ADDRESSING HOUSING REQUIREMENTS IN DISASTER-STRICKEN AREAS, APPROACHES AND HOUSING DESIGN

BY

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Republic of the Philippines

A presentation for the 2019 10th Affordable Housing Conference
Kuala Lumpur, Malaysia
OUTLINE OF PRESENTATION

1. National Framework Strategy on Climate Change
2. Typhoon Calamity Updates (2011-2018)*
3. Marawi Rehabilitation Updates**
4. NHA Framework for Permanent Shelter
5. Housing Strategies, Policies, & Design

* Natural Calamity
** Man Made Calamity
NATIONAL FRAMEWORK STRATEGY ON CLIMATE CHANGE
2011-2022
<table>
<thead>
<tr>
<th><strong>OVERVIEW</strong></th>
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<tbody>
<tr>
<td><strong>Geographic Classification</strong></td>
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<tr>
<td><strong>No. of islands</strong></td>
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<tr>
<td><strong>Land Area</strong></td>
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<tr>
<td><strong>Climate</strong></td>
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<tr>
<td><strong>Three Main Geographical Divisions</strong></td>
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<tr>
<td><strong>Population</strong></td>
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<td><strong>Capital</strong></td>
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<td><strong>Government</strong></td>
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<td><strong>Currency</strong></td>
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</tbody>
</table>
MANILA, PHILIPPINES – KUALA LUMPUR, MALAYSIA

2,687.21 km.
2015-2030

SENDAI FRAMEWORK FOR DISASTER RISK REDUCTION
Chart of the Sendai Framework for Disaster Risk Reduction
2015-2030

Scope and purpose
The present framework will apply to the risk of small-scale and large-scale, frequent and infrequent, sudden and slow-onset disasters, caused by natural or manmade hazards as well as related environmental, technological and biological hazards and risks.
It aims to guide the multi-hazard management of disaster risk in development at all levels as well as within and across all sectors.

Expected outcome
The substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries.

Goal
Prevent new and reduce existing disaster risk through the implementation of integrated and inclusive economic, structural, legal, social, health, cultural, educational, environmental, technological, political and institutional measures that prevent and reduce hazard exposure and vulnerability to disaster, increase preparedness for response and recovery, and thus strengthen resilience.

Targets
- Substantially reduce global disaster mortality by 2030, aiming to lower average per 100,000 global mortality between 2020-2030 compared to 2005-2015
- Substantially reduce the number of affected people globally by 2030, aiming to lower the average global figure per 100,000 compared to 2005-2015
- Reduce direct disaster economic loss in relation to global gross domestic product (GDP) by 2030
- Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their resilience by 2030
- Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020
- Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020
- Substantially enhance international cooperation to developing countries through adequate and sustainable support to complement their national actions for implementation of this framework by 2030
- Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to people by 2030
Climate change *is attributed directly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.*
Global Warming will accelerate the melting of the polar ice caps and glaciers. Arctic temperature has already increased almost twice the global rate.

*Greenpeace Photo taken at Blomstrandbreen Glacier in a remote Arctic island*
Archipelago, composed of low lying small islands

- 70% of cities and municipalities are coastal areas

- Highly susceptible to flooding and storm surges
Goal: To build the adaptive capacity of communities and increase the resilience of natural ecosystems to climate change, and optimize mitigation opportunities towards sustainable development.

VISION:
A climate risk-resilient Philippines with healthy, safe, prosperous and self-reliant communities, and thriving and productive ecosystems

CLIMATE CHANGE
- Increasing temperatures
- Changing rainfall patterns
- Sea level rise
- Extreme weather events

IMPACTS AND VULNERABILITY
- Ecosystems (River Basins, Coastal & Marine, Biodiversity)
- Food security
- Water resources
- Human health
- Infrastructure
- Energy
- Human society

SUSTAINABLE DEVELOPMENT
Goal: To build the adaptive capacity of communities and increase the resilience of natural ecosystems to climate change, and optimize mitigation opportunities towards sustainable development.

