provides immediate information on needs, possible intervention types, and resource requirements. It may be conducted as a multisectoral assessment or in a single sector or location (Shelter Cluster, 2012).

**Resilience** - The ability of a system, community or society exposed to hazards to resist, absorb, accommodate, adapt to, transform, and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and

restoration of its essential basic structures and functions through risk management (UNISDR 2007).

**Shelter** - A habitable, covered living space, providing a secure and healthy living environment with privacy and dignity for the groups, families, and individuals residing within it (Shelter Cluster, 2012).

**Stakeholders** - Agencies and individuals who have a direct or indirect interest in a humanitarian intervention or development project, or who can affect or are affected by the implementation and outcome of it (Jha et al., 2010:366).

**Temporary shelter** - The space where roof, food, clothing, and health services are temporarily provided to vulnerable people during, before, and after the occurrence of a disaster. It can be a community or a family shelter (Martinez and Navaza, 2013).

**Vulnerability** - The conditions determined by physical, social, economic, and environmental factors or processes which increase the susceptibility of an individual, a community, assets, or systems to the impacts of hazards (UNISDR, 2009).

**Vulnerable groups** - Groups or members of groups exposed to the impacts of hazards, such as displaced people, women, elderly, disabled, and any group subject to discrimination (Shelter Cluster, 2012).



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## FEATURE STORY

My name is Laleng Salas Dagale. I am 60 years old and a resident of Barangay Cogon, Guiuan, Eastern Samar. I was at the market in the morning of 7 November 2013 when I first heard that a super typhoon was going to hit our province. Terrified, I rushed home to inform my family and to prepare for it. We also went to our daughter's house nearby and told her to secure her house. Fearing the worst, my daughter asked me what to do when the typhoon comes. I told her to stay under the bed when the winds get stronger. We went back to our house and started to prepare as well. My husband and I had built a shelter under the big rocks behind our house where we could evacuate to.

In the late afternoon, the winds started to pick up. We ate dinner early and went to the shelter. Ten of us, including children, huddled in the tight space between the rocks while waiting for the typhoon to pass. The small children were crying because they were frightened of the howling winds. My children living in Manila called to check on us because they were extremely worried. They started asking me for forgiveness for past misunderstandings. I asked them to pray for our survival.

The strong winds blew off the iron sheet covering our rock shelter. Outside, we saw our house being torn down. We were all crying and praying, asking God to stop the storm.

I was afraid that the rocks would collapse on us and we would die. Our child with special needs had turned blue from crying nonstop. I was scared he and my 4-month old granddaughter Trixie would catch hypothermia or get sick, so we wrapped their bodies with diapers.

It was my first time to experience such a devastating typhoon. Thankfully, we survived because the rocks protected us from the powerful winds. I never thought we would live to tell what we went through. I will never forget this experience. We lost everything, but we are grateful because we survived.

Now that we have Sirungan ha Guiuan, it will greatly benefit all of us Guiuananons as an evacuation centre and as a venue for our community affairs. It is a big help for Guiuan.



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## EXECUTIVE SUMMARY

In 2015, IOM and UNICEF launched a programme to enhance the network of evacuation centres in Eastern Samar, one of the provinces hardest hit by Super Typhoon Haiyan (known locally as Yolanda). The programme sought to support the Government of the Philippines to increase its local capacity in constructing disaster-resilient community buildings. The resulting evacuation centres would, in turn, contribute to the communities' improved level of resilience and preparedness. Key to this programme was the design of an evacuation centre building template that combines best practices in international, disaster-resilient, building construction with local construction technology and materials.

The programme has supported the construction of two fit-for-purpose evacuation centres that will act as protective shelters from natural hazards such as floods, typhoons and earthquakes, and, alternatively, when not in use as evacuation centres - as multi-purpose centres for community-based activities. This publication documents the process of establishing the pilot evacuation centre in the municipality of Guiuan and the ongoing construction of a similar structure in the city of Borongan in Eastern Samar.

This publication emphasizes the necessary processes, tips, tools and lessons learnt during project implementation - from initiation and planning, to design and construction, and finally sustainable operation and maintenance of the building. It serves as a practical guide for agencies and organizations that would like to learn from and/or replicate the project's good practices.

Both IOM and UNICEF advocate that national and local governments invest in building life-saving, disaster-resilient infrastructures as a vital and strategic component not only of the disaster mitigation and preparedness framework, but also of the longer-term development agenda for communities.



## ABOUT THE PUBLICATION

### WHAT IS THIS PUBLICATION FOR?

This document captures the shared experiences of stakeholders involved in the IOM-UNICEF programme Enhancement of the Network of Evacuation Centres in Eastern Samar, Philippines. Its primary focus is to consolidate the lessons learnt during planning, design, construction and handover of the community evacuation centre projects in Guiuan and Borongan to guide and assist stakeholders who want to embark on similar projects.

Lessons learnt and recommendations were derived from literature review, stakeholder consultations, key informant interviews, focus group discussions, site visits and observations, and photo documentation. The document is therefore



- A **PRACTICAL GUIDE** that consolidates the accumulated knowledge and good practices of building resilient and durable community evacuation centres in Eastern Samar, and illustrates how key disaster risk reduction and management (DRRM) processes are integrated in the planning, design, construction and handover of community evacuation centres.



- An **ADVOCACY TOOL** that recommends the development and replication of disaster-resilient community buildings and/or evacuation centres as vital investments to be made by national and local governments.

### WHO ARE ITS INTENDED USERS?

- National and local governments
- Humanitarian and development organizations
- Affected communities.

### HOW DO YOU USE IT?

It is recommended that users read the material in sequence to get a good understanding of the overall project implementation and the processes of each phase. The publication has been organized to signify different types of information:



**INFORMATION** - highlights key technical facts and information



**TIPS** - provides tips to complement the main processes



**LESSONS LEARNT** - describes lessons learnt during the project implementation



**GOOD PRACTICE** - illustrates examples from the field experience



**QUOTE** - presents anecdotes from the project stakeholders.

## BACKGROUND

The Philippines is one of the most disaster-prone countries in the world. Because of its location along the Pacific Ring of Fire and the Typhoon Belt, the Philippines experiences daily earthquakes and on average 20 typhoons a year which are becoming more frequent and extreme. Furthermore, displacement due to conflict occurs periodically.

Recognizing the vulnerability and susceptibility of the country to the impacts of natural and human-induced hazards, the Philippine government joined other countries in their commitment to implement the Sendai Framework for Disaster Risk Reduction (SFDRR) at the global level and the ASEAN Agreement on Disaster Management and Emergency Response at the regional level. SFDRR, adopted in March 2015 during the Third World Conference on Disaster Risk Reduction, highlights the need for investing in disaster risk reduction (DRR) for resilience, including structural and non-structural measures to strengthen the resilience of persons, communities and their assets.

The Philippine government enacted Republic Act (RA) 10121, or the Philippine Disaster Risk Reduction and Management Act of 2010, which promotes a more proactive system of preparing for disasters rather than a reactive response-based system. This approach was institutionalized through the National Disaster Risk Reduction and Management Framework and Plan. This Framework and Plan serves as a guide for government agencies and units, humanitarian organizations, and other actors in implementing programmes and projects on four thematic areas of DRRM, namely: 1) prevention and mitigation, 2) preparedness, 3) response, and 4) rehabilitation and recovery, with the goal of “safer, productive and disaster-resilient Filipino communities towards sustainable development.” The government also enacted RA 10821, The Children’s Emergency Relief and Protection Act, to ensure that children are

protected and cared for before, during and after emergency situations.

In November 2013, Super Typhoon Haiyan, one of the most powerful storms in recorded history, made landfall in Guiuan, Eastern Samar. It ravaged Eastern Visayas and nearby provinces, causing massive loss of lives and damage to infrastructure and livelihoods. The devastation challenged the government and humanitarian organizations to respond to a disaster that affected an estimated 16 million people (see Figure 1).

Within days, the government and humanitarian organizations responded to the call for rapid needs assessments, search and rescue operations, and relief operations. Donor organizations focused their financial resources simultaneously on emergency

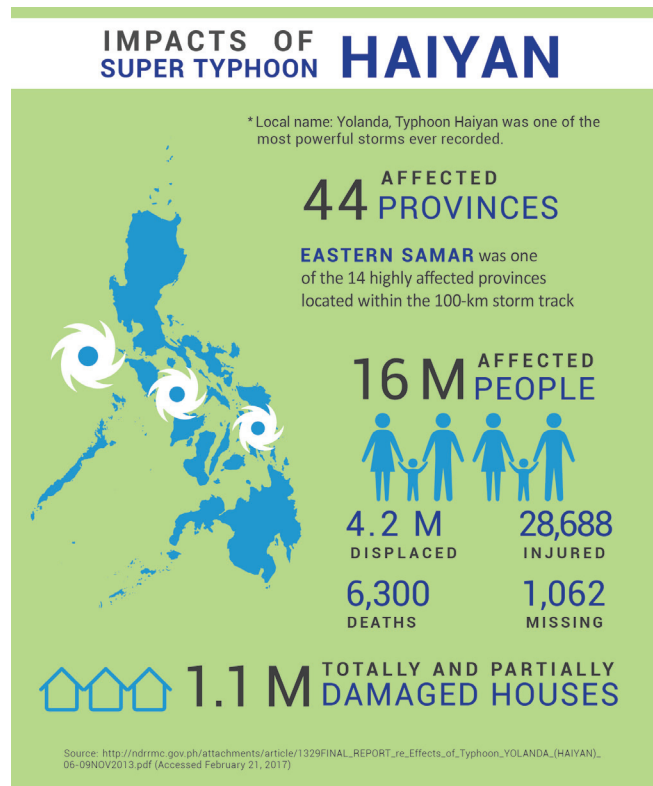


Figure 1. Impacts of Super Typhoon Haiyan

assistance programmes and rehabilitation and recovery of affected areas.

In January 2014, while the country was still reeling from the devastation of Typhoon Haiyan, Eastern Samar and Northern Mindanao experienced Tropical Depression Agaton, which caused another round of displacements. A year after, Typhoon Hagupit (locally known as Ruby) struck many of the same provinces previously hit by Typhoon Haiyan. In all instances, residents had no safe spaces to evacuate to.