CLIMATE PROCESS DRIVERS
- Energy
- Transport
- Land Use Change & Forestry
- Agriculture
- Waste

ADAPTATION
- Enhanced Vulnerability and Adaptation Assessments
- Integrated Ecosystem-Based Management
- Climate-Responsive Agriculture
- Water Governance & Management
- Climate-Responsive Health Sector
- Disaster Risk Reduction & Management
- Climate-proofing of Infrastructure

MITIGATION
- Energy Efficiency & Conservation
- Renewable Energy
- Environmentally-Sustainable Transport
- Sustainable Infrastructure
- National REDD+ Strategy
- Waste Management

CROSS-CUTTING STRATEGIES
- Capacity Development
- Knowledge Management
- IEC and Advocacy
- Gender Mainstreaming
- Research and Development Technology Transfer
- Multi-stakeholder Partnerships
- Financing
- Valuation
- Policy, Planning and Mainstreaming

MEANS OF IMPLEMENTATION
- IEC and Advocacy
- Gender Mainstreaming
- Research and Development Technology Transfer
- Multi-stakeholder Partnerships
- Financing
- Valuation
- Policy, Planning and Mainstreaming
A climate risk-resilient Philippines with healthy, safe, prosperous and self-reliant communities, and thriving and productive ecosystems

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CLIMATE CHANGE

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- Knowledge Management
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MEANS OF IMPLEMENTATION

NATIONAL FRAMEWORK STRATEGY ON CLIMATE CHANGE

GOAL: To build the adaptive capacity of communities and increase the resilience of natural ecosystems to climate change, and optimize mitigation opportunities towards sustainable development.

VISION:

A climate risk-resilient Philippines with healthy, safe, prosperous and self-reliant communities, and thriving and productive ecosystems.
National Framework Strategy on Climate Change

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SON_2020
JJA_2020
JJA_2050
SON_2050

Temperature (°C)

Climate Process Drivers
- Energy
- Transport
- Land Use Change & Forestry
- Agriculture
- Waste

Sustainable Development
Goal: To build the adaptive capacity of communities and increase the resilience of natural ecosystems to climate change, and optimize mitigation opportunities towards sustainable development.

Cross-cutting Strategies
- Capacity Development
- Knowledge Management
- Research and Development
- Technology Transfer
- Financing
- Policy, Planning, and Mainstreaming

Multi-stakeholder Partnerships

Adaptation
- Enhanced Vulnerability and Adaptation Assessments
- Integrated Ecosystem-Based Management
- Climate-Responsive Agriculture
- Water Governance and Management
- Climate-Responsive Health Sector
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SON_2020
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Temperature (°C)

SON_2020
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Temperature (°C)
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**CLIMATE CHANGE**
- Increasing temperatures

**DEVELOPMENT**

**CLIMATE PROCESS DRIVERS**
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**MEANS OF IMPLEMENTATION**
- Capacity Development
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**SOCIETY**

**ENVIRONMENT**

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- Multi-stakeholder Partnerships
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FINANCING
Policy, Planning and Mainstreaming
Multi-stakeholder Partnerships

MEANS OF IMPLEMENTATION
Valuation
National Framework Strategy on Climate Change
Capacity Development
Knowledge Management
IEC and Advocacy
Gender Mainstreaming
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To build the adaptive capacity of communities and increase the resilience of natural ecosystems to climate change, and optimize mitigation opportunities towards sustainable development.
NHA FRAMEWORK FOR PERMANENT SHELTER
UNDERSTANDING CLIMATE CHANGE (EFFECTS AND ASPECTS)
FORMULATE HOUSING MENU/DESIGNS FOR SUSTAINABLE COMMUNITIES

FINALIZE HOUSING DEMAND

INVENTORIZE HOUSING SUPPLY AND ASSISTANCE

DEFINE AND AGREE INSTITUTIONAL ARRANGEMENTS

IMPLEMENT VARIOUS HOUSING MENU AND SYNCHRONIZE PLAN OF ACTION

HOUSING FRAMEWORK FOR CALAMITY VICTIMS
UNDERSTANDING CLIMATE CHANGE EFFECT IN THE PHILIPPINES

CLIMATE CHANGE Situationer in the Philippines

URBAN
Environmental Degradation of main river systems (e.g., Pasig River)

RURAL
Natural Calamities
- Storm “Washi” (Sendong),
- Typhoon “Bopha” (Pablo)
- Typhoon “Yolanda” (Haiyan)

ASPECTS

- SOCIAL
- CULTURAL
- ECONOMIC
- GEO-POLITICAL
CLIMATE CHANGE SITUATION IN THE PHILIPPINES

- 5 of the deadliest typhoons to hit the Philippines have come since 2006
- Global Climate Risk Index 2015 listed Philippines as the most affected by climate change
- As an archipelago, Philippines lack natural barriers for strong typhoons
- DENR Map (right) shows the effect of climate change in various areas in the Philippines

Source: The Climate Reality Project, Jan. 19, 2016
Finalize Housing Demand (Market Segmentation)

- Beneficiary Segmentation
  - Fisherfolks
  - Farmers
  - Urban Dwellers
  - Others

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<tr>
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<th>Danger Areas (High-Risk)</th>
<th>Non-Danger Areas (Low-Risk)</th>
<th>Total</th>
</tr>
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<tbody>
<tr>
<td>Formal Sector</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Informal Sector</td>
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WATERWAY

40.00 m. Danger Zone (high risk areas)

Non-Danger Zone
Low to Medium risk

CROSS SECTION OF TYPICAL WATERWAY SHOWING DANGER AREAS
## PROCESSING CENTER FOR PERMANENT HOUSING (PCPH)

Where families evacuated after calamity:

<table>
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<tr>
<th>WHERE FAMILIES EVACUATED AFTER CALAMITY</th>
<th>PCPH LOCATION</th>
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<td>1. Temporarily housed in EC</td>
<td>Evacuation Centers (EC)</td>
</tr>
<tr>
<td>2. Residing with relatives and elsewhere</td>
<td>NHA Project Office, NHA Regional Office</td>
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<td>3. Tent City</td>
<td>On-Site</td>
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Survey form accomplished by families.

Survey form accomplished by families.

**Masterlist of Formal Sector Qualified Housing Beneficiaries**

**Masterlist of Qualified ISFs Housing Beneficiaries**
### INVENTORIZE HOUSING SUPPLY AND ASSISTANCE (MATRIX)

<table>
<thead>
<tr>
<th>KEY COMPONENTS</th>
<th>MAJOR PARTICIPATING ENTITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>GOVERNMENT SECTOR</td>
</tr>
<tr>
<td></td>
<td>LGU</td>
</tr>
<tr>
<td>1. LAND</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>2. LAND DEV’T.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>3. HOUSING</td>
<td></td>
</tr>
<tr>
<td>CONST’N.</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>4. COMM’TY.</td>
<td></td>
</tr>
<tr>
<td>FACILITIES &amp;</td>
<td></td>
</tr>
<tr>
<td>SERVICES</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>5. OTHER FORMS</td>
<td></td>
</tr>
<tr>
<td>OF HOUSING</td>
<td></td>
</tr>
<tr>
<td>ASSISTANCE</td>
<td></td>
</tr>
</tbody>
</table>

- **Site selection**
- **Labor/ Cash for Work**
- **Indigenous materials Labor/Cash for Work**
- **Medical Missions/ Health Centers/ Hospitals**
- **Capacity building; livelihood**
- **Labor/ Cash for Work**
IMPLEMENT VARIOUS HOUSING MENU AND SYNCHRONIZE PLAN OF ACTION
PERMANENT SHELTER IN SUSTAINABLE COMMUNITIES
STAGES OF HOUSING DEVELOPMENT