These concurrent weather events emphasized the need for better local preparedness planning to include the establishment of robust evacuation centres to mitigate risk and lessen the loss of human life. Two key studies supporting this recommendation include *Resolving Post-Disaster Displacement: Insights from the Philippines after Typhoon Haiyan (Yolanda)* (Sherwood et al., 2015) and *Recovery and*

*Reconstruction Planning in the Aftermath of Typhoon Haiyan (Yolanda)* (World Bank, 2014).

In 2014, IOM conducted an assessment on the usability of evacuation centres in Eastern Samar after Typhoon Haiyan. The assessment evaluated 634 evacuation centres located in 10 of the hardest-hit municipalities. The results showed that of the 634 designated evacuation centres, only 8 per cent were deemed usable; and of the 92 per cent assessed as unusable, 26 per cent were destroyed and 66 per cent severely damaged (see Figure 2). The catastrophic damage to these evacuation centres caused numerous deaths and injuries due to the combination of substandard construction, extreme winds and storm surges. The assessment stressed the urgent need to construct or rehabilitate safer and stronger evacuation centres in Eastern Samar in accordance with international and national engineering guidelines (IOM, 2014).

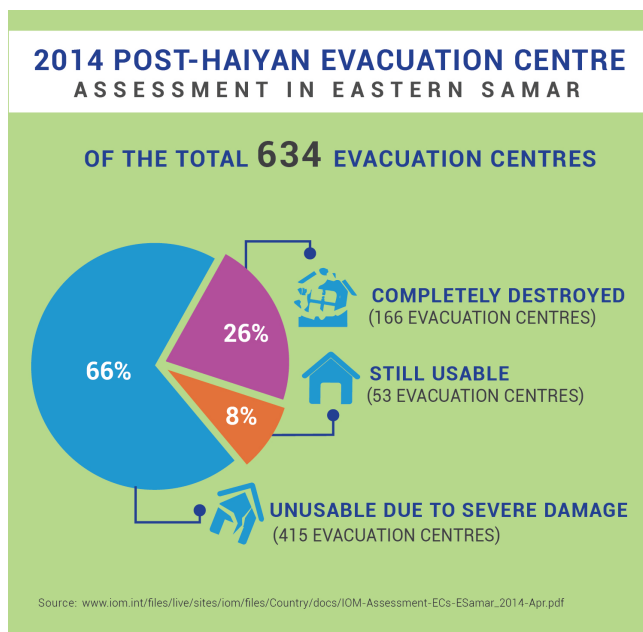


Figure 2. Result of Post-Haiyan Evacuation Centre Assessment in Eastern Samar



IOM's CCCM workshop

## ABOUT THE PROJECT

IOM and UNICEF address DRR, preparedness and climate change adaptation by strategically integrating humanitarian agendas with long-term development plans (see Figure 3).

As the Global Cluster Lead Agency of Camp Coordination and Camp Management (CCCM), IOM supports and strengthens the capacity of governments and communities in planning and implementing mass evacuations during natural and human-induced disasters. It acknowledges that building resilient community evacuation centres is an important component of community-based DRRM

and an avenue for improving community awareness on DRR.

Working at the forefront of promoting children's rights and protection, UNICEF supports DRR initiatives that consider the specific needs of children, including their participation in plans and activities designed and implemented to protect them.

The results of the post-Haiyan evacuation centre assessment in Eastern Samar conducted by IOM served as compelling reasons to promote investing in disaster-resilient evacuation centres that would

### How does the IOM-UNICEF Programme support the Sustainable Development Goals (SDGs)?

In 2015, countries adopted the 2030 Agenda for Sustainable Development, which calls all countries and stakeholders to collaborate for action to end poverty, reduce inequalities and tackle climate change. The Agenda, with its 17 Sustainable Development Goals, builds on the previous Millennium Development Goals and seeks to realize human rights and improve the lives of all people.

This IOM-UNICEF collaboration supports five of the 17 SDGs with a focus on poverty, education, gender equality, inequalities and climate change. This illustrates a shift away from a purely humanitarian post-disaster response by promoting DRR within a developmental agenda.



Figure 3. Sustainable Development Goals 1, 4, 5, 10 and 13

Source: <http://www.un.org/sustainabledevelopment/development-agenda/>



be better equipped to provide safety, security and protection for the most vulnerable, including children.

IOM and UNICEF's shared values, with the support of local government units (LGUs), informed the Enhancement of the Network of Evacuation Centres in Eastern Samar Programme. The programme supports the Government of the Philippines through localized initiatives to design evacuation planning frameworks and construct fit-for-purpose evacuation centres to provide safe shelters during disasters and places for community gatherings during non-emergency periods.

The programme developed a model community evacuation centre template in accordance with international best practices in building disaster-resilient structures. The template was designed to use local construction materials, technologies and practices in order to promote the sustainable replication of the template across the Philippines.

The municipality of Guiuan and the city of Borongan were selected based on the results of a needs assessment conducted by the Department of Social Welfare and Development (DSWD). See Figure 4 to locate Guiuan and Borongan in the map of Eastern Samar.

In April 2016, the pilot disaster-resilient community evacuation centre in Guiuan, called Sirungan ha Guiuan (Shelter of Guiuan), was completed and handed over to the local government. The second community evacuation centre in Borongan commenced construction in October 2016.



Figure 4. Map of Eastern Samar

Image Source: <https://commons.wikimedia.org/w/index.php?curid=477332>

*“We learnt our lesson from Typhoons Haiyan and Hagupit. It was challenging and chaotic when many people took shelter in the municipal hall. We realized that we need to build evacuation centres to accommodate more people.”*

*Hon. Maria Fe R. Abunda*

Mayor  
City Government of Borongan

# BUILDING A DISASTER-RESILIENT COMMUNITY EVACUATION CENTRE

This section focuses on the steps in implementing community evacuation centre projects. It presents the community evacuation centre template, the principles of resilient public infrastructure integrated in the building model and the project management processes.

The project implementation cycle is divided into three main phases: 1) initiation and planning,

2) design and construction, and 3) sustainable building operation and maintenance. See Figure 5.

This section features the lessons learnt and good practices from the experiences of Guiuan and Borongan. It also includes insights and anecdotes from community partners and stakeholders to further substantiate the learnings.



## WHAT MAKES A SHELTER SUITABLE FOR EVACUEES

- Close to residences/homes
- Causes minimal disruption to work, school, social arrangements and cultural practices
- Located away from potential primary and/or secondary hazards
- Structurally sound and follows existing building codes
- Has adequate water, sanitation and hygiene facilities
- Has special shelter arrangements for more vulnerable individuals including lactating mothers, children, the elderly and persons with disability.

### OTHER CONSIDERATIONS

- Identify and provide shelter and storage for livestock, pets and property
- Smaller evacuation centres can be used to encourage self-regulation and foster solidarity.

Source: *The MEND Guide: Comprehensive Guide for Planning Mass Evacuations in Natural Disasters*

*“Every barangay should have an evacuation centre. A good evacuation centre is something that can be used even during normal times. It should be big so it can accommodate many people and has segregated restrooms for males and females.”*

**Restituto Macuto**

Regional Director  
DSWD Region VIII



# TIMELINE IN BUILDING A COMMUNITY EVACUATION CENTRE



Figure 5. Timeline in Building a Community Evacuation Centre



## INITIATION AND PLANNING



### 1.1 CONDUCT INITIAL ASSESSMENT

Assess the situation to identify and validate the needs of the intended beneficiaries and the project feasibility.



### 1.2 IDENTIFY AND INVOLVE KEY STAKEHOLDERS

Engage the participation of relevant community stakeholders in various stages of project development through information meetings and consultations. Part of the initial assessment is to identify key stakeholders, their capacities and level of participation.



### 1.3 DEVELOP PROJECT PROPOSAL

Define the project scope, timeline and cost based on the assessment result.



### 1.4 ESTABLISH A PROJECT MANAGEMENT STRUCTURE

Select a highly skilled and competent management team to oversee the day-to-day project management.



### 1.5 FORMALIZE PROJECT PARTNERSHIP AND CREATE A STEERING COMMITTEE AS NEEDED

Formalize partnership through a cooperation agreement outlining stakeholders' roles and responsibilities.



### 1.6 SELECT SUITABLE SITE

Identify a target location (city, municipality or *barangay*) for the project in coordination with key stakeholders. Select the most suitable project site based on site selection criteria.



### 1.7 LAUNCH PROJECT

Organize a project launch to formally announce the project start and raise public awareness.



## LESSONS LEARNT

**Conduct initial assessment.** An initial assessment is carried out to identify and validate the needs of the intended beneficiaries and the project feasibility. The assessment results will give the information required (potential strengths, weaknesses, opportunities and threats) in selecting the most appropriate strategy.

For example, in Borongan, IOM aided the LGU to boost its capacity in evacuation planning. A Community Evacuation Centre Checklist was developed to identify, assess and designate suitable evacuation shelters in the area. The checklist should be accomplished well before the occurrence of a

disaster. The consolidated information enables the LGU to evaluate resource gaps and therefore make targeted decisions to effectively reduce exposure to hazards, lessen the vulnerability of people and property, and improve local community preparedness within a context of limited resources (see Annex A - IOM's Community Evacuation Centre Checklist).

**Identify and involve key stakeholders.** Engaging the LGU and other main stakeholders promotes ownership and is vital to ensuring effective and efficient project implementation. Stakeholders can make valuable contributions during problem analysis and identification of effective solutions.



In Guiuan and Borongan, the LGUs played a crucial role during the planning process. The local chief executive and government officials in Guiuan, particularly the municipal assessor and municipal planning and development officer, took an active role

in identifying prospective locations for the evacuation centre. They offered critical information on proposed building sites using the site selection criteria and multi-hazard maps.



### WHO ARE THE KEY STAKEHOLDERS

- National and regional government agencies (e.g., Department of Interior and Local Government, DSWD, Office of Civil Defence, National Disaster Risk Reduction and Management Council)
- Local government (provincial, city/municipal, *barangay*)
- Private sector
- Beneficiaries/User groups (community, children, and youth)
- Humanitarian and development organizations
- Donors.