EMERGENCY HOUSING WITH LIMITED FACILITIES
Lead Agency: DSWD

TRANSITION HOUSING WITH COMMUNAL FACILITIES
Lead Agency: DPWH/DSWD

PERMANENT SHELTER WITH BASIC COMMUNITY FACILITIES AND SERVICES
Lead Agency: HUDCC NHA

Security of Tenure
<table>
<thead>
<tr>
<th>PHASES</th>
<th>PERIOD COVERED</th>
<th>HOUSING TYPE</th>
<th>COMPONENTS</th>
<th>RESPONSIBLE AGENCY</th>
</tr>
</thead>
</table>
| RELIEF     | 1<sup>st</sup> to 4<sup>th</sup> Month | Emergency Housing         | • Evacuation Centers  
• Tents                                                                   | DSWD/LGUs/DILG                                                                       |
| RECOVERY   | 2<sup>nd</sup> to 5<sup>th</sup> Month | Transitional Housing      | • Shelter Kits  
• Bunkhouses  
• Housing Materials Assistance in Safe Areas  
○ Totally Damaged: 30k  
○ Partially Damaged: 10k | DSWD/DPWH                                                                           |
| RECONSTRUCTION | 4<sup>th</sup> Month onwards | On-site reconstruction   | • HOMA                                                                     | DSWD                                                                               |
|            | 5<sup>th</sup> Month onwards | Permanent Housing (Off-site)| • Land ID/ Eval.  
• MGB Clearance  
• Land Dev’ t. & Housing  
• Community Facilities | Resettlement Cluster HUDCC-NHA/DENR-MGB/ Provincial Gov’ t.,/ LGUs/ and Support Agencies |
| REHABILITATION | Continuing          |                           |                                                                           | Multi-stakeholders                                                                  |
PERMANENT SHELTER IN SUSTAINABLE COMMUNITIES
BASIC COMMUNITY COMPONENTS

- Health Center/Day Care
- Transport Terminal
- School Building
- Dry/Wet Market
- Multi-purpose Covered Court
- Police Outpost
- Material Recovery Fac.
STRUCTURE FOR COORDINATION
LOCAL INTER – AGENCY COMMITTEE (LIAC)

PROVINCIAL LIAC for Permanent Shelter

LOCAL LIAC (City/Municipality)

MULTI-SECTORAL
Chairman: Governor
Vice-Chairman: Respective Mayors/HUDCC/NHA

GO/NGAs/NGOs/POs

Beneficiary Selection Committee
Project Imple.
Relocation
Estate Mgmt. & Comm'ty Dev't.

Sub-Committees

Masterlist of HHs for PH
PH Project Sites with Facilities
Transfer of Families
Sustainable Comm'ties
### COST PARAMETER

<table>
<thead>
<tr>
<th>ITEM</th>
<th>LGU-OWNED LAND</th>
<th>FOR ACQUISITION</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. LAND ACQUISITION</td>
<td>$0</td>
<td>$191.66</td>
</tr>
<tr>
<td>A. LAND DEVELOPMENT</td>
<td>$1,629.11</td>
<td>$1,629.11</td>
</tr>
<tr>
<td>A. HOUSE CONSTRUCTION</td>
<td>$3,737.37</td>
<td>$3,737.37</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$5,366.48</strong></td>
<td><strong>$5,558.14</strong></td>
</tr>
<tr>
<td>Admin. Cost*</td>
<td>$53.66</td>
<td>$55.58</td>
</tr>
<tr>
<td><strong>GRAND TOTAL</strong></td>
<td><strong>$5,420.14</strong></td>
<td><strong>$5,613.72</strong></td>
</tr>
</tbody>
</table>