**Develop the project proposal and required cost allocation.** Based on the assessment results, secondary data collection and consultations with key stakeholders, a project proposal with cost can be drafted. The proposal should define project scope (e.g., objectives, deliverables, strategies, risks, target beneficiary, project management structure, stakeholders and partners), timeline, cost and funding source.

Proper cost estimation is important. It should consider geographic location, project time frame, site development works, counterpart funding or other resources from the LGU, and contingency cost. One key consideration during the initial phase is acquiring funding support. It is critical to have close collaboration with potential donors during the conceptualization and planning phase to effectively mobilize resources. Possible sources of funds include



Guiuan groundbreaking ceremony on 13 August 2015, Borongan TWG Meeting

the government (e.g., DRRM, calamity fund), non-governmental organizations, UN agencies, official development assistance and the private sector.

**Establish a project management structure.** It is essential to set up a project management structure based on the project's need. In Guiuan, the project owner, IOM, was represented by the project management team (PMT). The PMT was composed of the project manager and site engineer with remote support from IOM's administration, finance and resource management offices. The PMT's primary function was to supervise and monitor project implementation, coordinate and communicate with the different stakeholders, and ensure that the timelines were followed (see page 31 for more detailed functions of the PMT).

**Formalize the project partnership and create a steering committee as needed.** Strengthen the collaboration among partners through a formal agreement. Creating a steering committee to support project implementation is useful for large-scale and multi-agency projects. Both Guiuan and



### WHAT TO CONSIDER WHEN SELECTING A PROJECT SITE

1. Is it close to the home site of vulnerable communities?
2. Is the route going to the site safe?
3. Is it accessible to people (including those with special needs such as children, pregnant women, the elderly and persons with disability), public transport, trucks and other vehicles?
4. Is the site free from secondary hazards (flooding, landslide, erosion, earthquake) in accordance with the multi-hazard mapping/hazard assessment?
5. Is the site feasible for income-generating opportunities to support maintenance costs?

Borongan LGUs created steering committees or technical working groups (TWGs) representing various community stakeholders such as local government officers, representatives from the legislative council, utility providers and community user groups to foster transparency and accountability (see Figure 6 for a sample project implementation structure).

TWG meetings should be held regularly and consistently to discuss project updates, challenges and relevant opportunities. The meetings should be well-documented and the minutes circulated among members so that action points and agreements are easier to follow through.

**Select a suitable site.** Establish an appropriate project site in coordination with key stakeholders. A rigorous site selection process should be conducted to ensure that the site is suitable for constructing a disaster-resilient community evacuation centre. Stakeholders should use site selection criteria in choosing the

### PROJECT IMPLEMENTATION STRUCTURE

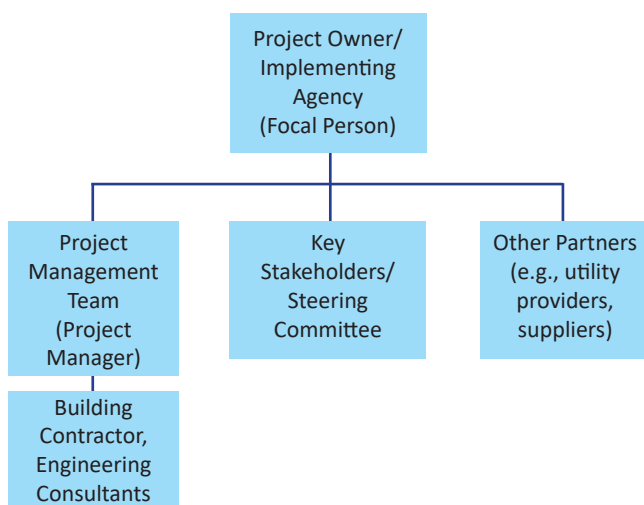


Figure 6. Sample Project Implementation Structure

most appropriate location for the evacuation centre building (see Annex B - Site Selection Criteria for more information). The criteria should include a comprehensive hazard assessment. In Guiuan and Borongan, hazard assessments were done using Project Nationwide Operational Assessment of Hazards' (NOAH's) hazard maps and gathering inputs from the community stakeholders who are familiar with the location (see Annex C for a sample multi-hazard map). Geotechnical works including soil investigation and a topographic survey were carried out by a licensed geotechnical engineering practice.

**Launch the project.** A project launch is necessary to officially announce that it has started. The launch is also an excellent way to promote the project and amplify the advocacy. In Guiuan, a groundbreaking ceremony was organized to kick off the evacuation centre construction.

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*“It is ideal to create a TWG for this kind of project so that there is transparency and representation from different stakeholders. The members should have technical expertise to have relevant contributions. Regular meetings are important because we can immediately address urgent concerns.”*

**Nenita Ecleo**

Municipal Planning and Development Coordinator  
Municipal Government of Guiuan

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## GOOD PRACTICE

After consulting the DSWD and Provincial Government of Eastern Samar, IOM and UNICEF selected Guiuan and Borongan as their partners for constructing disaster-resilient community evacuation centres. Since both LGUs were clearly aware of the need for safe evacuation shelters and its alignment with their priority DRRM programmes, the LGUs were more than willing to collaborate with IOM and UNICEF on the project.

The parties formalized the engagement through cooperation agreements and established a framework to set the roles and responsibilities of the stakeholders. Even with limited financial resources and other pressing needs after Typhoons Haiyan and Hagupit, the LGUs managed to fulfil their responsibilities and be proactive in meeting the requirements, thus expediting the planning process.

The stakeholders also held a series of coordination meetings and site visits to collect valuable inputs on site selection, design and project implementation. The LGUs took the lead in identifying a suitable project site and also facilitated the acquisition and processing of property documents and the connections for water and electricity.



## GOOD PRACTICE

### BUILDING THE CAPACITY OF LGUs AND COMMUNITIES ON DRRM

Building the capacities of communities to better prepare for and respond to disasters is critical, especially for provinces prone to natural hazards and disasters like Eastern Samar.

To complement the project, IOM, in partnership with Project NOAH, conducted a series of *barangay*-level workshops on the use of high-resolution, multi-hazard maps and DRRM for six municipalities heavily affected by Typhoon Haiyan, including Guiuan. *Barangay* and municipal-level officials from these areas were engaged in hazard mapping, evacuation planning and identifying safe sites for constructing future evacuation centres. Conversely, the exercise also helped Project NOAH validate and improve their hazard maps based on the actual experiences and feedback of community members.

CCCM and Mass Evacuation in Natural Disasters (MEND) orientations were also conducted in Guiuan and Borongan, in collaboration with the Offices of Social Welfare and Development

and DRRM, to enhance the capacity of *barangay* officials and community leaders to plan for mass evacuations and manage evacuation shelters in times of natural disasters.

Emphasis was placed on the need to protect and assist the most vulnerable families and individuals until more appropriate and durable shelter solutions are available. The CCCM and MEND workshops culminated in a simulation exercise where participants could directly apply their learnings (see Figure 7).

In Borongan, IOM also worked with the LGU in assessing the existing evacuation shelters in the city. The Community Evacuation Centre Checklist was used to determine the safety and accessibility of the building and site, building performance, capacity, function, maintenance and operation, and amenities. The assessment results helped to identify evacuation centre weaknesses and needs, and provide points to reinforce the existing evacuation shelters and improve community-level evacuation planning.

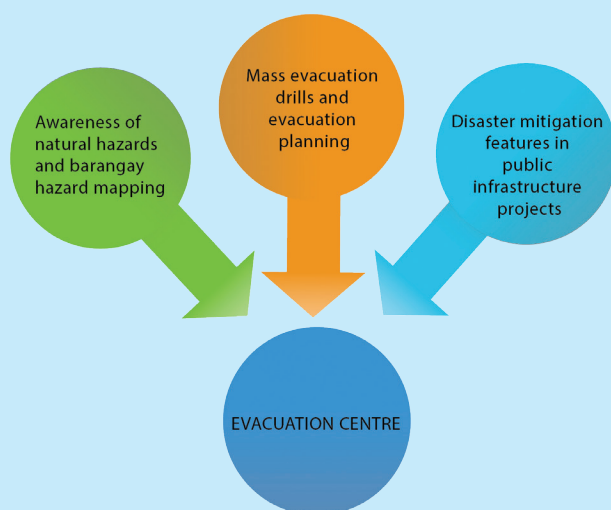


Figure 7. Camp Coordination and Camp Management and Mass Evacuation in Natural Disasters Framework



CCCM and MEND workshop

©IOM/Philippines/2016





## DESIGN AND CONSTRUCTION



### 2.1 HIRE DESIGN TEAM

Contract architecture and engineering experts to develop site-specific design.



### 2.2 DEVELOP SITE-SPECIFIC DESIGN AND ENGINEERING

Develop and finalize building design to conform to project budget, timeline, site-specific conditions and the needs of the community.



### 2.3 HIRE BUILDING CONTRACTOR

Procure the services of a building contractor through competitive bidding. Sign contract with building contractor.



### 2.4 CONSTRUCT BUILDING

Construct building in accordance with design specifications.



### 2.5 SUPERVISE AND MONITOR CONSTRUCTION

Conduct regular supervision and monitoring during construction to ensure compliance to design specifications and agreed timeline.



## LESSONS LEARNT

**Hire a design team.** Engage highly competent engineers and architects to develop the site and building design. In Guiuan and Borongan, a reputable engineering firm with a pool of architects and engineers was tapped.

A site surveyor and a geotechnical engineer were employed to do topographical mapping and soil investigation, while a structural engineer was engaged to check the structural design and integrity of the building (see Annex D for a sample TOR for procuring engineering services).

**Develop site-specific design and engineering.** Use a community evacuation centre template that adheres to national and international standards (Federal Emergency Management Agency and Sphere standards) in constructing disaster-resilient buildings, and consider using good practices from around the world. In Guiuan and Borongan, the community evacuation template was designed to withstand category 5 typhoons and magnitude 8 earthquakes.

The building template should consider scalability, land availability, funding, site conditions and capacity for

maintenance and operation. In Guiuan and Borongan, these key considerations led to the selection of a medium-sized evacuation centre instead of a large building. A medium-sized facility enables easier and more effective maintenance and operations. The Community Evacuation Centre Template on pages 26-29 shows the building design specifications.

The template design should also take into account local needs and practices. In Borongan, additional handwash taps, bathing cubicles and taps inside the toilets were added based on the feedback from the TWG and lessons learnt from constructing Sirungan ha Guiuan. The addition of a playground and sports facilities were considered in the site planning and design stage to encourage recreational use and reinforce the building function as a place for community activities.

Furthermore, in Borongan, where concrete hollow blocks are readily available and commonly used, a local supplier of hollow blocks was trained to provide the quality standard of materials required by the project. This was more efficient than acquiring materials from Manila or nearby cities like Tacloban.

**Hire a building contractor.** Conduct competitive bidding to procure a building contractor who will be responsible for all aspects of the building construction including acquisition of building permits, purchase of materials, labour and workmanship. A request to submit for bid proposal can be posted in

various information channels to invite both local and national contractors to participate. A notice of award will be sent to the winning bidder. A contract signing will secure the agreement of both parties to deliver the work in accordance with the design specifications and within the agreed cost and time.



## SAFE SHELTER IN HUMANITARIAN RESPONSE

All people affected by disasters have the right to life with dignity, a right to receive assistance and a right to protection and security. The Sphere Project established a humanitarian charter, a set of core standards and a set of minimum technical standards for water and sanitation, food, shelter, and health to endorse these rights. In 2014, the Philippine government, through the DSWD, instituted Joint Memorandum Circular No. 1, Guidelines on Evacuation Centre Coordination and Management, based on the principles of The Sphere Project.

The design of the community evacuation centre includes inputs from The Sphere Project International Humanitarian Standards, the DSWD Guidelines on Evacuation Centre Coordination and Management, and the natural environment, climate, hazards, local cultural practices, community demographics and capacity of the existing community.

The following parameters define the building performance and amenities of the community evacuation centre.

### DISASTER EVENT (<72 hours)

The centre provides life-saving shelter

- 1.5 sqm covered area per person
- 1/50 latrines per person
- 3 litres drinking water per person per day
- 12 litres water for domestic use per person per day.

### EXTENDED DISPLACEMENT (>72 hours)

The centre provides temporary accommodation

- 3.5 sqm covered area per person
- 1/20 latrines per person
- 3 litres drinking water per person per day
- 40 litres water for domestic use per person.

The site of the community evacuation centre has the capacity to support additional shelter and services (e.g., communal kitchen, laundry, psychosocial support, recreation, and women-and-children-friendly spaces), and provide a nominal 30 sqm living space per person.

Source: <http://www.spherehandbook.org/>



## DESIGN SPECIFICATIONS

**Location:** Guiuan, Eastern Samar

**Structural Load:** Wind - Category 5 Typhoon  
Earthquake - Magnitude 8 (>8 km from seismic source)

**Building Life Span:** Up to 50 years

**Gross Floor Area:** 750 sqm

**Capacity:** 350+ persons

**Duration:** 9 months

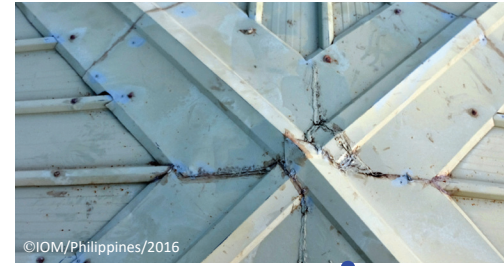


# COMMUNITY EVACUATION CENTRE TEMPLATE



**OPEN FLOOR PLAN** for multi-purpose functions during normal times and emergency.

**STRONG SIGHTLINES** throughout the open plan to improve passive surveillance and security, and mitigate gender-based violence and bullying.



**WASH FACILITIES** adhere to the minimum standards in humanitarian response and consider local needs and customs.







**CORRUGATED GALVANIZED IRON (CGI) ROOFING** on steel structure with additional wire mesh layer protects from damages caused by flying debris. It has framing and fixing details to endure sustained wind speeds up to 300 kph.



**PARAPET WALL** and reinforced roof fixings protect roof from strong winds and mitigate wind uplift.



**STAIRS AND PERIMETER CIRCULATION** facilitate a large number of people entering and exiting the building rapidly, and provide a buffer to the interior of the building.



**RAMPS AND HANDRAILS** improve accessibility for people with special needs including children, the elderly and persons with disability.



## UPPER LEVEL FLOOR PLAN

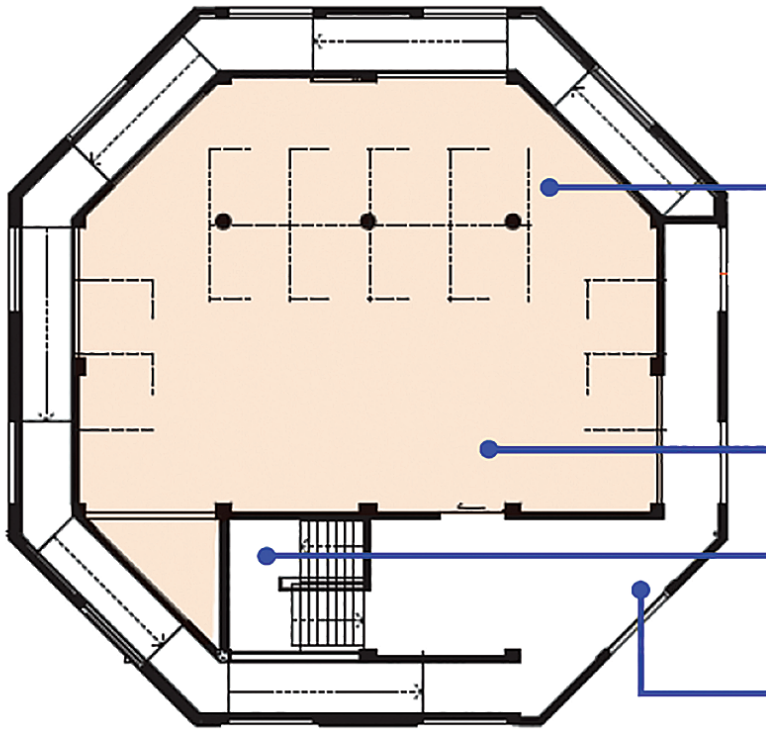


Figure 8. Evacuation Centre Template Design - Upper Level Floor Plan

Lightweight privacy partitions (depicted by dashes) can be fabricated to create smaller sections for breastfeeding, child-friendly spaces and as private accommodations for vulnerable families during evacuation and extended displacement. During normal times, partitions can be assembled to make meeting rooms or spaces for simultaneous activities.

CAPACITY
Standing/sitting room (disaster event) < 72 hours @ 1-1.5 sqm per person
Extended displacement > 72 hours @ working towards 3.5 sqm per person

Generously proportioned ramp and stairs allow a large number of people to rapidly and safely enter and exit the building.

Balcony over main entrance for socializing and civic presence.

## LOWER LEVEL FLOOR PLAN

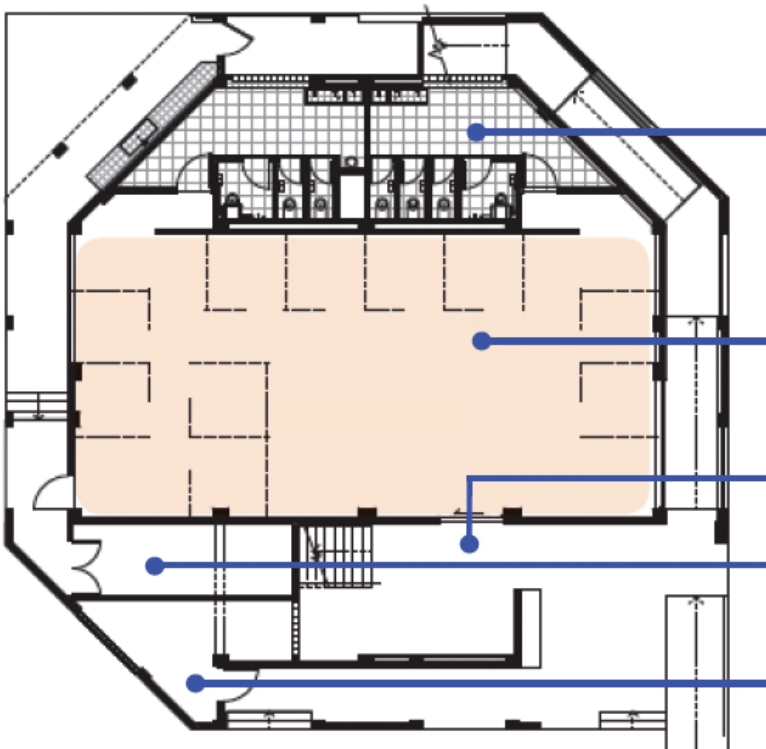


Figure 9. Evacuation Centre Template Design - Lower Level Floor Plan

TOILET FACILITY
Short-term (disaster event) < 72 hours @ 1/50 persons
Extended displacement > 72 hours @ 1/20 persons

CAPACITY
Standing/sitting room (disaster event) < 72 hours @ 1-1.5 sqm per person
Extended displacement > 72 hours @ working towards 3.5 sqm per person

Covered main entrance for socializing (with space for evacuee registration and information/notice boards).

Storeroom for bulk storage of emergency response supplies.

Ventilated room for emergency generator and fuel storage.

## KEY DISASTER MITIGATION DESIGN FEATURES

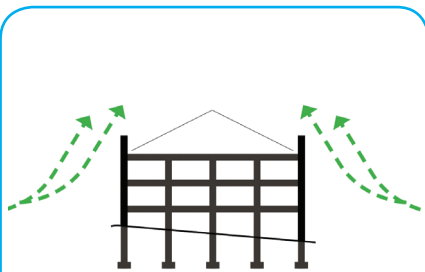


Figure 10. Structural Engineering Best Practice

### STRUCTURAL ENGINEERING BEST PRACTICE

The building design adheres to international best practices and to the Philippine National Structure Code Standard. It is typhoon- and earthquake-resistant. It is also flood-proof, with an elevated ground floor to mitigate the impact of rain-induced flooding.