*1% of Total Project Cost*
HOUSING STRATEGIES, POLICIES AND DESIGN
<table>
<thead>
<tr>
<th></th>
<th>Housing Policies, Strategies and Design</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Community Leveraging</td>
</tr>
<tr>
<td>2.</td>
<td>Genderized Housing Design</td>
</tr>
<tr>
<td>3.</td>
<td>Comprehensive Resettlement and Livelihood Programs</td>
</tr>
<tr>
<td>4.</td>
<td>Strengthening Institutional Arrangements</td>
</tr>
</tbody>
</table>
1. COMMUNITY LEVERAGING
COMMUNITY LEVERAGING FOR YOLANDA PERMANENT HOUSING PROGRAM

PHASES

COMMUNITY LEVERAGING in Yolanda Permanent Housing Program

- Pre-Implementation Phase
- Implementation Phase
- Post-implementation Phase
COMMUNITY LEVERAGING FOR YOLANDA PERMANENT HOUSING PROGRAM

PHASES

Pre-Implementation Phase

Implementation Phase

Post-implementation Phase

AREAS OF COMMUNITY INTER-ACTION AND COLLABORATION

CO in transitional housing location

Site selection/ Consultation

Validation of Beneficiaries

Community Profiling

Housing Design Preference
COMMUNITY LEVERAGING FOR YOLANDA PERMANENT HOUSING PROGRAM

PHASES

Pre-Implementation Phase

Implementation Phase

Post-implementation Phase

AREAS OF COMMUNITY INTER-ACTION AND COLLABORATION

Housing Construction thru Employment

Job Contracting

Skills Development for construction and related services
COMMUNITY LEVERAGING FOR YOLANDA PERMANENT HOUSING PROGRAM

PHASES

Pre-Implementation Phase

Implementation Phase

Post-implementation Phase

AREAS OF COMMUNITY INTER-ACTION AND COLLABORATION

Community-led governance in housing sites

Collaborative tools for community participation

Consultation on related construction of infrastructure projects for socio-economic services

Socio-economic services implementation
COMMUNITY ENGAGEMENT IN THE HOUSING PROJECT CYCLE

1. PRE-IMPLEMENTATION 3 – 5 Months
   - Site Identification & Evaluation
   - Project Planning & Packaging
   - Bid & Award

COMMUNITY ENGAGEMENT
   - Social Preparation
   - Site Planning and House/Building Design
   - Initial Masterlisting

2. IMPLEMENTATION 6 – 15 Months
   - Land Development
   - Housing Construction
   - Community Facilities

3. POST-IMPLEMENTATION Per production delivery schedule
   - Award and Turnover

COMMUNITY ENGAGEMENT
   - Organizational Structure for Estate Management

4. PROJECT MONITORING & EVALUATION Continuing basis
   - Monitoring and documentation
   - Monthly General Assemblies and Officers’ Meetings
   - Monitoring of Masterlist of Beneficiaries

COMMUNITY ENGAGEMENT
   - “Workers of the Community”
   - General Assembly (Highest Decision Making Body)
   - Core Group (Community Managers)
2. GENDERIZED HOUSING DESIGN & COMMUNITY FACILITIES
## HOUSING FOR CALAMITY VICTIMS
(Comparative Designs of Old and New)

<table>
<thead>
<tr>
<th>DETAILS</th>
<th>OLD DESIGN</th>
<th>NEW DESIGN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lot Size</td>
<td>40 sq. m.</td>
<td>same</td>
</tr>
<tr>
<td>Floor Area</td>
<td>28.40 sq. m.</td>
<td>28.40 sq. m. one – storey rowhouse with bedroom</td>
</tr>
<tr>
<td>Interior Wall</td>
<td>Plain cement plastered finish</td>
<td>Plain cement plastered painted finish</td>
</tr>
<tr>
<td>Exterior Walls</td>
<td>Plain cement plastered painted finish</td>
<td>Plain cement plastered painted finish</td>
</tr>
<tr>
<td>Toilet</td>
<td>300mm x 300mm unglazed floor tiles/300mm x 300mm glazed wall tiles (1 layer)</td>
<td>300mm x 300mm unglazed floor tiles/300mm x 300mm glazed wall tiles (2 layers)</td>
</tr>
</tbody>
</table>
GENDER-SENSITIVE DESIGN

26.00 sqm Rowhouse Model: The model was designed to provide for two small bedrooms but with a bigger area that will serve its multifunctional uses such as living, dining and kitchen that can be converted into a sleeping area at night.

33.00 sqm Rowhouse (with loft) Model: The loft allows privacy wherein children may occupy the upper floor while the spouses may have one bedroom at the ground floor. Side clearance of 1.50 meters would allow for the installation of a bed in between. The loft could be used either as sleeping or storage area. It can also serve as a first level evacuation space should flooding occur on site.
COMMUNITY FACILITIES
### COMMUNITY FACILITIES

#### STANDARD DIMENSIONS (in meters)

<table>
<thead>
<tr>
<th>Building Footprint Area (sq.m.)</th>
<th>Minimum Lot size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 450 Lots/Units</td>
<td>450-750 Lots/Units</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>L x W = Area in sq.m</th>
<th>No. of Facilities to be Provided</th>
<th>Land Area Requirement (sq.m)</th>
<th>No. of Facilities to be Provided</th>
<th>Land Area Requirement (sq.m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. a. Covered Basketball Court 28 x 15 = 420</td>
<td>34 x 19 = 650.00</td>
<td>1</td>
<td>650.00</td>
<td>1</td>
</tr>
<tr>
<td>b. Multi-Purposed Covered Basketball Court 31 x 29 = 899</td>
<td>40 x 34 = 1360.00</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2. a. Elementary School (15 Classrooms, 3-Storey Building) 34 x 9.5 = 329</td>
<td>60 x 21 = 1260.00</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>b. High School Building 34 x 9.5 = 329</td>
<td>60 x 21 = 1260.00</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>3. a. Wet and Dry Market 30 x 15 = 450</td>
<td>45 x 30 = 1350.00</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>4. a. Tricycle Terminal (Shed Type) 8 x 5 = 40</td>
<td>12 x 8.5 = 105.00</td>
<td>1</td>
<td>105.00</td>
<td>1</td>
</tr>
<tr>
<td>b. Jeepney Terminal 10 x 6 = 60</td>
<td>15 x 10 = 150.00</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>5. a. Police Outpost 8 x 5 = 40</td>
<td>12 x 8.5 = 105.00</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>b. Police Sub-Station 12 x 8 = 96</td>
<td>20 x 15 = 300.00</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>c. Material Recovery Facility 12 x 5 = 60</td>
<td>a. 20 x 9 = 180.00</td>
<td>1</td>
<td>180.00</td>
<td>1</td>
</tr>
<tr>
<td>b. 25 x 12 = 300.00</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>7. Livelihood &amp; Training Center / Multi-Purpose</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>a. Model A a. 24 x 10 = 240</td>
<td>b. 36 x 18 = 650.00</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>b. Model B b. 15 x 24 x 10 = 152.4</td>
<td>a. 25 x 16 = 400.00</td>
<td>1</td>
<td>400.00</td>
<td>1</td>
</tr>
<tr>
<td>8. a. Health Center / Infirmary a. 12 x 8 = 96</td>
<td>a1. 20 x 13 = 260.00</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>b. 20 x 15 = 300.00</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>b. Health Center / Day Care a. 16 x 8.5 = 145.8</td>
<td>b. 25 x 15 = 375.00</td>
<td>1</td>
<td>375.00</td>
<td>1</td>
</tr>
<tr>
<td>b. 25 x 15 = 375.00</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>9. 2-Classroom Day Care 20 x 9 = 180</td>
<td>28 x 15 = 420.00</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>b. 25 x 15 = 375.00</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>10. NHA Project Office 15 x 10 = 150</td>
<td>25 x 15 = 375.00</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total No. of Facilities to be Provided / Total Area to be Provided</td>
<td>6</td>
<td>2,130.00</td>
<td>6</td>
<td>3,390.00</td>
</tr>
<tr>
<td>Percentage of Total Area for Community Facilities</td>
<td>7.10 %</td>
<td>-</td>
<td>6.78-11.30 %</td>
<td>-</td>
</tr>
<tr>
<td>Open Space / Parks and Playgrounds (3.5% of Area for Projects with Density of 150 and Below):</td>
<td>1,049.00 sq.m.</td>
<td>-</td>
<td>1,050.00 - 1,750.00 sq.m.</td>
<td>-</td>
</tr>
</tbody>
</table>