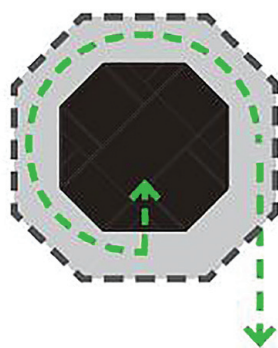


Figure 11. Exterior Circulation

### EXTERIOR CIRCULATION

A double facade provides buffer from the wind and rain, and protects the interior where people will congregate. The perimeter ramp and external circulation allow for a large number of people to rapidly enter and exit the building, and in particular provide equitable access for people with disability. A ventilated room can store fuel and an emergency generator.

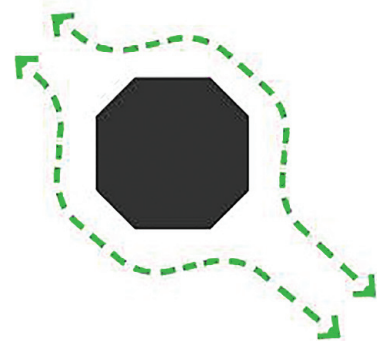


Figure 12. Building Shape

### BUILDING SHAPE

The aerodynamic building shape reduces the impact of strong wind uplift and flying debris. The symmetrical building shape mitigates the impact of seismic activity.

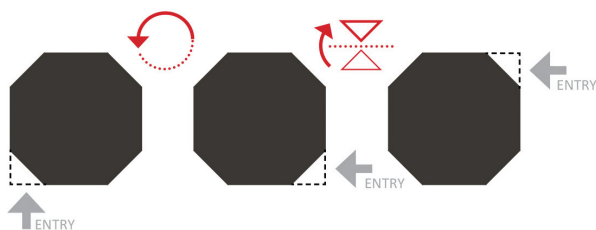


Figure 13. Site-Specific Adaptability

### SITE-SPECIFIC ADAPTABILITY

The building is oriented to enhance civic presence at the main pedestrian entry and maximize access to natural light and ventilation. The foundations are engineered specifically to the condition of the site.

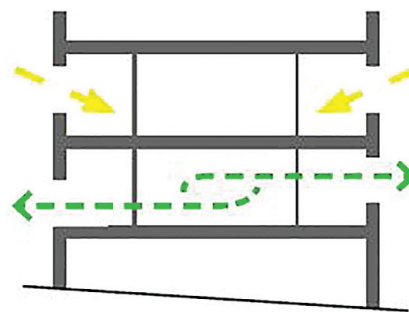


Figure 14. Natural Light and Ventilation

### NATURAL LIGHT AND VENTILATION

Ample natural light and ventilation improves the thermal comfort and well-being of the occupants, and minimizes the need for electrical power that often fails in disaster.



## WHAT TO CONSIDER WHEN DESIGNING THE BUILDING

- Cost efficiency of construction and operation
- Integration of local architectural design
- Short time frame for construction
- Adherence to minimum standards for short-term relief response
- Dual functionality as evacuation shelter and community centre
- Ease in maintenance and high durability
- Aid to local community livelihoods
- Potential installation of rainwater tanks and integrated solar power systems for self-sufficiency
- Provision for site enhancements such as parking, children's playground and space for tents
- Opportunity for public awareness on local DRR initiatives.

**Construct the building.** A timeline schedule or Gantt chart showing all the activities and their estimated duration should be in place for easy monitoring of the building construction progress. One efficient way to reduce the amount of time to complete the project is to identify activities that are not dependent on the completion of another activity, and realign activities that can be done at the same time. Also consider weather conditions in the timeline to avoid delays. In Guiuan, building construction was completed in nine months.



Random materials testing on site

**Supervise and monitor construction.** Participatory monitoring by all project stakeholders enhances work efficiency and promotes project ownership and accountability. Stakeholders should be involved in analysis and decision-making - such as adjusting project strategies and activities - as this increases their knowledge capacity in building disaster-resilient structures.

In Guiuan and Borongan, rigorous supervision and monitoring of the building construction was carried out with the building contractor to ensure that design specifications were strictly followed. The PMT directly monitored the progress of activities according to agreed timelines and scope of work. The IOM, engineering consultants and the TWG also supervised the construction activities to guarantee the quality of outputs, workmanship and material specifications. Spot checks of construction materials were conducted regularly.

While construction was ongoing, various information channels were used to raise awareness about the project to gain community involvement and to advocate DRR initiatives. Project information signs were installed on-site and in major public areas, and advocacy campaigns were broadcasted through the radio and published in the local newspaper. Information, education and communication materials about the project were developed, translated to the local language and disseminated to target communities.





*“We were strict with the quality of work and project schedule. These were the two aspects we closely monitored. All materials have specifications and should follow stringent standards. The LGU and the whole community knew that it was a high-quality, disaster-resilient building because of this.”*

**Engr. Augustus Portem**

Engineer  
IOM Philippines



### WHAT TO DO DURING CONSTRUCTION

- Establish control mechanisms for supervising construction - scope, quality, cost, and time
- Test materials on site
- Prepare inspection checklists
- Conduct continuous monitoring and evaluating
- Rectify defects as required
- Obtain warranties and as-built drawings.



### GOOD PRACTICE

A Project Management Team (PMT) was established to lead and manage the project implementation. A highly skilled project manager (PM) was assigned to specifically oversee daily operations. The role of the PM helped ensure the quality and efficiency of project outputs and outcomes.

Functions of the PMT:

- Conduct regular site meetings with the building contractor and engineering consultants
- Random check quantity and quality of materials vis-a-vis design specifications
- Review contractor’s monthly report and billings, and facilitate their payment
- Inspect and review shop drawings, prototypes, finished samples and materials tests (e.g., tensile strength of steel bars, compressive strength of concrete mix and concrete hollow blocks)
- Check schedule of contractor to determine factors of delays in the implementation
- Coordinate with all stakeholders, including donors and TWG members, for progress updates
- Perform final inspection of completed works prior to final acceptance.



In photos: The PMT coordinating with key stakeholders and other partners





## SUSTAINABLE BUILDING OPERATION AND MAINTENANCE



### 3.1 DEVELOP A BUILDING USER'S MANUAL

Develop a comprehensive manual to guide the building owner and manager in the proper operation and maintenance of the building.



### 3.2 DESIGNATE BUILDING MANAGER

Select a building manager to spearhead the daily operation and maintenance of the asset.



### 3.3 FACILITATE PROJECT CLOSURE AND HANDOVER

Lead an appropriate activity to close the project and hand over to the designated building owner, who will be responsible for building operation and maintenance.



### 3.4 OPERATE AND MAINTAIN BUILDING

Ensure that the building is well-maintained, both in general upkeep and during use, to ensure that it remains fit-for-purpose.



## LESSONS LEARNT

**Develop a Building User's Manual.** A Building User's Manual is developed with input from the project owner, construction contractor, LGU and TWG. The manual is a guide for the building owner and manager to use for proper building operation and upkeep in accordance with its design and specifications. The manual includes existing evacuation centre coordination and management protocols, and provides guidance on its appropriate use to support daily building management activities during normal times and to support DRRM activities before, during and after the onset of disaster.

**Designate a building manager.** The building manager (or managers) should be identified and have the support of the LGU and the community. The building manager will serve as the principal caretaker of the structure and oversee its daily operation and maintenance. He or she shall coordinate with the LGU to guarantee that resources are available for regular maintenance and repairs, security, janitorial services, and site enhancements. During disasters, the building



*Ceremonial handover of Sirungan ha Guiuan on 19 April 2016*

operations and management will be handed over to the LGU and the DRRM unit.

In Guiuan, the Guiuan Tourism Council, a civic organization composed of local businesses and tourism stakeholders, proposed to the LGU to become the building managers of Sirungan ha Guiuan. The organization recognizes the centre as a valuable community asset.

**Facilitate project closure and handover.** Before closing the project, ensure that the deliverables are in accordance with the contract and that there are no unresolved issues. Any documentation, including as-built drawings, product operations manuals and warranties, should be collated, formally handed over to the building owner and annexed to the Building User's Manual. Training on the use of the building may also be added as part of project closure activities.

A closure meeting with the TWG should be conducted to review the project outputs and present the completion report for approval and acceptance, and for soliciting evaluation and feedback. A handover ceremony can be organized to announce the official turnover to the building owner and to promote awareness that the building is a community asset.

**Operate and maintain the building.** Institutionalizing the operation and maintenance of the community evacuation centre through a city/municipal ordinance, including the designation of a building manager and allocation of an annual budget, is crucial to the sustainable upkeep of the building.

As a multi-purpose building, the community evacuation centre can be used for various social functions during normal times. It is possible to generate income from rent for maintenance and site enhancements by establishing commercial spaces at the site. In Guiuan, the Guiuan Tourism Council initially plans to collect rental fees from building users to cover the cost of utilities and caretakers' salaries.

*"I proposed the Guiuan Tourism Council to take care of Sirungan to ensure that it is well-maintained. I supervise the building maintenance and check if minor repairs are needed. We are thankful to have this building, which can also be used as a venue by various community organizations."*

*Engr. Esteban Sabulao*

Guiuan Tourism Council President and  
Sirungan ha Guiuan Building Manager



In photos: Various functions and activities at Sirungan ha Guiuan



©IOM/2016/LeonesC



## GOOD PRACTICE

After Sirungan ha Guiuan was handed over in April 2016, the facility has been a go-to venue for various LGU meetings and functions.

The Municipal Social Welfare and Development Office uses it as a venue for their training and meetings with Pantawid Pamilyang Pilipino Program beneficiaries and as a storage for prepositioned goods for emergencies. The space is also used for their disaster preparedness training.

Several municipal and provincial-level activities were conducted in the building.

- A youth camp organized by an NGO
- Oplan Tokhang rehabilitation sessions
- Children's and Women's Workshop on Arts, Heritage and Disaster Preparedness
- Six-month training for incoming police officers.

A year after the handover, Sirungan ha Guiuan has become a household name, synonymous to resilience and refuge, which its name implies. It is increasingly gaining interest among other LGUs because of its unique fit-for-purpose design.

The Guiuan LGU and IOM have facilitated learning visits from LGUs, including the municipality of Llorente and some LGUs of the Autonomous Region in Muslim Mindanao and CARAGA Administrative Region, to relay the shared experience of planning, designing, constructing and managing Sirungan ha Guiuan.

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*"We are now using the building as a multipurpose hall where we hold our seminars and workshops. Everyone who visits the building is amazed with the design, even the DSWD Secretary. It's a beautiful building in a safe zone, with complete facilities and child-friendly spaces. It's not only helpful in times of calamities but also in normal times. We use it for big events like our Christmas celebration last year."*

**Hon. Christopher Sheen P. Gonzales**  
Mayor  
Municipal Government of Guiuan

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*"I will manage and take care of the building as we will use it for social gatherings and other community affairs. I will ensure that the building is well-maintained."*

**Ariel Cuna**  
City General Services Officer and Arayupan ha  
Borongan Building Manager  
City Government of Borongan

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## COMMUNITY ENGAGEMENT AND PARTICIPATION

Community participation is the core of the project. *Pintakasi*, the Waray-waray term for communal work and cooperation, was exemplified through community engagement with the project. This engagement took place through consultations, capacity building, monitoring of the project progress, implementing building and site enhancements (building color scheme, landscaping, mural painting, etc.), and building operation and maintenance.

At the onset, IOM forged a formal partnership with the LGUs to implement the project. Consultations were conducted to ascertain the willingness and support of the local government leaders and officials to take on the project. A focal person from the LGU was also designated to represent the key stakeholders for ongoing coordination with IOM.

During building construction, capacity building initiatives on DRRM were conducted in Guiuan and Borongan. These included *barangay*-level hazard mapping facilitated by Project NOAH and MEND and CCCM workshops and simulation exercises facilitated by IOM in collaboration with the Municipal Social Welfare and Development Office and Municipal DRRM Office.

Community volunteers, including trained beneficiaries of the Municipal Social Welfare and Development Office, were engaged to help with site enhancement works with the support of local businesses and other government agencies including the Philippine National Police, Bureau of Fire Protection, Department of Environment and Natural Resources, and Department of Agriculture.

The engagement and participation of various community stakeholders helped improve the positive impact of the project by raising the consciousness of the community on the importance of resilient structures and disaster preparedness, and their understanding of the interventions and architectural and engineering features that will improve the

resiliency of public infrastructure. Furthermore, by being part of the process, community members gained familiarity with and enhanced ownership of the centres.

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*“IOM led a series of social preparation activities. They presented the requirements to the LGU before the building construction. First, they ensured that the LGU has available land for the project. Next, they obtained the LGU’s commitment for site development including clearing operations, equipment and necessary manpower for these activities. Finally, we formed a technical working group that met regularly to discuss the project’s progress.”*

**Zenaida Cunanan**  
Municipal Social Welfare Development Officer  
Municipal Government of Guiuan



Guiuan community volunteers





In photos: Site enhancement works at Sirungan ha Guiuan



## GOOD PRACTICE

- Site enhancement works at Sirungan ha Guiuan were achieved in collaboration with various community groups to promote ownership and raise awareness.
- Directional signs and map boards to Sirungan ha Guiuan were installed through the Municipal DRRM Office's initiative to enhance project visibility and communicate evacuation routes.
- Mobile internal partitions were built through the Cash for Work programme of the Municipal Social Welfare and Development Office using local construction materials available at the construction site. The mobile partitions can be used to create smaller sections such as breastfeeding areas, child-friendly spaces and private accommodations for vulnerable families during evacuation. During normal times, they can be assembled as meeting rooms or spaces for simultaneous workshops and activities.
- User-friendly pathways and street frontage landscaping were also completed with the help of community volunteers through donations from local businesses and plants given by the Department of Environment and Natural Resources and Department of Agriculture.
- A children's playground was installed on-site in cooperation with the Philippine National Police and Bureau of Fire Protection, using repurposed materials from the evacuation centre construction and donations from local businesses, to provide a place for children to play and socialize.
- Mural paintings on two walls on the ground floor were facilitated by IOM with the UNICEF Kids for Kids initiative. Five high school students from Manila worked with four college students from Eastern Samar State University to mentor 15 grade school pupils from Pagnamitan Elementary School. The young Guiuan artists, together with Kids for Kids, collaborated to produce the meaningful paintings that depict hope and portray the resilience of the people of Guiuan amid adversity. Watch the video at [www.youtube.com/watch?v=J9iGn9mfP4M](http://www.youtube.com/watch?v=J9iGn9mfP4M).

*“The painting's theme is about giving hope to the evacuees. When people evacuate during typhoons, there is that gloomy feeling from knowing what is coming. We want to ease this insecurity and make them feel safe and at home in Sirungan ha Guiuan, especially the children.”*

**Rogel Bert A. Baillo**

Artist  
Eastern Samar State University

## CONCLUSION

Building safe and suitable spaces for vulnerable people during natural disasters is a sound long-term investment that local and national governments, humanitarian and development organizations, and other actors and stakeholders should embark on. The following key themes and processes were identified from the lessons learnt during the initiation and planning, design and construction, and handover of the community evacuation centres in Guiuan and Borongon, and were factors in the project success.

### Use a multi-stakeholder and participatory approach

The project used a multi-stakeholder and participatory approach throughout all its phases: initiation and planning, design and construction, and operations and maintenance of the building. The community has a crucial role in the development and in identifying their needs and the most effective solutions. Specific attention should be paid in responding to particular needs, especially of vulnerable groups such as women, children, the elderly and persons with disability.

Each stakeholder agrees to take on a relevant role and performs responsibilities based on its inherent mandate, thereby leveraging on its resources and capacities. One example is the creation of a steering

*“The evacuation centre is an important structure in our community. It is a good project. We have peace of mind now that the building is completed. We have a shelter to protect us in times of disasters.”*

*Engr. Arsenio Salamida*

Municipal Engineer  
Municipal Government of Guiuan

committee or TWG for the project, where effective collaboration among members is fostered by giving opportunities for information sharing, consultations and communal decision-making. The engagement of different stakeholders, such as government leaders and officials, community volunteers, the private sector and vulnerable groups including children in the various project phases, fostered transparency, accountability and a sense of ownership.

Significant efforts in communication and interaction were needed to develop understanding and trust among stakeholders. Clear terms, good follow-through and open lines of communication were



In photos: The Guiuan TWG at the Sirungan ha Guiuan



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crucial to facilitate the working relationship between the parties. In the end, the use of a multi-stakeholder and participatory approach throughout the project demonstrates that working together can achieve mutually beneficial outcomes.

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*“There’s a big difference in the people who were once stubborn to leave their houses during Haiyan. They’re the first ones to evacuate now. We learnt not to underestimate every typhoon that comes. It pays to be ready. With our experience in dealing with the strongest typhoon, we are thankful to have Sirungan ha Guiuan.”*

*Hon. Christopher Sheen P. Gonzales*  
Mayor  
Municipal Government of Guiuan

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### **Conduct of rigorous monitoring and quality checks is crucial**

Good project management practice is important and effective in completing the community evacuation centre. Through rigorous monitoring and stringent quality checks by the stakeholders throughout the design and construction phase, the structural integrity of the building and its timely completion were achieved. Systems and processes were also put in place to ensure that the result would be a high-quality, disaster-resilient building.

Stakeholders were involved in analysis and decision-making - such as adjusting project strategies and activities - and this increased their knowledge capacity in building disaster-resilient structures. For example, during the project the stakeholders would help in randomly checking the quantity and quality of materials based on the plans and specifications, and prototypes and sample materials were regularly inspected and tested.



Children playing at the Sirungan ha Guiuan's playground

### Build the capacities and skills of local partners and the community

Building the capacity of local partners was the overarching project goal. This included knowledge and skills transfers from experts to the stakeholders on project management, disaster-resilient building practices, multi-hazard mapping and analysis, international humanitarian standards, and evacuation centre coordination and management. IOM facilitated several learning engagements to enhance the capacity of the community in mitigating and responding to disasters.

Capacity building was also done through *barangay*-level multi-hazard mapping and MEND and CCCM training to *barangay* and municipal LGUs. The private sector, through significant contributions of the engineering firm, building contractor, local businesses and traders, helped in transferring their knowledge of infrastructure resilience to the community.

*“When Typhoon Yolanda hit, we did not have suitable and safe evacuation centres. But Sirungan is different: it is sturdy and resilient because of the quality of the materials and workmanship put into the building. I will not hesitate to evacuate there when disaster comes.”*

**Elmer Yodico**  
Guiuan resident

The technical knowledge the community gained in building disaster-resilient infrastructure can be adopted and integrated into future projects. They can scale up these DRR approaches and become champions in the advocacy to build back better and safer.



Children and youth artists of Guiuan



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# ANNEXES

## A. COMMUNITY EVACUATION CENTRE CHECKLIST

<b>CITY OF BORONGAN</b>
<b>COMMUNITY EVACUATION SHELTER CHECKLIST</b>
CHECKLIST IS TO BE USED TO ASSESS THE SAFETY AND SUITABILITY OF EXISTING SHELTERS TO BE USED IN EVACUATION
The identification, assessment and designation of suitable evacuation shelters should be considered in the pre-planning phase of evacuation planning. It is recommended to complete the entire checklist, even if not all requirements are met, as it is possible to take remedial actions and/or make preparations to address weaknesses prior to the occurrence of a disaster event.

<b>CHECKLIST COMPLETED ON:</b>		<b>CHECKLIST COMPLETED BY:</b>	
<b>GENERAL INFORMATION</b>			
Facility Name		Contact Person	
Address		Contact No. GPS Coordinates	
Building Type		Built (Year)	
Building Size		Building Area (m <sup>2</sup> )	
Description	<no. of levels / structural material / roof material / etc.>		
No. of Latrines		No. of Hand Basins	
Comments			

SITE ANALYSIS (Safe, Accessible Location)			
CONSIDERATION	YES	NO	COMMENTS
Is the site elevated above any likely impact from high tide or storm surge level?			
Are the site and its surrounding area vulnerable to fire, flooding, landslide and other secondary hazards?			
Is the site a safe distance from facilities that manufacture or store hazardous material?			
Is the site a safe distance from large trees and overhead power lines that may present a threat?			