### Notes
- **Ave. Lot Area:** 40 sq.m. \( (4.0m \times 10.0m) \)
- **Assumption is based on 60% saleable and 40% non-saleable**
- **Density:** 150 Units/ha

**Note:** Whenever there is a change in density, the number of lots/housing units shall prevail to determine the number of community facilities to provide. In the number of facilities to be provided e.g., 1 out 2 means 1 building with space allocation/provision for 2; 2 out 4 means 2 buildings with space allocation/provision for 4, etc.
Design Layout and requirement for building of these facilities are based on Department of Education (DepEd) standards. Derivation of the number of classrooms of school building is based on the computation of DepEd, assumption of which is 2 children per family and 100 students will used a classroom per day.
MULTI-PURPOSE COVERED COURT

This provision serves as multi-functional structure not only for sports activities but for community gatherings and meetings, seminars/workshops and trainings related to social and economic activities. Where there is no chapel within the vicinity, the covered basketball court may also be used as a place of worship.
Livelihood Productivity and Training Center (LPTC) like the Covered Basketball Court serves as multi-functional unit in a smaller scale. Though this provision is specifically intended for livelihood trainings/seminars and related activities, this may also be used for various community activities and serve as an NHA Project Office when the need arises.
Health Center is designed to provide basic minimum requirements for health services both medical and dental. This provision could be a separate structure or it could be incorporated on the ground floor of the Medium Rise Building with an approximate area of 100 square meter.
Materials Recovery Facility is designed to provide space for the segregated wastes collected in every household, the volume of which depends on the number of generated lots in every housing project.
This facility is provided for all sites with areas 24 hectares and below. It is intended and designed to be more accessible to the beneficiaries. Design layout is generally wet section area consisting of 150 stalls or less to sell goods and prime commodities for the daily consumption. Toilet facilities are also provided.
3. COMPREHENSIVE RESETTLEMENT AND LIVELIHOOD PROGRAMS
Program Description:

• A package of technical assistance to provide access to livelihood and income generating interventions to low income housing beneficiaries by coordinating and networking with livelihood mandated agencies and other organizations.

• It consists of skills / capability development, entrepreneurship development, access to credit assistance, job referral and placement, cooperative development and guilds formation / development.
SKILLS TRAININGS

• Implementation of relevant skills training program to introduce / upgrade the skills of the labor force to meet the manpower requirements of the nearby communal and industrial establishments in the area
GALING MASON TRAINING
CUM PRODUCTION
4. STRENGTHENING INSTITUTIONAL ARRANGEMENT
STRENGTHENING OF INSTITUTIONAL ARRANGEMENT

The **Local Inter-Agency Committees (LIACs)** can be further strengthened thru the following:

a. Sustained capacity building program (e.g., ladderized program to shelter planning at the local level)

b. Institutionalization of the LIAC through the issuance of local ordinances
STRENGTHENING OF INSTITUTIONAL ARRANGEMENT

c. Provision of adequate budget and resources to manage and implement local disaster or calamity housing

d. Promotion of Multi-Sectoral approach to housing and community development by extending representation in the LIAC
e. Focus on knowledge management and promoting good practices/sharing among the LIACs