CONSIDERATION	YES	NO	COMMENTS
Is the site a clear distance from adjacent buildings that might collapse and compromise safety on-site?			
Is the site accessible all year round (in all weather conditions)?			List times site inaccessible, if any:
Is the site in close proximity to potential evacuees?			
Is the site in close proximity to emergency services?			List services, if any: <hospital/RHU/BFP/PNP>
Is the area suitable for the creation of additional temporary facilities, such as tent accommodation?			
Is the site accessible by main road (vehicle access)?			List type, if accessible: <by car/by bus/by bicycle/foot>
Is there sufficient parking space for anticipated number of vehicles?			
Is there sufficient heavy vehicle access (including safe turning areas) for delivery of emergency supplies?			
Does the site have a suitable helicopter landing area in close proximity?			
Does the site have a suitable area for sheltering livestock?			
Does the site have a suitable bulk storage area to pre-position emergency supplies?			
Is the site connected to mains power supply?			
Does the site have access to water for domestic use?			
Does the site have access to water for drinking?			
Are there any serious pest/vector issues?			
Does the site have reliable signal (mobile telecommunications)?			
Others (please specify)			



BUILDING PERFORMANCE (Safe Structure)			
CONSIDERATION	YES	NO	COMMENTS
Shelter must be structurally fit for purpose to withstand known primary and secondary hazards.			
Does the building comply with the current Philippine National Building Code (2013)?			
Is the shelter built to withstand typhoons?			
Is the shelter built to withstand Category 5 typhoon (wind speeds up to 320km/hour)?			
Is the shelter built to withstand earthquake?			
Are structural components, including the roof, expected to sustain only superficial damage during a disaster event?			If no, list expected damages: e.g. tie down roof sheeting
If some minor/major damage is expected, what measures have been identified to mitigate impact?			e.g. pre-position generator + fuel
Are building services components expected to remain operational during and immediately after a disaster event?			If no, list expected damages: e.g. plyboarding to windows
If some minor/major damage is expected, what measures have been identified to mitigate impact?			
Are doors and windows expected to sustain only superficial damage during a disaster event?			
If minor/major damage is expected, what measures have been identified to mitigate impact?			
Others (please specify)			

BUILDING CAPACITY		
Consideration	Area/No. of Persons	Comments
Determine the number of persons that can reasonably be sheltered inside the building during an emergency, and may be temporarily accommodated until a more durable shelter solution is provided.		
<b>INSIDE THE BUILDING</b>		
Building Gross Floor Area (GFA)	_____ m <sup>2</sup>	
Usable Covered Area (GFA excluding lobbies, stairs/ramps, service/storage rooms, toilets)	_____ m <sup>2</sup>	
Emergency Capacity (<72 hours: 1-1.5 m <sup>2</sup> per person)	_____ persons	
Temporary (<72 hours: 1-1.5 m <sup>2</sup> per person)	_____ persons	

<b>OUTSIDE THE BUILDING</b>		
Site Area (not including building area)	_____ m <sup>2</sup>	
Site Capacity (>72 hours: 3.5 m <sup>2</sup> per person)	_____ persons	

<b>BUILDING FUNCTION (Management, Maintenance and Operation)</b>			
<b>Consideration</b>	<b>YES</b>	<b>NO</b>	<b>Comments</b>
What is the normal function of the building? Note: Disruption to social services, such as education and health, should be minimized.			
Who is the building owner?			
Who is the building manager?			
Is there an agreement in place with the building owner outlining the conditions for use and ensuring the building remains fit-for-purpose at all times?			
Who is responsible for emergency preparations? E.g., fuel for the generator, drinking water for the dispenser			
Who is responsible for building repair from damage caused by natural disaster?			
Who is responsible for building repair from damage caused by evacuees' use of the building?			
Can the building be used as an evacuation centre for temporary accommodation post-disaster?			
Is there a maximum duration of stay?			
Are there any restrictions of use (specific areas and/or equipment) within the building?			
Are there any restrictions in time of year the building can be used? E.g., school holiday times only			
Is the building layout culturally appropriate in order to meet the needs of the nominated evacuees?			
Others (please specify)			
<b>BUILDING AMENITIES (Suitable, Accessible Facilities)</b>			
<b>Consideration</b>	<b>YES</b>	<b>NO</b>	<b>Comments</b>
<b>FIRE SAFETY</b>			
Does the building have a functioning alarm system?			

Is the building fitted with fire-safety equipment, such as fire blankets and fire extinguishers?			
Are the fire escape plan and fire exit clearly signed?			
<b>POWER</b>			
Is the building connected to mains power supply?			
Is the building fitted with an alternative power supply (e.g., electric generator housed in a ventilated room)?			
Is the building fitted with an adequate number of and access to convenience outlets to service expected number of evacuees (e.g. charging phones, etc.)?			
<b>TELECOMMUNICATIONS</b>			
Is there a landline phone?			
Is the mobile telecommunications signal inside the building reliable - call and text?			
Is the mobile telecommunications signal inside the building reliable - data?			
Is the building fitted with emergency communication equipment (e.g. short-wave radio/satellite phone)?			
<b>WATER AND SANITATION</b>			
Does the building have an operational connection to water for domestic use?			
Is sufficient volume of domestic water readily available to service expected number of evacuees? <i>As a guide, 15 litres per person per day</i>			
Is the building fitted with a drinking water dispenser?			
Is sufficient volume of drinking water readily available to service expected number of evacuees? <i>As a guide, 3 litres per person per day</i>			
Is there sufficient number of toilets on-site? <i>As a guide, 1 toilet per 20 persons</i>			
Can the existing sanitation system (e.g. septic tank) support additional temporary toilets on-site?			
Is there sufficient number of hand basins on-site? <i>As a guide, 1 basin per 30 persons</i>			
Is there sufficient number of bathing areas on-site? <i>As a guide, 1 bathing area per 40 persons</i>			

Is there an area for washing clothes?			
Are there stocks of toilet tissue, soap and other consumable hygiene items stored on-site?			
<b>WASTE MANAGEMENT</b>			
Are there appropriate waste management facilities? <i>As a guide, 200L bin per 40 persons per day</i>			
Are there stocks of bin liners stored on-site?			
Are there special areas and equipment for storing nappies, medical and/or hazardous waste?			
<b>OPERATIONAL AREAS AND EQUIPMENT</b>			
Can the building facilitate the delivery, storage and distribution of emergency supplies post-disaster?			
Is there ample covered area at the building entry for registration of evacuees?			
Is there an area for displaying public information (e.g., bulletin board)?			
Is there an area for basic first aid services?			
Is there an area for breastfeeding (e.g., women- and child-friendly space)?			
Can the building support a partitioning system for private living areas (protracted displacement)?			
Are there furniture and/or equipment readily available on-site to support administration during evacuation (e.g., tables, chairs, public announcement system)?			
<b>COOKING</b>			
Can the building support cooking inside?			
Can the building support cooking outside?			
Can the site support additional temporary cooking counters (with materials pre-positioned on-site)?			
Are there stocks of cooking equipment, utensils and crockery on-site?			
Others (please specify)			
List shortfalls in building amenities, including fire safety, power, telecommunications, water and sanitation, waste management, operational areas and equipment, and cooking facilities. List recommended emergency preparation and management actions to mitigate shortfalls, if any.			



<b>BUILDING ACCESSIBILITY</b>			
<b>Consideration</b>	<b>YES</b>	<b>NO</b>	<b>Comments</b>
Does the building comply with BP344 (Accessibility Law)?			
Is access to the building safe for those with impaired vision? As a guide, use tactile signage and highlight change in levels (e.g., steps) with contrasting colour.			
Is there ramped access to all levels of the building? <i>As a guide, maximum ramp gradient of 1:10 (10% slope)</i>			
Is the maximum stair rise 160 mm?			
Are a handrail and balustrade fitted to all stairs exceeding three (3) steps high?			
Is the floor finish non-slip?			
Are door openings minimum 0.9 m clear width, and with ample circulation on both sides of the door?			
Is the building fitted with a toilet for persons with disability? <i>As a guide, 1 out of every 10 toilets for persons with disability</i>			
Others (please specify)			

<b>CROSS-CUTTING ISSUES: PROTECTION</b>			
<b>Consideration</b>	<b>YES</b>	<b>NO</b>	<b>Comments</b>
Determine the protection standards that need to be satisfied to ensure safety and security for all evacuees, especially the most vulnerable members of the community including women, children and elderly citizens.			
Is the building well-lit, internally and externally?			
Are the male and female toilets separated, including separated access/entry?			
Are the areas where evacuees congregate easily surveyed at a glance?			
Is there a security guard?			
Do private spaces (e.g., toilets) have operational locks?			
Others (please specify)			

<b>EMERGENCY PREPAREDNESS</b>			
<b>Consideration</b>	<b>YES</b>	<b>NO</b>	<b>Comments</b>
Is the building fitted with an early warning device?			
Have specific evacuees been identified (e.g., local community and/or a neighbouring community)?			
Others (please specify)			
<b>STRUCTURAL ENGINEERING: PRIVATE HOUSE</b>			
<b>Consideration</b>	<b>YES</b>	<b>NO</b>	<b>Comments</b>
Determine the structural integrity of the building based on the testimony of the private owner.			
Has the house withstood previous typhoons?			
If yes, list the typhoons:			
Has the house withstood other disaster events?			E.g., earthquake, storm surge/tsunami, flooding, landslide
What shape is the building footprint?			E.g., square, rectangle, U-shaped, symmetrical/asymmetrical
Describe the footings/foundations:			E.g., timber post with termite treatment in concrete footing, 300 mm x 300 mm RC column in RC footings with ground slab
How deep are the footings/foundations?			
Describe the roof structure:			E.g., steel truss with CGI, timber truss with nipa shingles
Is there a parapet wall to protect the roof?			
Is the roof sheeting secured with J-bolts?			
Is the roof sheeting fixed at a minimum 600-mm intervals?			
Is the roof sheeting reinforced at the perimeter?			
<b>GENERAL NOTE</b>			
Resource gaps should be addressed and additional resources pre-positioned, as required, within the specific context of the hazard event, forecast impact and forecast number of evacuees, in coordination with the building manager and City DRRM Office.			

## B. SITE SELECTION CRITERIA

The following criteria are prerequisites\* of the IOM-LGU partnership to construct an evacuation centre.