f. Recognition of LIAC as official structure for coordination and collaboration at the local level by promoting synergetic strategies, particularly in the syndication of resources available to all sectors
<table>
<thead>
<tr>
<th>TYPHOON NAME</th>
<th>DATE OF OCCURRENCE</th>
<th>AREAS AFFECTED</th>
<th>NO. OF FAMILIES AFFECTED</th>
<th>NO. OF HOUSING BUILT BY NHA</th>
<th>NO. OF UNITS OCCUPIED TO DATE/ %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Bopha/&quot;Pablo&quot;</td>
<td>November 25 – December 09, 2012</td>
<td>Regions IV-B, VI, VII, VIII, IX, X, XI, XII, CARAGA, ARMM</td>
<td>711,682</td>
<td>17,182</td>
<td>14,385 (84%)</td>
</tr>
</tbody>
</table>
YOLANDA HOUSING PROJECT (REGION VIII)

RIDGE VIEW PARK 1
Tacloban City, Leyte

Actual No. of Units: 910 UNITS
Accomplishment:
Completed: 615 UNITS
On-going: 295 UNITS
Occupied: 600 UNITS

Location Map

RIDGE VIEW PARK 1
Ridge View Park 1, Cabalawan

Tacloban City

Show Aerial Photo of Site When Available
YOLANDA HOUSING PROJECT
(REGION VI – NEGROS OCCIDENTAL)

ANTONINO HEIGHTS
Bgy. Luna, Cadiz City

Target Unit: 1,000 UNITS
Completed: 1,000 UNITS

Status/Remarks: Completed & Accepted by LGU
JERUSALEM VILLE 1
Bgy. Jerusalem, Cadiz City

Target Unit: 680 UNITS
Completed: 239 UNITS

Status/Remarks: Land dev. & Housing const. in-progress
<table>
<thead>
<tr>
<th>ST. JAMES VILLE</th>
<th>Target Unit</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bgy. Old Poblacion, Sagay, Sagay City</td>
<td>1,000 UNITS</td>
<td>1,000 UNITS</td>
</tr>
<tr>
<td>Status/Remarks:</td>
<td>Completed &amp; Accepted by LGU</td>
<td></td>
</tr>
</tbody>
</table>
PHOTO DOCUMENTATION SENDONG
SAN ANTONIO VILLAGE
Brgy. Maparat, Compostela, ComVal
## MARAWI REHABILITATION UPDATES
(as of March 31, 2018)

<table>
<thead>
<tr>
<th>Date of Occurrence</th>
<th>Date of Liberation</th>
<th>Most Affected Areas (MAA)</th>
<th>No. Of Families Affected</th>
<th>No. of Affected Structures (inside MAA)</th>
<th>No. of Units Built by NHA</th>
<th>No. of Units Occupied to date/%</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 23, 2017</td>
<td>October 17, 2017</td>
<td>250 Has. (approx.)</td>
<td>17,500 (approx.)</td>
<td>6,861 (based on NAMRIA)</td>
<td>Temporary Shelters - 1,831</td>
<td>1,676 (91%)</td>
</tr>
</tbody>
</table>

### Temporary Shelter Sites

<table>
<thead>
<tr>
<th>Temporary Shelter Sites</th>
<th>Target No. of Units</th>
<th>Units completed</th>
<th>Balance</th>
<th>Date of Completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Sagonsongan</td>
<td>1,430</td>
<td>1,120</td>
<td>300</td>
<td>August 2019</td>
</tr>
<tr>
<td>2. Boganga</td>
<td>1,500</td>
<td>711</td>
<td>789</td>
<td>December 2019</td>
</tr>
<tr>
<td>3. Rorogagus</td>
<td>1,000</td>
<td>0</td>
<td>1,000</td>
<td>December 2019</td>
</tr>
<tr>
<td>4. Dulay</td>
<td>1,000</td>
<td>0</td>
<td>1,000</td>
<td>December 2019</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>4,930</strong></td>
<td><strong>1,831</strong></td>
<td><strong>3,099</strong></td>
<td></td>
</tr>
</tbody>
</table>
PHOTO DOCUMENTATION

MARAWI