### Nominated Site\*\*

- Site Area: 800–1,200 sqm
- Located in an area at low risk of storm surge, flooding, landslide
- Located 30 minutes' walk from municipal centre and/or other key community functions
- Existing access from main road(s) and/or LGU commits to provide road access
- Site to be cleared\*\*\* and/or LGU commits to undertake civil works to prepare site
- Site to be connected to mains water supply, mains electricity and mains sewerage, or LGU commits to facilitate utility connections as required
- Commitment from LGU to allocate an annual budget for building maintenance and operation.

### Beneficiary Representation

- LGU to nominate a focal point (engineer or architect) to work with IOM to coordinate site-specific design and engineering requirements.
- Commitment from LGU to advocate a community working group to enable community engagement, as required.

### Required Documentation – to be readily available upon request

- Cadastre Map and/or Taxation Map for nominated site
- DENR Technical Description, including bearings or GPS coordinates of nominated site
- Land title or similar equivalent documentation, for example, tax declaration, to provide evidence of land ownership for nominated site\*\*\*\*
- Letter from the mayor formally declaring LGU support for the project.

### Recommended Documentation

- Utility maps, including water and electricity
- Multi-hazard maps, municipal and *barangay* level.

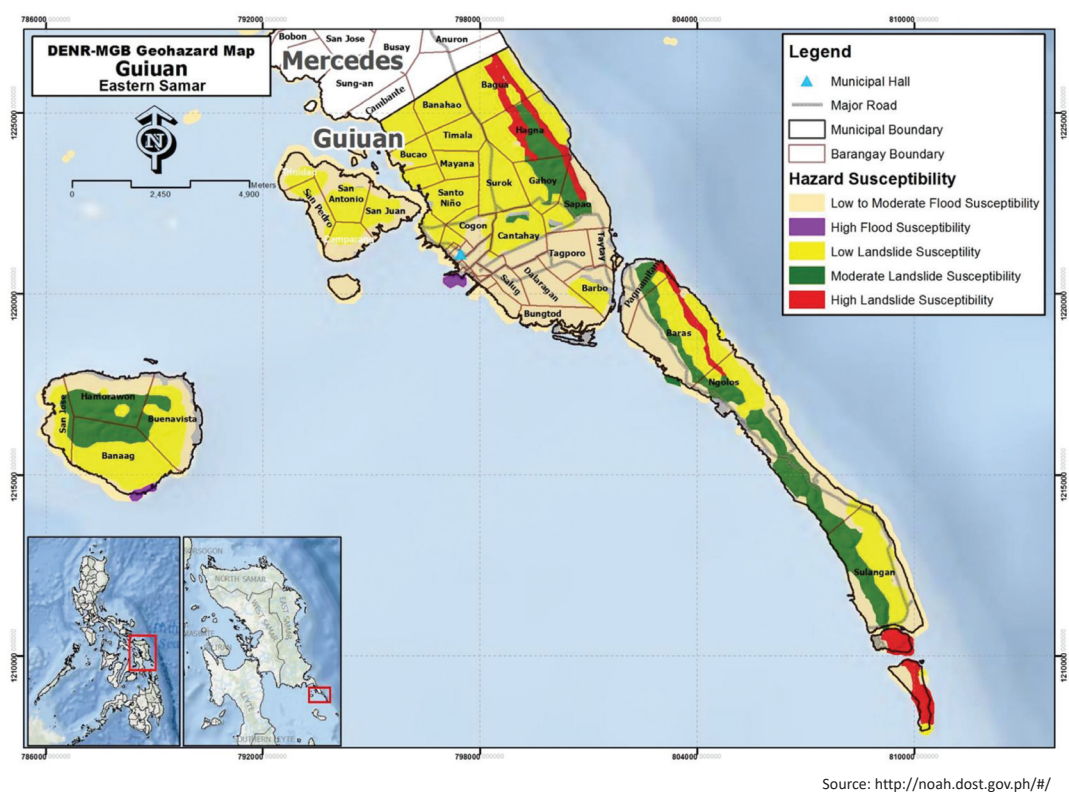
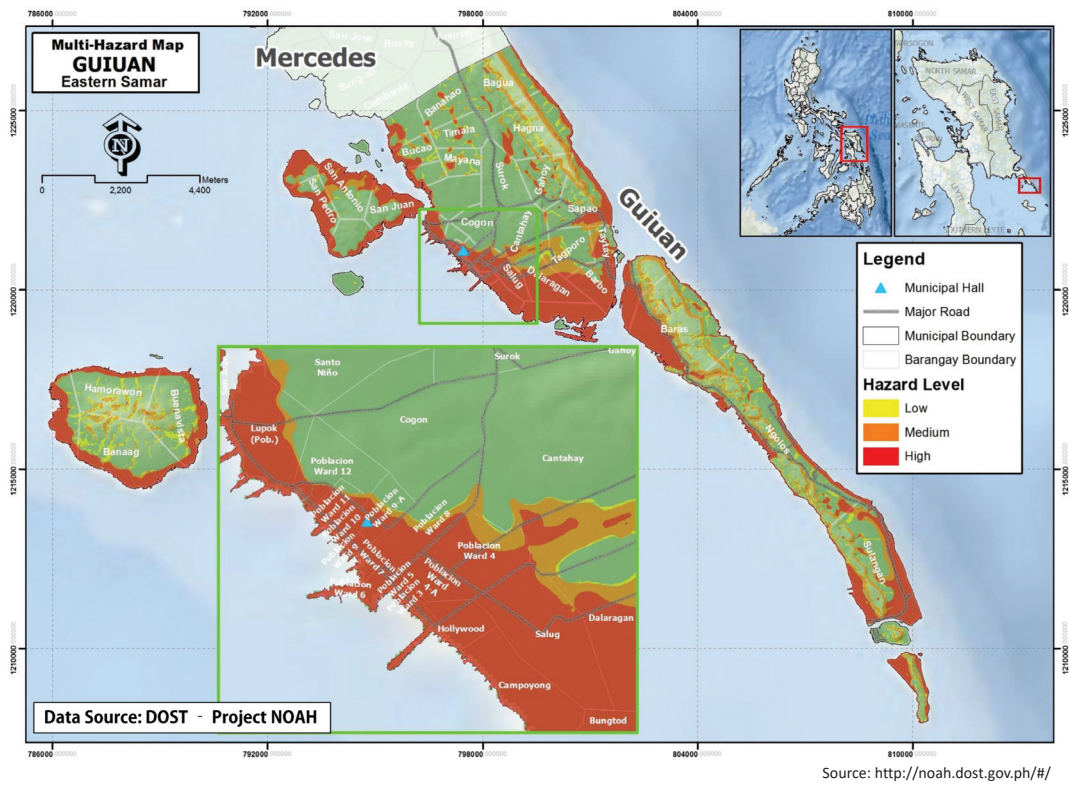
\* Compliance with the prerequisite criteria will facilitate further consideration, but does not guarantee a project partnership.

\*\* In case the LGU has identified multiple sites, IOM will work with the LGU to select the most appropriate site.

\*\*\* Including but not limited to demolition of all existing structures, removal of any hazards on-site, clearing dense vegetation.

\*\*\*\* In case the LGU does not own the land, a letter from the land owner must be provided to secure LGU's use of the land.

# C. MULTI-HAZARD MAP SAMPLE





## D. SAMPLE TERMS OF REFERENCE (TOR) FOR PROCURING ENGINEERING SERVICES



<insert date>

Dear Sir/Madam,

RE: Request for Quotation

This is to provide you a formal request for quotation regarding engineering design services.

Project Name: IOM -<insert donor name> Evacuation Center Building

Project Address:

Project Description: Design and construct an evacuation center building based on a pre-existing building template. Document adjustments as required to conform to project-specific and site-specific conditions.

### Scope of Works

To provide engineering design services for the following engineering disciplines:

- Structural
- Civil
- Electrical
- Plumbing/Sanitary

To provide engineering design services coordinated in the following project phases:

ITEM	PHASE	ACTIVITIES	DELIVERABLE	SCHEDULE
1	SITE-SPECIFIC ENGINEERING DESIGN DOCUMENTATION	1a) Validate structural engineering (building template) and, if required, amend design to suit site-specific conditions. 1b) Validate bill of quantities and amend units and/or costs to suit site-specific conditions. 1c) Coordinate with other design and engineering services, and under direction from the IOM architect/engineer.	Engineering drawings 'Issued for Construction' - Electronic copy (PDF) and CAD files on request	1 month

ITEM	PHASE	ACTIVITIES	DELIVERABLE	SCHEDULE
		<p>1d) Formulate site development plan including site-specific civil works, landscaping, drainage, notes pertaining to location of existing and proposed services infrastructure (power, water, sewer), and proposed set of septic tank, leaching field and in-ground water cistern/tank.</p> <p>1e) Validate electrical and plumbing/sanitary engineering (building template) and, if required, amend design to suit site-specific conditions.</p> <p>1f) Check that design complies with current building code, including Accessibility Law.</p> <p>1g) Sign for professional responsibility of the design.</p>		
2	SITE-SPECIFIC ENGINEERING DESIGN DOCUMENTATION	<p>2a) Assist in evaluating vendor bids, responding to RFIs, etc. as required during vendor bidding</p> <p>2b) Review shop drawings and sample submittals from contractors during construction.</p> <p>2c) Provide technical advice and design clarifications.</p> <p>2d) Attend coordination meetings as scheduled (Manila).</p> <p>2e) Attend site (minimum three times) at critical project milestones.</p> <p>2f) Undertake final inspection of completed works and validate As Built Drawings.</p>	Final acceptance of completed works	8 months

### Cost of Works

*Provide cost of works itemized by project phase and excluding VAT.*

General Note

<Insert other relevant project information>

Site Photos

<Insert Image: Site Photos>

Existing Site Plan

<Insert Image: Site Photos>

Proposed Site Plan

<Insert Image: Site Photos>



International Organization for Migration (IOM)  
Organisation internationale pour les migrations (OIM)  
Organización Internacional para las Migraciones (OIM)

### Evacuation Centre Building Template

<Insert hyperlink to architectural drawings and specifications>



ARTIST'S IMPRESSION ONLY - VIEW FROM FRONT



ARTIST'S IMPRESSION ONLY - VIEW FROM REAR





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## BUILDING SAFE SPACES FOR THE COMMUNITY

A Practical Guide for Constructing Disaster-Resilient Community Evacuation Centres in the Philippines

Implementing Partners:

