

Mitigating the **E**ffects of **E**xternal **T**hreats
to the Millennium Development Goals

MEET

the MDGs Manual

The publication of this manual is part of the *Mitigating the Effects of External Threats to the Millennium Development Goals or MEET the MDGs* project and the *Localizing the MDGs in Key Cities in the Philippines* project with the assistance of the United Nations Development Programme through the Democratic Governance Thematic Thrust Fund.

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Mitigating the Effects of External Threats to the Millennium Development Goals or MEET the MDGs Manual

ISBN _____

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Printed in the Philippines by Celwin Printing

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PREFACE

Even with the MDG focus in HRVA, the very conduct of the HRVA resulted in a greater appreciation of the community's situation and resulted in corollary benefits like in the case of the Science City of Munoz where the construction of a new school building which avoided areas vulnerable to flooding as the same was identified in the HRVA.

ACKNOWLEDGMENTS



INTRODUCTION

The Mitigating the Effects of External Threats to Achieving the Millennium Development Goals (MEET the MDGs) Project or MEET Project aimed to address the risk of loss of development momentum caused by natural and human-made disasters by capacitating LGUs with tools and approaches to assess hazards, risks and vulnerabilities of their communities and to provide sound basis for local development planning in preparation for any disasters. Local government units (LGU) are the primary response mechanism in the event of natural and man-made disasters as mandated through Presidential Decree 1566. They too are mandated by the Local Government Code to plan and implement development programs in their respective areas of jurisdiction. It is therefore important and indispensable to strengthen LGU capacity for disaster management in the context of development.

For the period of one year, LGUs organized and/or strengthened their City Disaster Coordinating Councils who are mandated to operate and deliver the services required before, during and after disasters. A training on Disaster Management and Hazard, Risk and Vulnerability Assessment was conducted for ten participating cities.

The working teams conducted a community-based participatory situational analysis of communities' vulnerabilities and risks to natural disasters and how these would affect the LGU's achievement of MDG targets. The assessment resulted in policy enhancements in terms of retooling of disaster management agencies, revisiting and adjustments of plans, and appropriation of resources for programs responsive to the vulnerabilities and risks. The project facilitated the integration of disaster management and the hazard, risk and vulnerability analysis process in the LGUs development planning.

To pursue a deliberate developmental approach in disaster management, ten LGUs focused on particular MDG themes for which the hazards, risks and vulnerabilities assessment (HRVA) was conducted. In the conduct of the project, the MDG focus uncovered innovations in the disaster and developmental perspective. The ten cities and their respective MDG focus and innovations are summarized in the table below:

MDG	Theme	Resource LGU	Innovation
1	Eradicate Extreme Poverty	Naga City	Hazard Mapping Using GIS as Poverty mapping Tool
	Food Security	Science City of Munoz	Evaluated the interrelationship of flooding, drought and pest infestation in agricultural production
2	Achieve Universal Primary Education	Tuguegarao City	Home as focal area of analysis, not just the school
3	Promote Gender Equality and Empower Women	Sorsogon City	
4	Reduce Child Mortality	Iloilo City	Enhancement of existing comprehensive Disaster Preparedness Plan with the HRVA process and results
5	Improve Maternal Health	Calbayog City	
6	Combat HIV/AIDS	Pasay City	Appreciation of HIV/AIDS as a “social disaster waiting to happen” with the out-of-school youth (OSY) as a vulnerable and high-risk group, not just the traditional high risk group of IDUs, SWs, MSMs, OFWs, etc.
7	Ensure Environmental Sustainability Theme: Water	Island Garden City of Samal	Assessing the hazards, risks and vulnerabilities surrounding water using the integrated water resource management framework
	Theme: Flooding	Iligan City	
	Theme: Shelter	SanVicente, Palawan	Enhancement of the existing Annual Investment Plan (AIP) and Shelter Plan using inputs from the HRVA and LGRA

Process

A City Disaster Capability Profile Questionnaire was developed and used in a survey to gather data on the cities' capacity and readiness to undertake the hazard based vulnerability and risk assessment. Four basic areas were considered: City Disaster Framework, Hazard-based Disaster Plan and Planning Methodology, Hazard Risk and Vulnerability Assessment Capacity, and the integration of the Disaster Management processes and programs into the local development plans and strategies.

Each of the Cities Legislative Council passed a resolution creating a multi-agency and multi-disciplinary team to implement the HRVA. These teams were composed of a focal person from the City Planning and Development Office, normally also the MDG focal person, and representatives from different local departments/divisions. They were trained to conduct HRVAs in their LGUs and tasked to institutionalize HRVA even after project implementation.

The ten participating cities developed a guidebook based on their implemented process. Based on the data gathered and the analysis generated through the HRVA tool and process, a set of actionable solutions or governance reform agenda were generated. A participatory process was conducted to identify the local governance reform agenda or actionable solutions based on the analysis derived from the data gathered. These actionable solutions were presented and validated by the community.

These actionable solutions were referred to the city legislative council for action. Due to the limited time provided by the project and considering the legal processes in the passage of the agenda in the Legislative council, the local governance reform agenda of most of the cities were considered as the city's next steps for fiscal year 2007. However, the integration, use and mainstreaming of the tool and processes of the HRVA in the city development technology were affirmed by the Local Chief Executives and City Planning and Development Officers. This allowed City Development Planning Offices to use the technology and enhance their Hazard, Vulnerability and Risk based planning of interventions towards the achievement of the MDGs. With the passage of the resolution on the integration of the HRVA in the development planning processes of the LGU, the use of the HRVA can be replicated for the other MDGs and other interventions/programs.

HOW TO USE THIS MANUAL

This manual addresses the question of how to integrate disaster risk reduction into the local government's development plans with particular focus on the MDGs. Many disaster management manuals and guidebooks address the issues of how the locality can manage natural and human-made disasters in general. This manual starts from the perspective of how the MDGs can be made resilient against disasters so that gains made in achieving the targets are not wiped out when a disaster strikes.

This manual follows the MEET the MDGs Framework outlined in the beginning pages. It covers the whole process covering a Pre-Assessment Phase, an extensive discussion of the HRVA Phase and flowing into the LGRA Formulation Phase. This manual starts with the MEET the MDGs Framework and then breaks into the different MDG themes pursued by ten participating cities using the aforementioned Framework. Each MDG theme can stand alone by itself and contains the whole process of HRVA and LGRA formulation. As independent toolkits, each module is introduced by the local chief executive. It has its own introduction, acknowledgments, context-specific glossary and references. However, given the LGUs' different contexts, the sections have different levels of process details, tactical approach and tools used.

The manual contains ten approaches to doing HRVA and LGRA for particular MDGs. These approaches are discussed in separate sections and arranged according to MDG themes. Each section contains a brief profile of the LGU as context of the project, a discussion of the MDG focus and the HRVA and LGRA formulation processes which the LGU undertook.

Each MDG theme is the context for the HRVA and LGRA formulation with which specific and actual tools, techniques and designs were used. There are templates for

- Organization structures of Technical Working Group (TWG) and legitimization process
- Design of TWG meetings and multi-stakeholder consultations and assemblies
- Worksheets for consolidation and analysis of data
- Actual HRVA results
- Actual LGRA formulated

Discussions of basic concepts like the MDGs and Disaster Management or Disaster Risk Reduction are also included to remind the user of the theoretical basis for the process. Actual stories from the field and lessons learned are included to ground the reader on what may happen and what to look out for during the actual activity.

While the manual is a basic guide, the LGU can add, subtract or modify the process to suit their local application requirements.

ACRONYMS

LGU	Local Government Unit
HRVA	Hazards, Risks and Vulnerabilities Assessment
OCD	Office of Civil Defense
DND	Department of National Defense
UNDP	United Nations Development Program
NDCC	National Disaster Coordinating Council
MDG	Millennium Development Goal
ISDR	International Strategy for Disaster Reduction
UN	United Nations
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
MEET	Mitigating the Effects of External Threats
CDCC	City Disaster Coordinating Council
BCC	Barangay Coordinating Council
NGO	Non-government Organization
NGA	National Government Agency
CSO	Civil Society Organization
PO	People's Organization
PAGASA	Philippine Atmospheric Geophysical Astronomical Service Administration

GLOSSARY

Hazard and disaster terminology are used inconsistently across sectors, practitioners and researchers. Thus, some terms have more than one definition reflecting various perspectives. Key terms are used as follows for the purpose of this guidance note series:

Adaptation - adaptation refers to human actions taken to reduce exposure or sensitivity to hazard over the long term (UNH)

Assessment - an estimated description based on physical observations of the nature and extent of damages resulting from a particular emergency, for the purpose of determining the need for assistance

Barangay - smallest political unit of government

Bayanihan - spirit of cooperation, cooperativism, collaboration or collective effort

Capability - qualitative assessment of human and material resources such as ability, competence, authority

Capacity - quantitative assessment of human and material resources. This encompasses a community's actual or potential ability to withstand through the presence of materials and human resources that aid in the prevention and effective response to disasters. This includes the response and skills people possess can develop, mobilize or have access, which allow them to have more control over shaping their future. It is the ability of the community to deal with hazards and their impact

Climate - encompasses the long-term averages of weather which is the daily evolution of the atmosphere

Climate change - a statistically significant change in measurements of either the mean state or variability of the climate for a place or region over an extended period of time, either directly or indirectly due to the impact of human activity on the composition of the global atmosphere or due to natural variability. (DRR)

Community Organizing - a process by which a community identifies needs and objectives, orders these needs or objectives or sets them according to their priorities, develops the confidence and the will to work at these needs or objectives, takes action in respect to them and in so doing extends and develop cooperative and collaborative attitudes and practices in the community.

Complex Emergency - a form of man-made emergency in which the cause of the emergency as well as the assistance to the affected is complicated by intense levels of political considerations.

Contingency Planning - a forward planning process, in a state of uncertainty, in which scenarios and objectives are agreed, manageable, and technical activities are well defined, potential response systems put in place in order to prevent, or better respond to, an emergency or critical situation

Coping Capacity - the means by which people or organizations use available resources and abilities to face identified adverse consequences that could lead to a disaster. In general, this involves managing resources, both in normal times as well as during crises or adverse conditions. The strengthening of coping capacities builds resilience to withstand the effects of natural and human-made hazards

Development - sustained efforts intended to improve or maintain the social and economic well-being of a community

Disaster - the occurrence of an extreme hazard event that impacts on vulnerable communities causing substantial damage, disruption and possible casualties, and leaving the affected communities unable to function normally without outside assistance (DRR)

a serious disruption of the functioning of a community or a society causing widespread human, material, economic or environmental losses that exceed the ability of the affected community or society to cope using its own resources. A disaster is a function of risk processes. It results from a combination of hazards, human vulnerability and insufficient capacity or measures to reduce the potential negative consequences of risk (UNH)

are natural or man-made events wherein communities experience severe danger and incur loss of lives and properties causing disruption in its social structure and prevention of the fulfillment of all or some of the affected community's essential functions (Office of Civil Defense – Department of National Defense)

an event is considered a disaster when (NDCC Memo Order No. 4, dated 04Mar98):

- At least 20% of the population are affected & in need of emergency assistance or those dwelling units have been destroyed
- A great number or at least 40% of the means of livelihood such as bancas, fishing boats, vehicles and the like are destroyed
- Major roads and bridges are destroyed and impassable for at least a week, thus disrupting the flow of transport and commerce

- Widespread destruction of fishponds, crops, poultry and livestock, and other agricultural products, and
- Epidemics

Disaster Impact - actual hazard event or its immediate consequences requiring extraordinary response

Disaster risk - is a function of the characteristics and frequency of hazards experienced in a specified location, the nature of the elements at risk, and their inherent degree of vulnerability or resilience (DRR)

Disaster risk reduction - an overarching term used to describe policy aimed at minimizing human vulnerability and disaster risk to help avoid (prevention) or to limit (mitigation and preparedness) the adverse impacts of hazards within the broad context of sustainable development. (MDR)

Early Warning - process of information gathering and policy analysis to allow the prediction of developing crises and action either to prevent them or to contain their effects.

El Nino - the abnormal appearance of warm sea surface temperatures in the central and eastern equatorial Pacific Ocean every few years. The Southern Oscillation, which is closely linked to El Nino, represents a seesaw of atmospheric pressure in the western part of the tropical Pacific. Together they represent a basin-wide phenomenon called El Nino/Southern Oscillation (ENSO). The ENSO cycle has two extreme opposite episodes: El Nino (warm episode) and La Nina (cold episode).

Elements-at-risk - persons, buildings, crops or other societal component exposed to known hazards and which are likely to be affected by the impact of these hazards

Emergency - a situation, often dangerous, which arises suddenly and calls for prompt action

any situation in which the life or well-being of the community will be threatened unless immediate and appropriate action is taken, and which demands an extraordinary response and exceptional measures

Erosion - the wearing away of land by water, air or ice

Evacuee - a displaced person settling outside his own community due to an emergency or disaster

Excess Mortality - measured as the rate of death in the population that can be directly attributed to the disaster or crisis, as opposed to the deaths that would be expected in non-emergency times. Along the same lines, excess morbidity is the amount of illness, caused by selected major diseases that can be attributed to the disaster or the crisis. (DRR)

Flood - an inundation of areas that are normally not submerged. Although most floods are natural phenomena, a flood hazard is caused by human decisions. Flooding can be classified as river, coastal or flash floods. Flooding of low-lying coastal areas, estuaries and deltas results in inundation of land usually caused by coastal storm surges resulting from severe cyclonic weather systems or tidal waves, and tsunamis.

usually caused by a temporary rise of the water level of a river, stream or other water course, inundating adjacent lands or floodplains. It could also be due to a temporary rise of lakes, oceans or reservoirs or other bodies of water inundating borderlands normally above water

Forewarning - to give advance warning to

Hazard - a phenomenon that poses a threat to people, structure or economic assets and which may cause disaster.

any phenomenon that has the potential to cause disruption or damage to humans and their environment; or an event or occurrence that has the potential for causing injury to life, property and environment. It could be natural or human-made

Hazard Assessment - a process of analysis that attempts to specify the hazard occurrence probability occurring in a certain area within a stated time / period (type / intensity / space / time). This is based on the collection of historical and scientific data to be presented in scales and maps

Human-made disaster - a serious disruption to human systems triggered by a technological or industrial hazard causing human, material, economic or environmental losses that exceed the ability of those affected to cope. (UNH)

Human-made hazards - danger originating from technological or industrial accidents, dangerous procedures, infrastructure failures or certain human activities that may cause the loss of life or injury, property damage, social and economic disruption, or environmental degradation. Examples of human-made hazards include industrial pollution, nuclear activities/accidents and radioactivity, toxic wastes, dam failures, and industrial and technological accidents (explosions, fires and spills). (UNH)

Human vulnerability - the conditions determined by physical, social, economic and environmental factors or processes that increase the exposure and susceptibility of people to the impact, or outcomes, of hazards. (UNH)

Impact - a clash or collision imparting forces

La Nina - the development of abnormally cold seasurface temperatures across the equatorial Pacific Ocean. A La Nina episode does not always follow an El Nino event and vice versa.

Landslide - a massive outward and downward movement of slope-forming materials

Mitigation - measures taken prior to the impact of a disaster to minimize its effects (sometimes referred to as structural and non-structural measures)

any structural (physical) or non-structural (e.g., land use planning, public education) measure undertaken to minimise the adverse impact of potential natural hazard events (DRR)

structural (e.g. engineering) and non-structural (e.g. land-use planning) measures undertaken to limit the severity or frequency of natural and technological phenomena that have the potential to become hazardous (MDR)

Monsoons - seasonal wind of the Indian Ocean and south Asia, blowing from the southwest from April to October, and from the northeast during the rest of the year

Natural Disaster - a serious disruption to human systems triggered by a natural hazard causing human, material, economic or environmental losses that exceed the ability of those affected to cope (UNH)

Natural Hazard - is a geophysical, atmospheric or hydrological event (e.g., earthquake, landslide, tsunami, windstorm, wave or surge, flood or drought) that has the potential to cause harm or loss (DRR)

natural processes or phenomena occurring in the biosphere that may constitute a damaging event. Natural hazards can be classified by origin (geophysical or hydrometeorological), and they can vary in magnitude or intensity, frequency, duration, area of extent, speed of onset, spatial dispersion and temporal spacing (UNH)

Preparedness - measures taken in anticipation of a disaster to ensure that appropriate and effective actions are taken in the aftermath

activities and measures taken before hazard events occur to forecast and warn against them, evacuate people and property when they threaten and ensure effective response (e.g., stockpiling food supplies) (DRR)

activities and measures taken in advance to ensure effective response to the impact of hazards, including the issuance of timely and effective warnings and the temporary evacuations of people and property from threatened locations (MDR)

Prevention - measures taken to avert a disaster from occurring, if possible to impede a hazard so that it does not have any harmful effects

Probability - the ratio of a number of times something will probably occur to the total number of possible occurrences

Purok - settlements that comprise the Barangay

Reconstruction - permanent measures to repair or replace damaged dwellings and infrastructures and to set the economy back on course

Rehabilitation - actions taken in the aftermath of a disaster to assist victims to repair their dwellings, re-establish essential services and revise key economic and social activities

Relief - measures that are required in search and rescue of survivors, as well as to meet the basic needs for shelter, water, food and health care

Relief, rehabilitation and reconstruction - are any measures undertaken in the aftermath of a disaster to, respectively, save lives and address immediate humanitarian needs, restore normal activities and restore physical infrastructure and services (DRR)

Recovery - decisions and actions taken after a disaster with a view to restoring or improving the pre-disaster living conditions of the stricken community, while encouraging and facilitating necessary adjustments to reduce disaster risk. Recovery affords an opportunity to develop and apply disaster risk reduction through rehabilitation and reconstruction measures (MDR)

Resilience - the capacity of a system, community or society potentially exposed to hazards to change by coping or adapting in order to reach and maintain an acceptable level of functioning and structure. This is determined by the degree to which the social system is capable of organizing itself to increase its capacity for learning from past disasters for better future protection and to improve risk reduction. (MDR)

Response - the provision of assistance or interventions during or immediately after a disaster to meet the life preservation and basic subsistence needs of those people affected. It can be of an immediate, short-term or protracted duration (MDR)

Risk - the level of loss or damage that can be predicted from a particular hazard affecting a particular place at a particular time. Or the probability that an injury would result to death or damages to property and the environment will occur

Risk Assessment - determines the scale of the estimated losses that can be anticipated in particular areas during a specified time period

Susceptibility - factors in a community which allow a hazard to cause an emergency. An example would be living in an earthquake prone area

Vulnerability - a condition or a set of conditions that reduces people’s ability to prepare for, withstand or respond to a hazard

factors which will allow a hazard to cause a disaster such as those that increase the chances of a community being unable to cope with an emergency; e.g. the level of underdevelopment of the community; property or things to be damaged by a hazard

is the potential to suffer harm or loss, related to the capacity to anticipate a hazard, cope with it, resist it and recover from its impact. Both vulnerability and its antithesis, resilience, are determined by physical, environmental, social, economic, political, cultural and institutional factors (DRR)

the probability of an individual, a household or a community falling below a minimum level of welfare (e.g., poverty line), or the probability of suffering physical and socio-economic consequences (such as homelessness or physical injury) as a result of risky events and processes (such as forced evictions, crime or flood) and their inability to cope with such risky events and processes (UNH)

Vulnerability Assessment - (otherwise known as “hazard analysis”, “threat assessment”, “risk assessment”) is a method for identifying hazards and vulnerability and for determining these possible effects on a community, activity, organization of the environment

process of estimating the vulnerability of specified elements at risk to potential disaster hazards

Weather - the daily evolution of the atmosphere, while climate encompasses the long-term averages of weather. Weather and climate fluctuate on a daily, monthly, multiseasonal, yearly, decade, and even multi-century time scales as evidenced in localized thunderstorms, storms and fronts, droughts, and floods.

OVERALL MEET THE MDGs FRAMEWORK

The MEET the MDGs Project is a participatory process intended to draw out models for making the Millennium Development Goals (MDGs) resilient to disasters. Far from being a stand-alone platform, it supports the Philippine Emergency Management Framework developed by the National Disaster Coordinating Council (NDCC), a framework that emphasizes preparedness and early recovery at the national and local levels.

The MEET the MDGs project (or MEET Project) was framed by the MDG themes pursued by the participating cities in implementing the hazards, risks and vulnerabilities assessment (HRVA) and in developing the local government reform agenda (LGRA), processes aimed to improve disaster mitigation and preparedness. The locus was decidedly local as it aimed to develop community preparedness through participatory approaches.

The project operationalized the NDCC Emergency Management Framework by strengthening the mitigation and preparedness processes through the conduct of a participatory community-based HRVA. The MEET project highlighted the developmental aspect of disaster mitigation through a deliberate focus on the MDGs and in the analysis of how the development gains and programs can be made resilient against disasters.

Background

The Philippines Midterm Report on the MDGs (June 2007) reported that halfway through the 2015 target year to achieve the MDGs, the Philippines has made considerable progress particularly in poverty reduction, nutrition, gender equality, reducing child mortality, combating HIV/AIDS, malaria and other diseases and access to safe drinking water and sanitary toilet facility. However, the country needs to work harder on the MDG targets concerning universal access to education, maternal mortality and access to reproductive health services. The Philippines cannot afford to face set back to developmental initiatives from disasters and other events.

The UN Country Team in the Philippines, in its message in the Philippines Midterm Report on the MDGs, has highlighted the importance of climate change adaptation and a long-term disaster risk management programme in the attainment of the MDGs. It acknowledged the efforts of the Philippine government which is set to comprehensively map areas vulnerable to natural disasters and climate change, and has shifted to disaster risk management that emphasizes preparedness and early recovery. To strengthen overall humanitarian and early recovery collaborative response, the UN in the Philippines has adopted the following clusters; (a) Camp coordination (b) Early Recovery (b) Health (c) Logistics (d) Nutrition (e) Protection (f) Shelter (g) Telecommunications and (h) Water and Sanitation.

Rationale

The Philippines is a disaster prone country. The Philippine Archipelago occupies the western ring of the Pacific Ocean, the Western Segment of the Pacific Ring of Fire, a most active part of the earth that is characterized by an ocean-encircling belt of active volcanoes and earthquake generators (faults). In 2006 alone, the country experienced various kinds of disasters: 27 typhoons (4 of which devastated both urban and rural areas), 3 volcanic activities, 1 major oil spill, 3 major landslides, and major floods. Local government units (LGUs) and local communities were forced to operate, against the immense magnitude of damages and needs, on limited capacities and resources. The limited scope of action was further aggravated by the lack of preparedness and mitigating measures instituted prior to the onset of the disasters. This is partly due to the lack of appropriate understanding and analysis of the community's hazards, risks and vulnerabilities.

Recognizing the need for disaster mitigation and preparedness in a disaster-prone country like the Philippines, the MEET project aimed to equip LGUs with a process of analyzing their hazards, risks and vulnerabilities (HRVs) using community participatory approaches. The results of the assessment fed into the formulation of the local government agenda responsive to the identified HRVs of the community. The process resulted in reduced vulnerabilities and increased capacities of the communities to mitigate disaster risks that threatened the achievement of specific MDG targets.

Principles

1. Disasters directly affect the MDGs.

The United Nations Millennium Project, in its 2005 review of progress towards meeting the MDGs, recognized that disasters are a serious impediment to meeting the MDGs. It called for the mainstreaming of risk reduction strategies within MDG-based poverty reduction strategies and recommended four pathways for achieving better integration. Together with the Asian Disaster Preparedness Center, the UN Millennium Campaign believes that disaster proofing should be the key element of national development strategies, which are being developed towards achieving the MDGs by national governments as part of their international commitments.

On the other hand, the Hyogo Framework for Action, 2005-2015: Building the Resilience of Nations and Communities to Disaster, offers guiding principles, priorities for action and practical means for achieving disaster resilience for vulnerable communities. The five general priorities for action are:

- a. *Ensure that disaster risk reduction is a national and local priority with a strong institutional basis for implementation;*
- b. *Enhance early warning through improvements in the identification, assessment and monitoring of disaster risks;*
- c. *Use knowledge, innovation and education to build a culture of safety and resilience at all levels;*
- d. *Reduce the underlying risk factors that are currently built into development paths;*
- e. *Strengthen disaster preparedness for effective response at all levels.*

In disaster prone countries, a lot of development investment goes to waste due to the occurrence of disasters. Among the impacts of natural disasters in development are:

- Wipe out gains of economic development
- Result in the destruction of assets and physical capital
- Interrupt production and trade
- Increase vulnerability of marginalised groups

Hazard, vulnerability and risk-based development planning is important in the efforts to ensure achievement of development targets. Failure to integrate disaster risk reduction within national and local development will undo development gains and thus impede the achievement of the MDGs. Conversely, disaster management, to be effective, should be mainstreamed into established development planning processes.

2. Cities, especially the slums and the urban poor, are especially vulnerable to disasters

The UN-Habitat Global Report on Human Settlements 2007 emphasized that cities are particularly vulnerable to the effects of natural and human-made disasters due to a complex set of interrelated processes, including a concentration of assets, wealth and people; the location and rapid growth of major urban centers in coastal locations; the modification of the urban built and natural environment through human actions; the expansion of settlements within cities into hazard-prone locations; and the failure of urban authorities to regulate building standards and land-use planning strategies.

3. Community participation in HRVA is indispensable in developing community awareness and preparedness.

Local knowledge provides a deep and comprehensive perspective for analyzing HRVs. Community experience and institutional memory provide substantive information vital for planning and development of appropriate disaster risk reduction interventions. Participatory processes should be promoted, strengthened and sustained to ensure community ownership and commitment to the process. Specifically, they should be partners in ensuring completeness of data, thoroughness of analysis, comprehensiveness of solutions identification and sustainability of development programs.

4. Developing local capabilities is key to the integration of the disaster management in the local development processes.

As people's participation is key process to the generation and analysis of data for the identification and assessment of hazards and vulnerabilities, it is important to develop the capacities of the community and various stakeholders and advocates to apply and to integrate HRVA and disaster reduction framework in development planning and actual interventions. This is supported by the Hyogo Framework for Action 2005-2015 which states that:

Both communities and local authorities should be empowered to manage and reduce disaster risks by having access to the necessary information, resources and authority to implement actions for disaster risk reduction. (Section III A, point 13.f)

Systems of consultations and dialogues between the local government units, the local citizens, as well as the CSOs and POs should be established. The same can be integrated in capability building interventions.

Components

The MEET Project follows a Framework with the following key components:

1. MDG Focus

While it is generally acknowledged that disasters affect the MDGs, there has been no deliberate attempt to link disaster risk reduction to specific MDGs. The project attempted to conduct HRVA for very specific MDGs and developed LRGA for the same. This approach ensured the developmental thrust of disaster risk reduction to be responsive to developmental thrusts of the local government and priorities of the communities. The MDGs and sustainable development, therefore, became the context for disaster mitigation and preparedness. The following MDG themes were pursued by the participating LGUs:

MDG	Theme
1	Eradicate Extreme Poverty
	Food Security
2	Achieve Universal Primary Education
3	Promote Gender Equality and Empower Women
4	Reduce Child Mortality
5	Improve Maternal Health
6	Combat HIV/AIDS
7	Ensure Environmental Sustainability Theme: Water
	Ensure Environmental Sustainability Theme: Flooding
	Ensure Environmental Sustainability Theme: Shelter

2. Hazards, Risks and Vulnerabilities Assessment (HRVA)

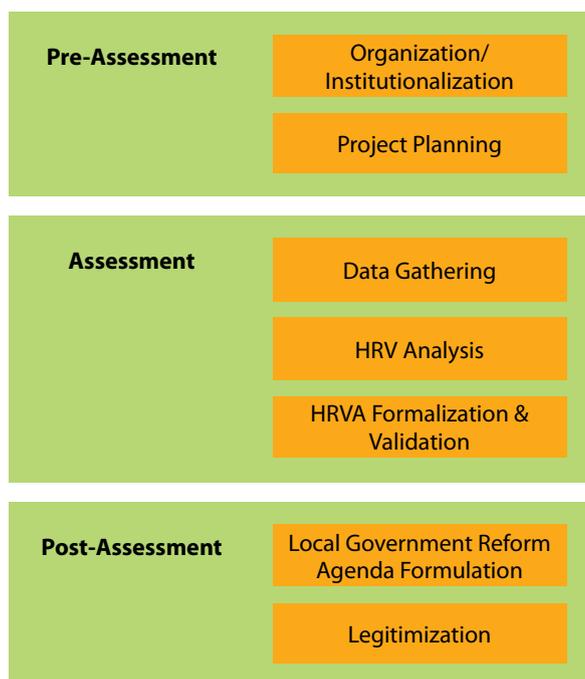
The hazards, risks and vulnerabilities assessment (HRVA) process gave LGUs a better appreciation of their communities' situation. It provided not just an analysis of the communities' vulnerabilities and risks to natural disasters but also of the human-made hazards, vulnerabilities and risks. While the effects of disasters are wide and general, the MDG-focused HRVA helped in identifying specific directions to mitigate their effects on the MDG targets of the LGUs.

HRVA is a part of the overall disaster management process. HRVA particularly strengthens that part of disaster mitigation and preparedness by understanding the community's HRV and integrating the assessment results into local development plans as a long-term disaster mitigation approach and short-term preparedness interventions.

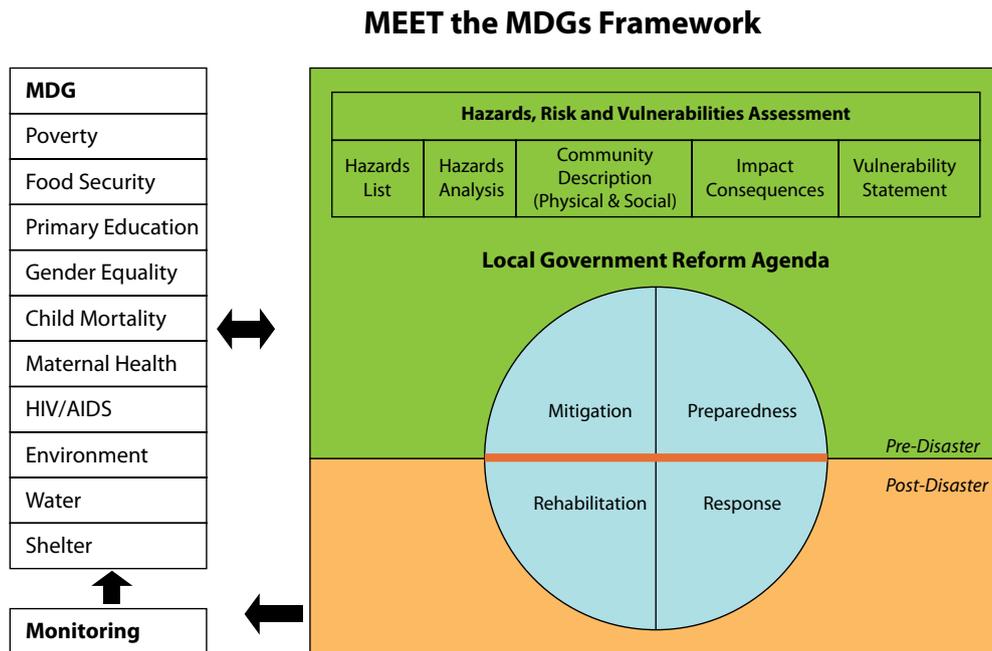
3. Local Government Reform Agenda (LGRA)

The knowledge (i.e., data and analysis) generated by the HRVA process is useful in enhancing the local government reform agenda, a set of policy, administrative, structural/organizational as well as operating agenda for the LGU. These actionable solutions are validated by the community through consultative community assemblies and formal city council deliberations. Examples are the creation or strengthening of organizational structures (e.g., local disaster coordinating councils), inclusion of disaster-mitigation projects in the local annual development plans and budgets as well as conduct of capability-building of communities on disaster management and setting up of response interventions during and after the onset of the disaster.

The diagram below illustrates the processes undertaken in the project.



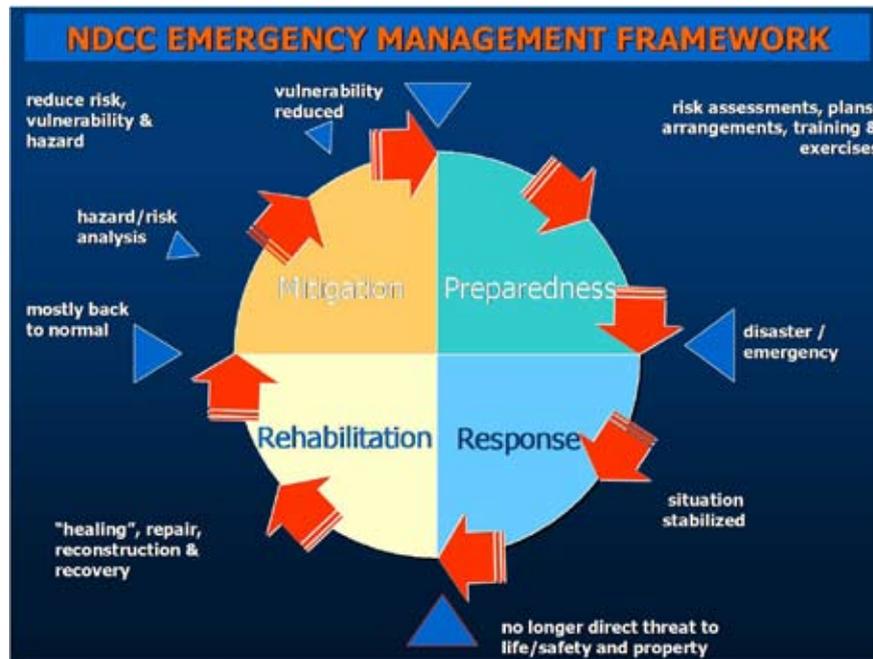
The different project components come together as the MEET the MDGs Framework illustrated in the diagram below.



$$\text{Disaster Risk Reduction (DRR)} = \frac{\text{Hazard} \times \text{Reduced Vulnerability}}{\text{Increased Capacity}}$$

Using the DRR formula above, HRVA identifies the factors of hazards, vulnerability and capacity. LGRA formulation, on the other hand, proposes actions to reduce vulnerability and/or increase capacity of the community. These actions may be long-term which are geared towards disaster mitigation or short-term which are focused on disaster preparedness.

The above framework resonates with NDCC Emergency management Framework adopted by the Philippine Government.





MDG 1: Poverty Reduction

Integrating Geo-Information into
Disaster Management:
A Tool for Poverty Alleviation Processes

Naga City, Philippines



MESSAGE

Message from the Local Chief Executive (including photo and signature)



ACKNOWLEDGMENTS

ACRONYMS

GIS Geographic Information System
ERN Emergency Response Naga
RABUZ

INTRODUCTION

This module focuses on how Naga, a medium-size city in the Philippines, is responding to emerging lessons from the typhoons which hit the city in the last ten years, particularly using Geographic Information System (GIS) as a tool for disaster mitigation and preparedness, and integrating geo-information and spatial data sets into disaster mitigation program for implementing the localization of the MDG in Naga City. The timely availability of relevant information is vital for the operations of local authorities. In the case of dealing with natural disasters like typhoons and floods, geo-information and GIS can be used to improve and organize response to disasters and consequently minimize their impact.

OVERVIEW

Integrating disaster risk management components within the mainstream planning and development activities of local governments is an effective approach to disaster prevention. Studies on the use of GIS in local disaster risk management have been made for several applications, including natural hazard assessment (Carrara & Guzzetti, 1995; Valpreda, 2004), Flooding (Zhang, Zhou, Xu, Watanabe, 2002), and economic vulnerability due to disasters (Veen & Logtmeijer, 2005). Geo-information needs of local authorities have been expanding with their growing disaster management roles from emergency management towards managing the risk of natural disasters and finding more interventions in making MDG work for the city (Cristopolos, 2003; GDIN, 1997; Hoch, Robredo, 2005, 2006). Naga City developed some strategies to lessen the impact of these hazards especially flooding, which is normally brought by typhoons. But sometimes erratic weather conditions especially the presence of erratic rain fall and the presence of anomalous hydro-meteorological phenomena brought floods even without typhoon and caused wide spread destruction to the region.

Geo-information is defined as digital descriptions of geographic locations and characteristics of features, boundaries and phenomena for a given period. Geographic information (or geo-information) can be obtained from GIS applications. Naga City has developed a GIS that is basically used for flood hazard mapping and analysis. Through the hazard maps that were developed locally and with the participation of the community, various strategies were developed and integrated into planning and local governance.

GIS can be used to do a number of useful applications, and disaster preparedness and mitigation is just one of them. Other uses include land use planning, traffic management, and revenue generation (especially real property tax administration), spatial analyses and urban fire management.

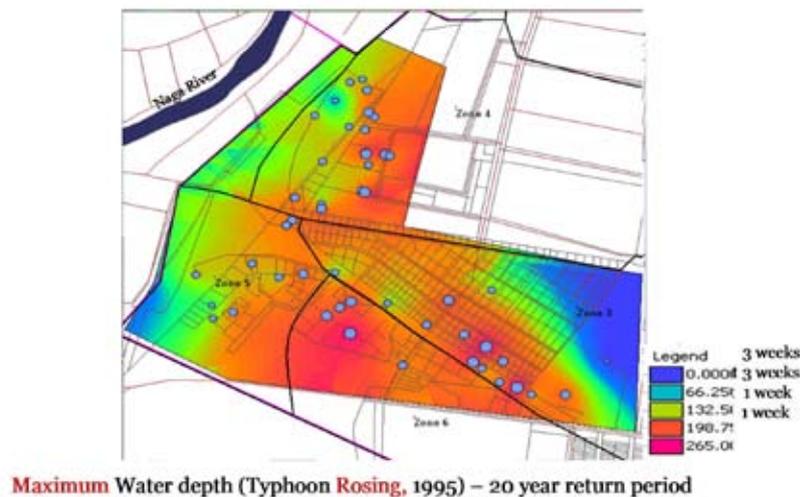
For instance, Figure 1 below shows a computer-generated map of Naga's flood-prone areas using data drawn from the city's experience with Rosing and other weather disturbances. This is one set of data. And since GIS can reflect a number of datasets in layers, a geo-information, these flood-prone areas can be related graphically to other important considerations in management decision making. These would include, for instance, the following:

- The population in the danger zones (which would give local authorities an idea of how many people need to be evacuated and the corresponding resources that would be needed to relocate them) ;

- The road network that will be used (emergency routes) and should be pre-designated
- The community-based organizations existing in these dangers zones (which would give City Hall a list of people it can mobilize as point persons to coordinate the evacuation); and
- The institutions and facilities located near these dangers zones which includes the lifeline facilities (which can serve as potential evacuation centers and service or assistance centers).
- Health Centers, Hospitals, public utilities and their locations

Figure 1

C-B Flood Hazard identification III – Mini survey:



In fact, these GIS applications, reinforced by the lessons learned from, and systems and procedures we implemented during past typhoons, have served as the basis of the City Government's first disaster management manual entitled "**Kaantabay sa Kalamidad.**" Basically, the manual is guided by these objectives:

- (1) minimizing mortality and morbidity in cases of natural and/or man-made disasters;
- (2) establishing protective measures at the earliest possible time to mitigate damages to lives and properties

The manual, adopted since year 2000, contains the following:

- A situational analysis of the city;
- An organizational structure that defines roles and equitably distributes responsibilities among its members before, during, and after disaster strikes;
- An activation and alert system that guides the level of preparations that would be made for an incoming disaster;

- General and specific actions plans that will be implemented under each alert level;
- An action plan that would guide post-disaster recovery operations;
- A listing of the priorities for evacuation and the evacuation centers as reflected in the GIS-generated maps;
- Hazard maps with geo-information delineating vulnerable areas, both physical and social.

The manual puts the Disaster Preparedness and Command and Control (DPCC) in the lead role in disaster prevention, mitigation and preparedness. It tasks the command, an ERN concept, with the responsibility of initiating preventive measures and consolidating damage assessment in the event of natural and man-made disasters. In addition, DPCC can also propose policies that will facilitate smooth and effective response of the City Government in times of disasters.

Naga Kaantabay sa Kausawagan. This program deals with housing and tenure as an invention to eradicate poverty when land tenure is given to the recipients. The city's urban poor office has been working to fully sustain its housing programs by linking with NGO's, NGA's and local provision for the socializing housing concerns at the local level.

Localizing the MDG Program. The city government is very serious combating poverty since the city is the hub to regional development and where immigration is very high due to rapid urbanization. The process integrates MDG programs in developing interventions to deter the effects of poverty to the constituents. These interventions actually form part and are integral in the planning processes at the city level, hence localizing the MDG. These are mainly focused on improving the lives of every Naguenio and having a greater access to basic services. These could be attributed by the following interventions:

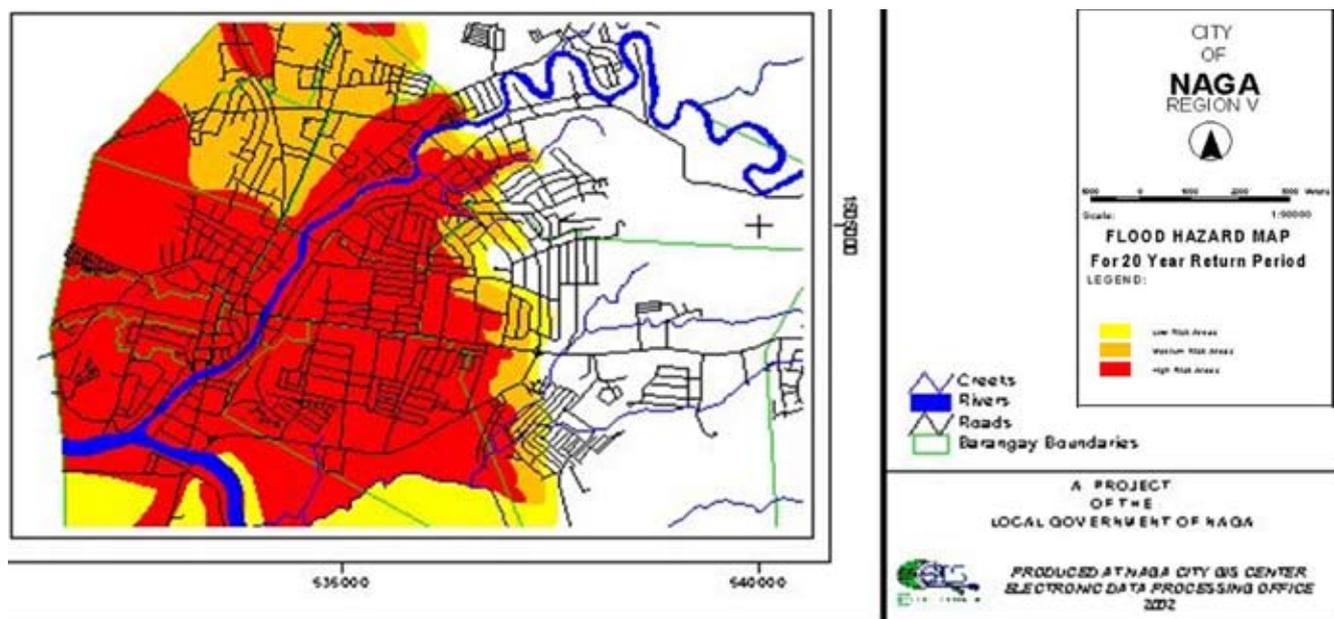
1. Bayadnihon Project
2. Sanggawadan
3. Livelihood Development
4. Employment Generation
5. The i Serve Program
6. Nutri Dunong Program
7. PES project

BRIEF LGU PROFILE

Naga City is located within the Bicol Archipelago at the southern tip of the Philippine's largest island, Luzon. The archipelago straddles the Pacific seaboard on the East and the South China Sea on the west, situating just an hour from either seafront. On the map, it can be located within the 13th and 14th latitude and 124th longitude.

The city covers an area of 84 square kilometers, the bulk of which nestles on the slope of Mt. Isarog, a dormant volcano, while the rest, mostly urban, dips into the region's catch basin, the Bicol River Basin. The city is trisected by two major rivers, the Naga River which flows from the Mount Isarog down the city's agricultural hillside and the larger Bicol River which snakes through two provinces passing the city and out to the Pacific Ocean through the San Miguel Bay . These two rivers merge at the outskirts of the city's commercial center dividing it into three land segments. Both rivers are tidal in nature, rising and ebbing with the rhythm of the Pacific. Floodplains of Bicol River, in the Philippines typhoon belt, experience 2 to 5 typhoons annually and extremely intense rainfall (OIDCI, 1999) (PAGASA 2005). The flood-prone area includes 17 out of 27 barangays, 10 barangays are threatened by strong winds and flash floods. It is inhabited by 85% of the city's aggregate population and holds most of the main economic activities.

The city's idyllic location belies the dynamism of its urban community considered the 'heart of Bicol,' center for commercial, educational and industrial sectors with an economic growth rate exceeding 6.5%. It leads the pace in urbanization and defines the direction of development of the cities and municipalities in the Bicol Archipelago. Currently, most of the low lying agricultural lands have been converted into residential and commercial land use for economic development or increasing investments without a proper expansion plan.



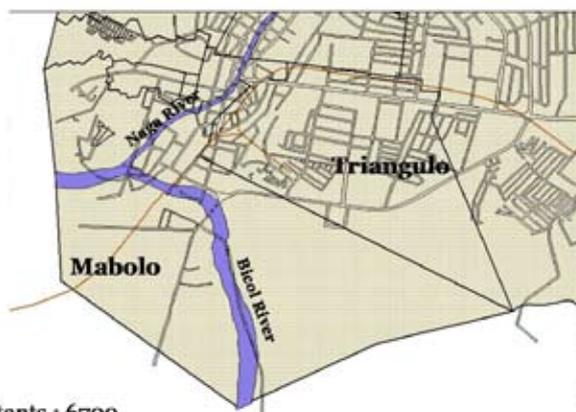
THE LGUS MDG FOCUS: POVERTY

Poverty and disasters are closely linked and mutually reinforcing. Disasters are a source of hardship and distress, potentially temporarily forcing certain groups below the poverty threshold and also contributing to more persistent, chronic poverty. Disasters can result in the loss of lives, homes and assets, disrupt livelihood opportunities, schooling and provision of social services, erode savings and create health problems, sometimes with long-term consequences. Disasters can also disrupt ongoing poverty reduction activities and force a diversion of related financial resources into relief and rehabilitation efforts. Poverty can be further reinforced by deliberate risk-averting, ex-ante livelihood choices that poorer households may make. For example, poorer households may choose to forgo the potential benefits of higher yielding or more profitable crops in favor of more hazard-tolerant ones.

Poor and socially disadvantaged groups are among the most vulnerable to hazards, reflecting their social, cultural, economic and political environments. For instance, the substandard quality and, often, dangerous location of housing (e.g., on flood plains, riverbanks or steep slopes); lower levels of access to basic services, particularly for the rural poor and illegal squatters; uncertain ownership rights, reducing incentives to manage resources sustainably or invest in structural mitigation measures; often more vulnerable livelihoods; and limited access to financial resources, constraining their ability to diversify livelihoods and recover post disaster. The poor can also exacerbate their own risk where limited livelihood opportunities force over-exploitation of the local environment.

BRIEF DESCRIPTION OF THE PROJECT

Study Area:



Profile

Nr Inhabitants : 6700
Nr households: 1166
Main Lh : Laborer
Dwelling mat: Wood

Profile

Nr Inhab: 6900
Nr households: 1362
Main Lh: Vendors
Dwelling mat: Light

C-B Approaches (II):

- 3 Workshops
(2 Triangulo, 1 Maboló)
- Mapping
HVCA
DNCA
FGD
Ranking
Transects

Interviews

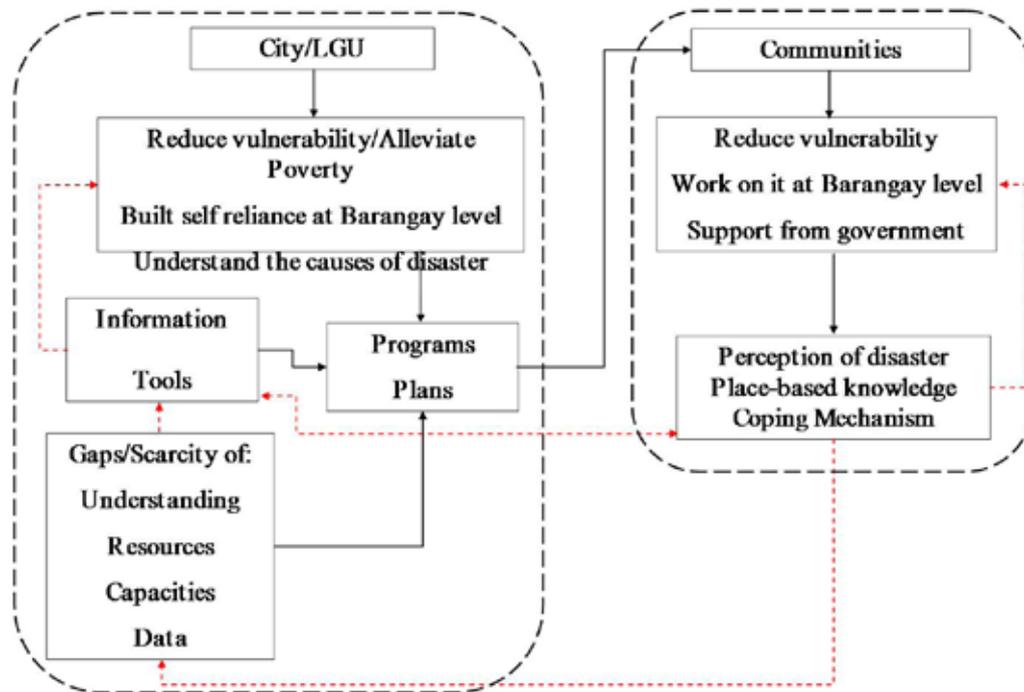


C-B Approaches (I):

- 120 Interviews (60 in each Barangay)
 - Built environment
 - Household composition
 - Means of livelihood
 - Hazards
 - Damage/loss experienced
 - Behavior
 - Coping mechanism

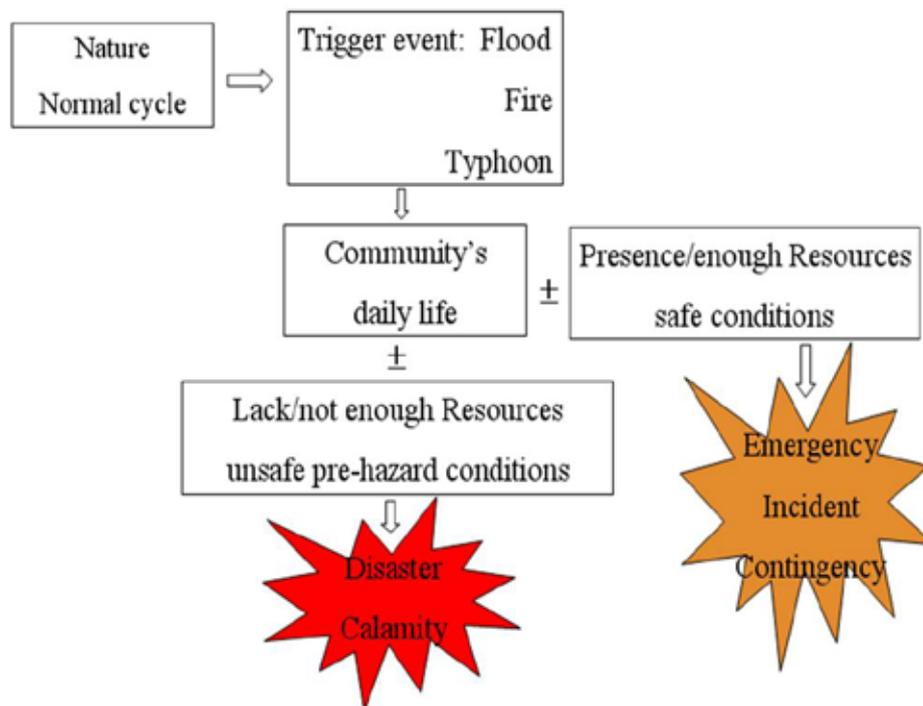


Why spatial information? Maps are one of the means by which people exchange information and knowledge about the world around them. Maps allow people to see complex information more easily. Maps must communicate spatial stories that raise awareness and assist for solutions to issues about which people feel concern.



THE HAZARDS, RISKS AND VULNERABILITY ASSESSMENT (HRVA) PROCESS

A comprehensive disaster risk assessment should first find out what a does a community meant by disaster and why, as well as look into a given community's capacity to respond to or absorb the impact.

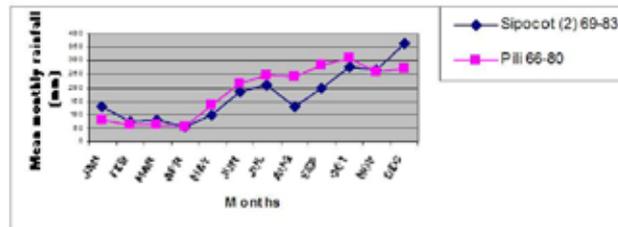
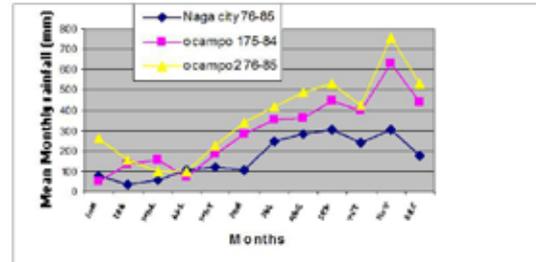
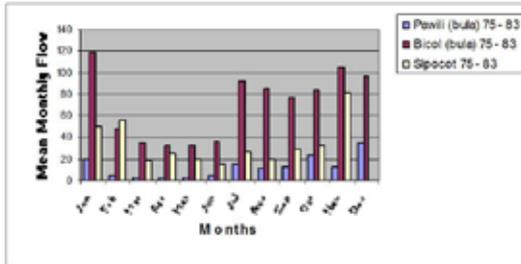


Some resources and conditions at different levels of decision-making:



Community-based Identification of Flood Scenarios - Barangay Triangulo				
Type of flood	Zone	Depth	Duration	Time of occurrence
Rain + Riverine (Naga + Bicol) flooding	6	Up waist (> 100 cm)	7 days	Last quarter of the year (Oct to Dec) sometimes during April 1 – 2 times in a year
	3	Up Waist (> 100 cm ap)		
	4	Waist (80 -100 cm ap)	2 -3 days	
	5	Waist (80 -100 cm ap)		
Flash flooding	6	Chest (140 cm aprox)	2-3 days	No warning 2 events: the first on 1997 and last one on 2000 the whole Naga was flooded Muddy flood apparently related with opening of upstream Nabua dam gates
	3	Chest 140 cm aprox)		
	4	Hips (80 cm aprox)	1 day	
	5	Hips (80 cm aprox)		
Rain + high tide	6	knee (<60 cm)	6 hours	Monthly (combination of heavy rains and high tide during full moon) This zones are at lower level than Naga river
	3	knee (<60 cm aprox)		
Super typhoon	6	> 6 feet (> 180 cm)	3 weeks	Last quarter of the year during rainy season (Oct to Dec) Super typhoon: Sinning /70 (240 kmph) Ruping/80's Osang Rosing/95 Diding/ 87 Monang/95 Loleng/96
	3	> 6 feet (> 180 cm)	3 weeks	
	4	5 feet (> 150 cm)	1 week	
	5	< 5 feet (> 150 cm)	1 week	

Flood Hazard identification II



Events	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan
River discharge						Moderate	Moderate	Moderate	Moderate	High	High	Maximum
Rainfall (regional)					Moderate	Moderate	Moderate	High	Maximum	High	Moderate	
Rainfall (local)						Moderate	Moderate	High	High	High	High	High
Typhoon									High	Maximum	Maximum	High

Moderate
High
Maximum

C-B Flood Hazard identification I

Natural events	Hazard Rank	B'gay Mabulo	B'gay Triangulo
High tide	1	x	x
Heavy rainfall	2	x	x
Riverine flood	3	x	x
Typhoon (rain)	4	x	x
Flash Flood	5	x	x
Super-Typhoon (rain/wind)	6	x	x

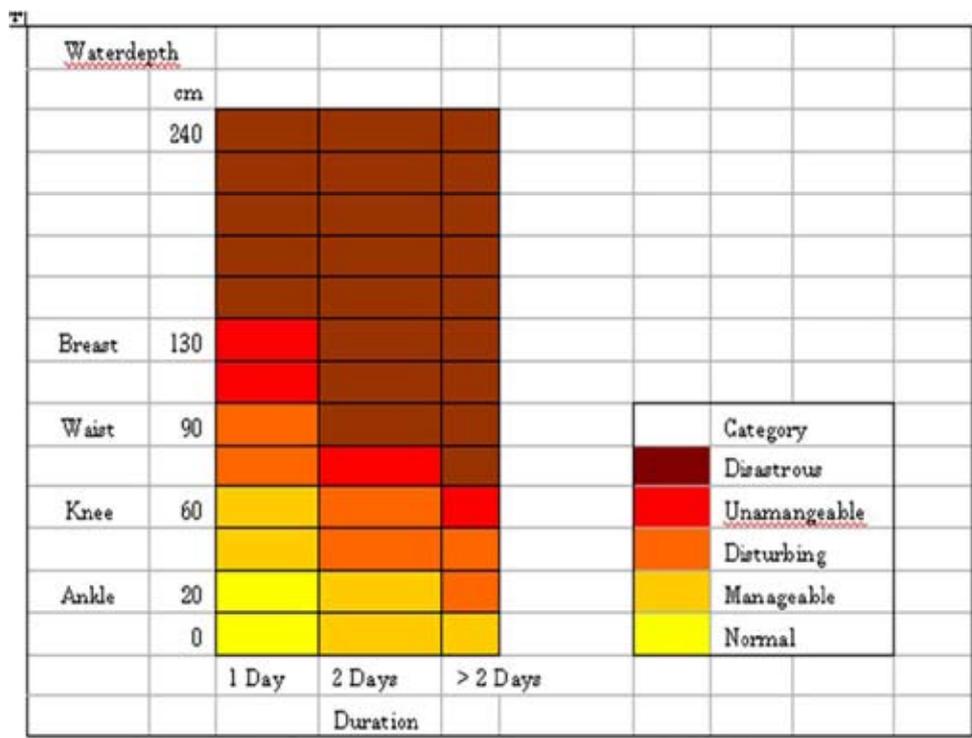
Water-bearing events		High tide	Heavy rainfall	River flood	Typhoon (rain)	Flash Flood	S Typhoon (rain/wind)
		1	2	3	4	5	6
High tide	1		3	4	5	6	7
Rainfall	2	3		5	6	5	6
River flood	3	4	5		7	8	9
Typhoon (rain)	4	5	4	7		9	4*
Flash Flood	5	6	5	8	9		11
S Typhoon (rain/wind)	6	7	6	9	6*	11	

*it is assumed that these two events do not happen simultaneously therefore every event keeps its value on the row

From the community's point of view, the combination of events becomes hazardous when it renders 4 as lowest result. Below this level, some mechanism for coping and adaptation that they have developed bring some protection from dislocation of their daily life (elevated houses, roads). Above this level, these mechanisms that are 'in place' are not enough.

Community-based hazard assessment

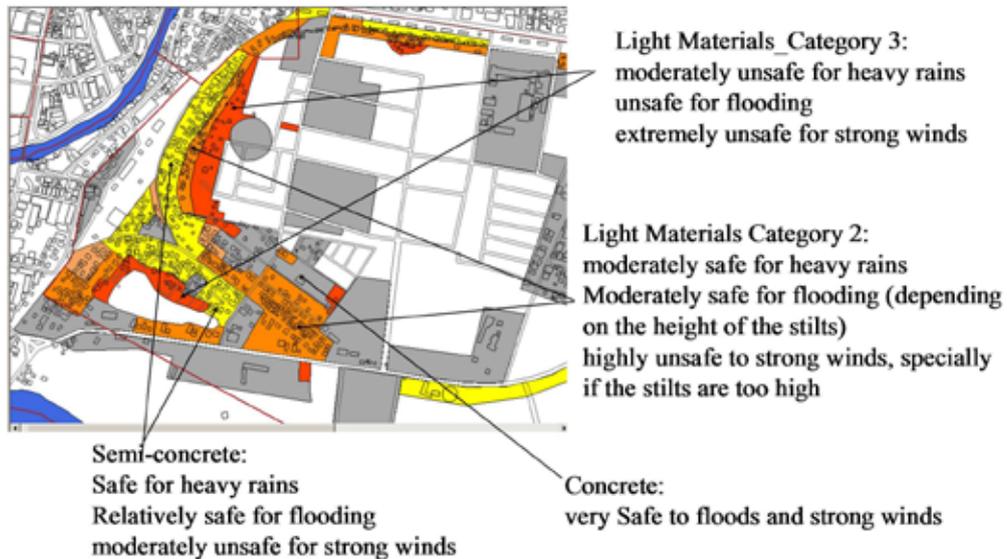
Water depth/cm	Category/ 1 day	Category/ 2 days	> 1 week
> 20 cm	Low hazard	moderate	High
20 - 60	moderate	High	Extremely high
60 -90	High	Extremely high	disastrous
90 – 130	Extremely high	disastrous	
> 130	disastrous		
90 (Waist level) + strong winds	5 hours Disastrous		



C-B Vulnerability to Flood – Barangay TRIANGULO

Vulnerability	Characteristics – Barangay TRIANGULO
	Urban
Houses	light materials semi-permanent houses
Household composition	8 to 10 members (father, mother, 5 to 7 children, in-laws)
Livelihood means	Porters vendors (small scale)
Land tenure	Squatters People with no tenure entitlements People coming from other municipalities
Zones	6, 4 and 3

Built environment – shelter safety – Barangay TRIANGULO



Structural Vulnerability to Flood – Barangay TRIANGULO

Indicators	weight	Low	Medium	High
		1	3	5
Height of pillars	6	> 100	60 -100	< 60
Material of pillars	5	concrete	Wood	Bamboo/others
Walls	5	concrete	Mixed (concrete/light)	Light
No of Floors	3	2	1 ½ (mezzanine)	1
Roof	1	concrete	Iron	Nipa Shingles



Economic Vulnerability to Flood – Barangay TRIANGULO

Indicators	weight	Low	Medium	High
		1	3	5
Main Income source	3	Formal workers Employee, remittance, pension, business, sailor, operator, waitress, security guard, maintenance	Informal workers/ Services providers: Driver Painter Vendor Carpenter Builder Electrician House-maid barber	subordinate activities and marginal living: Farmer Labourer Rice workers Sari-sari stores Porters Pili packers Washer-woman
Location main income source	6	Outside the barangay	Inside barangay	house
Number Income sources	5	More than two	two	one
Daily Income	4	> 34 P/person	29 – 34 P/person	< 29 P/person
Land Tenure	2	owner	Tenant/rented	Informal settlement

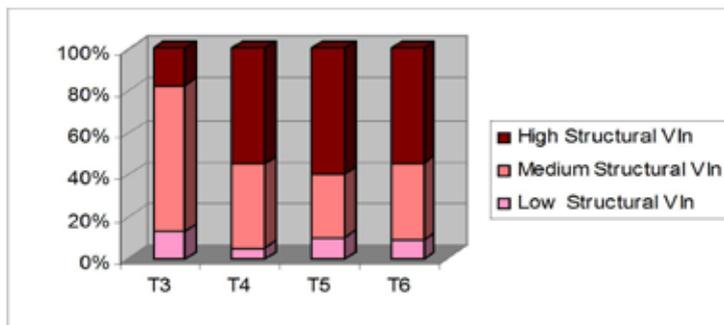
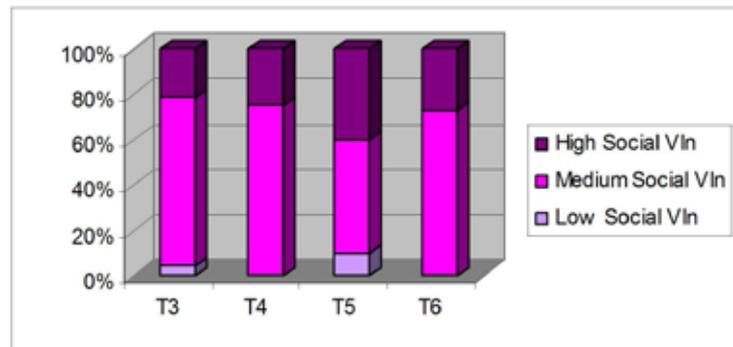
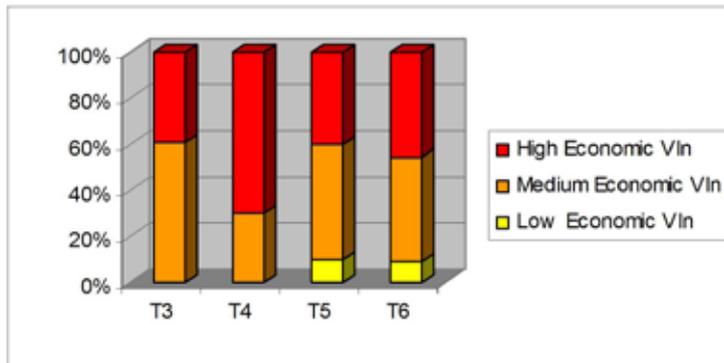


Social Vulnerability to Flood – Barangay TRIANGULO

components	weight	Low	Medium	High
		1	2	3
Nro Residents	4	1 to 5	5 to 9	>9
Dependency ratio	7	>0.5 No dep	0.5 to 1.5 1:2	>1.5 1:>2
Household composition	1	Single family	Two kinship types	More than two kinship types
Age of main income source	6	30 – 45	15 – 30	> 45
Place of origin	2	Barangay	Naga	Outside Naga



Household Vulnerability Analysis – Barangay TRIANGULO





Some reported effects from Typhoon Unding/Yoyong – Nov-Dec 2004

- Houses partially and totally destroyed
- Furniture, appliances, utensils, clothes wet or damaged
- Foul smells and stagnated/polluted water
- Intrusion of garbage and sediments into houses
- Stop working
- Less income
- Less food consumption

Diseases:

Gastrointestinal: Diarrhea, stomachache, Typhoid fever, cholera

Respiratory: Cough, pneumonia, fever, asthma

Waterborne: Dengue (mosquito bites)

Skin infections: (itchiness, allergy, athlete's foot, urticaria)

Increasing poverty..

Transects across barangay zones for hazard and risk Identification



Date	Activity	Venue	Responsible Person
June 7	2-5	2pm	
8	2-6	8am	
9	2-3	10am	
10	2-4	8am	
11	2-1, 2-2, 2-7	-AM/PM	
June 14	1:02pm	L16 meeting	





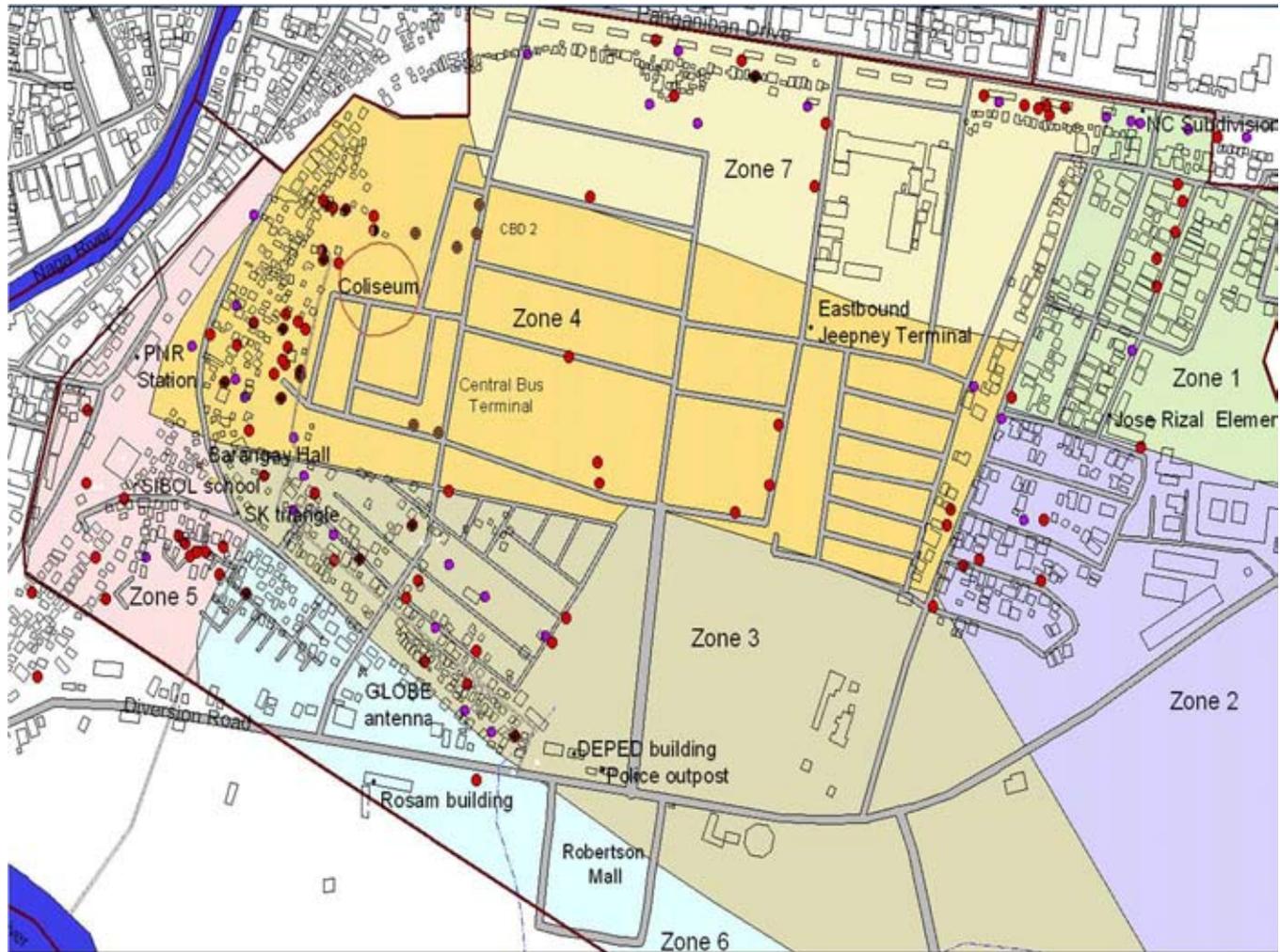
Day	Zone	Kagawad	Hazard and Risk Identified	Capacities
June 7	5	Evangeline Santua Domingo Chavez	Garbage dumping practices, Stagnated waters, clogged drainages Areas with predominance of light materials housing Flood hazard Others: Antennas, open dumping site, billboards	Pick up points for GCS Tunong mo lining mo program UPAO land tenure Call shelter program Gawad kalinga (C4Ch).
June 8	6	Benjamin Bien President of Z6 residents	Garbage dumping practices, Stagnated waters, Clogged- no outlet drainages Damages from past typhoon Areas with predominance of light materials housing Flood hazard Others: Piggeries	Pick up points for GCS UPAO land tenure Evacuation program Ongoing Drainage system
June 9	3	Domingo Chavez Raymund Arevalo	Garbage dumping practices, Stagnated waters (pockets), Clogged- no outlet drainages Areas flooded bcs of the Ongoing DS construction project Areas with predominance of light materials housing Flood hazard Others: Piggeries	Pick up points for GCS Evacuation program Ongoing Drainage system Small scale agriculture lots
June 10	4	Nilda Ballon	Garbage dumping practices, Stagnated waters (pockets), Clogged- no outlet drainages Areas flooded bcs of the Ongoing DS construction project Areas with predominance of light materials housing Flood hazard Others: Piggeries, fires, peace and order	Pathways Pick up points for GCS Security collaboration with CBD officials Relocation program
June 11	1, 2	Domingo Chavez Inocencio Pacheco	Garbage dumping practices, Stagnated waters (pockets), Clogged- no outlet drainages Damages from past typhoon Flood hazard Others: Broken pipe at MSH, Low hanging wires, parking trucks	Garbage collection system Typhoon/flood Relief Small scale agriculture lots
June 14	7	Domingo Chavez	Garbage dumping practices, Stagnated waters (swamps), Clogged- no outlet drainages Flood hazard	Pick up points for GCS Raw housing relocation program Health programs

Garbage dumping practices...

- Transient points: garbage accumulation until collection day
- Burning: accumulation and burning (mostly vegetative material)
- Filling up: garbage is used for building up the level of low-lying land
- Garbage Dumping. Open disposal sites. Some of them exist since several years ago
- Debris dumping: Open areas and empty spaces for earth, debris and garbage disposal



Spatial distribution of waste management practices- Barangay Triangulo



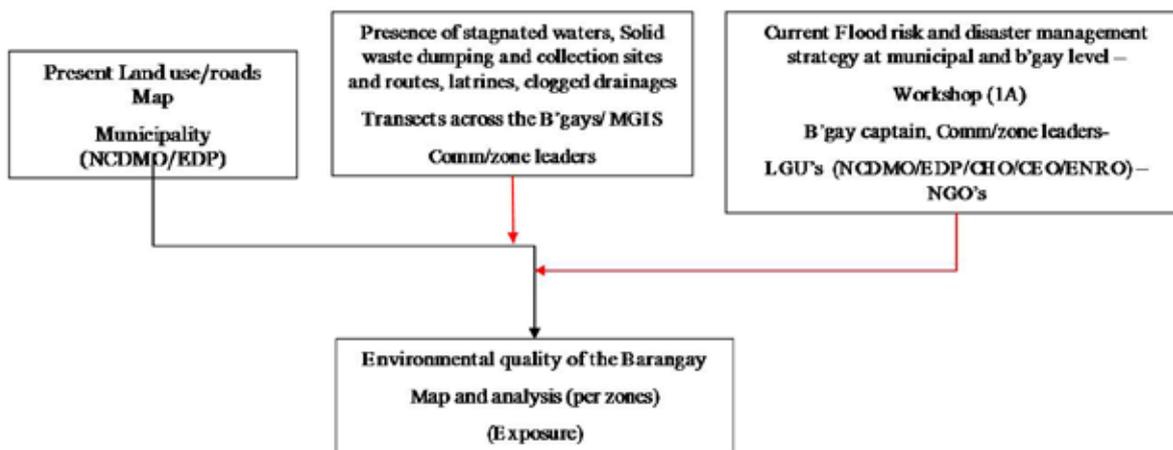
Stagnated waters..

- Natural swamps: remnants of the Bicol and Naga River floodplains originally reservoirs for rainy and flooding water increasingly fed by wasted waters and filled with garbage, debris and earth dumping
- Accumulation areas: low-lying areas in which accumulation of natural and wasted water (from dwellings) take place
- Pockets: small and isolated lots constantly flooded in between built-up areas. Land filling or differences in permeability (concrete) allow accumulation of natural (rainy, flooding) or wasted waters. Also formed by the construction of pathways or “eskinita
- Domestic activities: low-lying bare soil areas with continuous water input from open sources (pumps and public faucets) and water-related activities (laundry or bathing)



Others: Antennas, low hanging wires, billboards, piggeries, open junk shop, broken pipes

Inventory of Environmental Quality (context at Barangay level)



CHO: City Health Officer
 CEO: Engineers Office
 ENRO: City Environment and Natural Resources Office)
 NGO Ladies in Green

Analysis of Inadequate garbage management practices

Hazard	Vulnerability factors	Capacities	Risk
<p>Pollution of flood or any other water accumulation (produced by heavy rains, typhoons, Naga or Bicol river flooding) due to garbage and wasted waters</p>	<ul style="list-style-type: none"> • Low-lying areas susceptible to water accumulation • No proper garbage disposal practices • Lack of sewage and wasted water collection system • Insufficient drainage system • Insufficient coverage of cleaning programmes 	<ul style="list-style-type: none"> • Ongoing construction of drainage system project covering zones 4, 3 and 6 • Waste collection system (segregated in bio and non-bio degradable material) • Cleaning programmes (RABUZ) • Tungod Mo, Linis Mo. (clean your surrounding) • "four o'clock habit" (to prevent accumulation of water in containers) • Ordinance No. 004-S.1997- anti littering • Environmental-related strategies within the CLUP 2000 	<p>Daily life</p> <ul style="list-style-type: none"> • Pollution • low environmental quality • unaesthetic • skin diseases • Water-borne diseases (diarrhoea, fever,) when get in contact with stagnate waters and heavy rains incentive the presence of rats, mosquitoes, cockroaches <p>During and after flooding/typhoon episodes</p> <ul style="list-style-type: none"> • Blocking of road and drainage system • Garbage polluting floodwaters • Production of vegetative materials (branches, trunks, leaves) during typhoon that block roads, drainages and may cause fall and damage light material houses • Increase in water-borne diseases and skin infections affecting specially children • People has to stop working therefore less income • Lack of money to buy medicines

Root causes analysis

- People is not aware of the relationship between inappropriate waste management practices and proliferation of diseases
- Lack of hygienic education
- Lack of discipline
- Lack of authority from Barangay officers and authorities
- People do not obey ordinances about waste dumping
- Ordinances are not totally or strict implemented (imposed)
- Cleaning activities are not fully addressed as flood vulnerability mitigation practices
- Cleaning Programmes are not adequately implemented
- Criteria for selecting areas to be cleaned



SWOT analysis of RABUZ cleaning programme

<p>Strengths: Based on Voluntarism Practiced 1 to 2 times every month (minimum) Mostly intended for cleaning and de-clogging of drainages (siltation and garbage) Most collaboration from residents in zones 3,4,5,6,7</p>	<p>Weaknesses Mostly by officials (kagawads, tanods, zone representatives, youth officials) Not all areas in bigger zones are covered Not enough implements Residents in Zones 1 and 2 (NCS) are not willing to collaborate Low budget Predominance of aesthetical criteria for selecting areas to cover Not fully addressed as vulnerability reduction practice No monitoring from Municipality</p>
<p>Opportunities Get collaboration from other programmes (bankat) and NGO's</p>	<p>Threats Compensation system in stead of voluntary action</p>

SWOT analysis for RABUZ based on Bayadnihan program

<p>Strengths: Vulnerability reduction practice Minimize pollution of floodwaters and therefore its consequences in health Cleaning garbage (bio-degradable and non-biodegradable, littering) concentrated in some areas within the barangay Preventive prune for threes Mostly intended to reach areas that usually are not covered by RABUZ Based on Bayadnihan program Intended to engage UPAO and marginalized families Improve livelihood during 'hard' months Practiced 3 to 4 times (minimum) every year</p>	<p>Weaknesses Poor understanding of cleaning as vulnerability reduction measure May erode voluntarism in other programmes such as RABUZ Requires economical support specially the 'food for work schema' Not enough implements Predominance of aesthetical criteria for selecting areas to cover Should go accompanied by education and, information campaigns Requires monitoring</p>
<p>Opportunities Adapt the RABUZ programme schema Get collaboration from other programmes (bankat) and NGO's Foster vulnerability reduction as part of barangay programmes Improve the waste management programme Foster collaboration among LGU offices and use of spatial information for planning, decision-making and monitoring</p>	<p>Threats Loss of support due to political changes in administration favouritism and unfairness in participants selection Poor socialization among communities therefore not adopted as a regular practice Requires strong collaboration among LGU offices (Disaster management, ENRO, CSWD, UPAO,CHO, EDP)</p>

City Story:

IMPACT OF MONANG AND ROSING

Monang. On December 6, 1993, Typhoon Monang struck Naga and left extensive damage. But to us in the City Government, its aftermath left enduring lessons that would substantially shape Naga's systems for managing disasters.

Monang stood out among the typhoons that have battered Naga in recent times for two reasons:

- Our casualties went up to 8, a relatively high figure considering the short duration that Monang spent in lashing at mainland Camarines Sur. (In fact, its downpour lasted for only two hours.)
- For the first time in Naga's history as a modern city, some areas—including the whole Central Business District—which were otherwise not flooded before, went under water. In fact, flood waters reached an unexpected level of between 8 to 11 feet, enough to submerge an ordinary house. And nine hours later, the waters were gone.

Another factor that contributed to the high number of mortality and morbidity is the generally complacent attitude of most Nagueños towards incoming typhoons. This feeling of indifference even among government agencies and NGOs engaged in disaster preparedness was fueled by the fact that for around five years, Bicol in general was spared from a major typhoon and other natural disasters.

Two major factors were identified to have caused the flashflood. One, it coincided with the high tide which prevented the onrushing flood waters to drain into the Bicol river. Second, there was the inadequacy of the existing forest cover on the slope of Mt. Isarog to absorb the inordinately huge amount of downpour, and water run-off was so enormous that it could not be accommodated by the drainage system and the presence of the phenomena called Medan Julian Oscillation.

Rosing. When news broke out that a super howler named Rosing is threatening mainland Bicol, the City Government and its NGO partners, having learned from Monang's lessons, were definitely more prepared to face the potential catastrophe.

Two days before Rosing was expected to hit Naga, the following precautionary measures were implemented:

- Evacuation centers were identified and prepared in strategic locations all over the urban district.
- Full-blast information drive—through the trimedia and through house-to-house calls particularly in low-lying areas of the city—was initiated to encourage residents to evacuate to higher grounds, especially the evacuation centers.
- With Emergency Rescue Naga (ERN) as lead coordinating unit, the City Government activated and mobilized various line departments and agencies, community-based organizations as well as local NGOs

to undertake preparatory activities such as declogging of canals and drainage lines in low-lying areas; storage of foodstuff and other essential commodities; and safekeeping of properties that might sustain damage in the event of another typhoon of Monang’s magnitude.

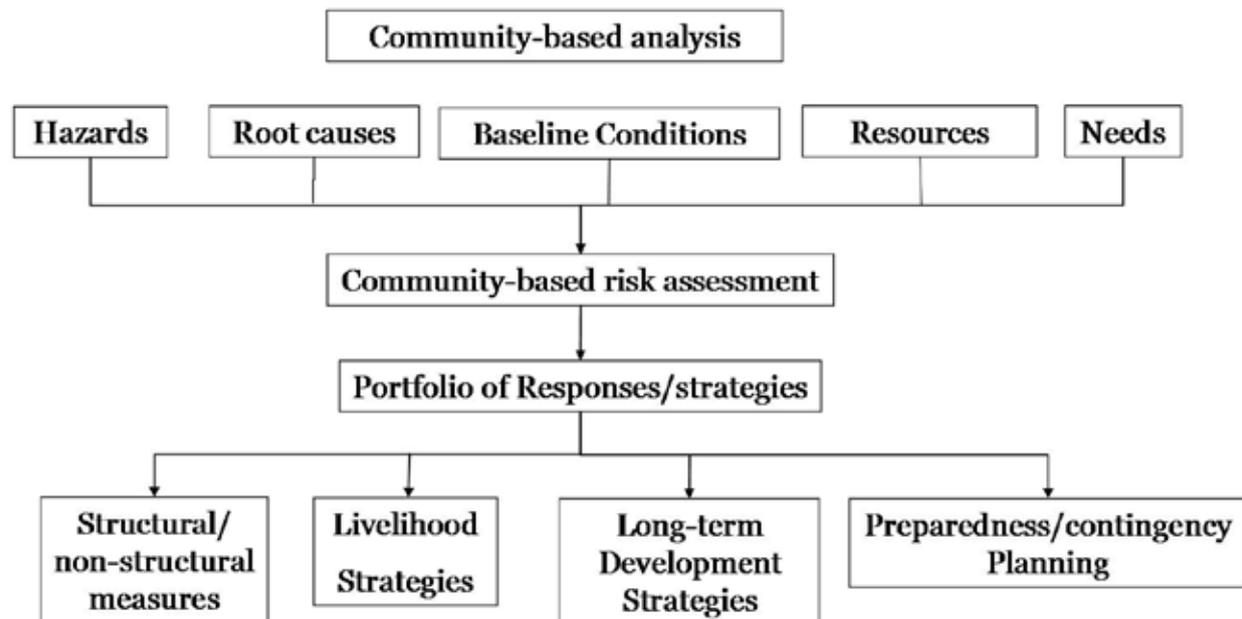
These efforts paid off. For instance, lives lost went down to only two, a 75-percent drop. Morbidity also went down significantly. This is made remarkable by the fact that Rosing, at 265 kph the strongest typhoon to hit Naga in memory, packed stronger winds than Monang, spawned more rain, and caused flooding that lasted for two weeks.

Even then, other unique lessons in disaster preparedness emerged. These include:

- One, the need for mobility even during floods. The City Government’s disasters mitigation activities in general and ERN’s rescue operations in particular were greatly limited by the absence of a water craft. Lately, however, this had been addressed by ERN’s acquisition of a motorized rubber boat.
- Two, the paramount importance of early preparedness was reaffirmed and validated by the reduction in casualties during Rosing.
- Three, it underscored the need for a proactive and more comprehensive disaster preparedness system that would address Naga’s peculiar weaknesses and the need for the city government to develop more interventions to lessen the impact of these hazards to urban poor dwellers of the city.

LOCAL GOVERNMENT REFORM AGENDA FORMULATION

After Community-based Flood risk identification..





IMPLEMENTATION

MONITORING AND EVALUATION

Constraints. Local authorities do not have a standard method for converting geo-information into use within local planning after they have adopted GIS application. The problem of low use of geo-information for local disaster risk management relates to how well the organization articulates its process of designing flood reduction activities, formalize geo-information use in terms of procedures, and reinforces geo-information use through social incentives and disincentives. The stakeholders involved in local disaster risk management; (1) the local authority, its mandate and its offices; (2) the disaster risk expert who tries to give relevant and technical and policy advice; (3) the GIS expert who tries to design a useful application for local flood risk management.

Local authorities of medium-scale cities in developing countries have relatively limited financial resources available to deal with their problems of unemployment, housing shortages, public health and sanitation, sewage and waste disposal, inadequate infrastructure, environmental pollution and crime. Typical tasks for local authorities are fund generation through local taxation, issuing permits to regulate land use and building construction, issuing permits to regulate economic and social activities. Against this backdrop of problems, disaster risk reduction does not receive adequate attention from local authorities except when a disaster becomes a focusing event. When GIS applications are obtained in order to assist in relevant local planning and decision making, GIS applications are not maximized if they are used at all.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rainy/typhoon season												
Hardship months												
Cleaning Sessions	1				2			3		4		

CRITICAL NEXT STEPS AND DIRECTIONS

A few might say that GIS applications can be done manually. To a certain extent, they are right. But when one factors in other parameters in disaster management like traffic flow, road elevation and distance between evacuation and disaster operation centers in finding the fastest route, manual GIS becomes complicated, cluttered and cumbersome. If disaster risk components are to be integrated within the mainstream planning and development activities of local authorities, the geo-information on flood reduction have to be deliberately infused into their targeted development activities.

In the next two years, the city envisions to put in place a system that is proactive and comprehensive. It will be proactive in the sense that the City Government will already be able to quantify with acceptable accuracy the magnitude of potential disasters, and the corresponding level of preparedness it would require. It will be comprehensive in the sense that it can generate basis for legislation that can minimize damage to lives and properties; facilitate infrastructure planning, particularly as regards positioning of flood-control systems; and generally increase people's awareness about disaster prevention, mitigation and preparedness.

This will be made possible by the capability of GIS to do three-dimensional modeling anchored on an accurate topographical profile of the city. This 3-D model would, theoretically, enable Naga to do the following;

- Predict the magnitude of flooding that a given typhoon will bring. Based from our experience, this model will factor in, among other parameters, (1) the tides, (2) the amount of rainfall, and (3) the absorptive capacity of Mt. Isarog's forest cover. Or the water run off.
- Put in place the corresponding preparations more efficiently and effectively. This would require putting in place a hierarchy of alert levels (where each level would mean that certain communities are already at risk), and the required responses in terms of evacuation centers, foodstuffs and other critical commodities. Our disaster management manual, in fact, already contains approximations of these alert levels, since that the villages had developed their own hazard maps, this system will be based in the village level.

- Enact proactive legislation that would prevent or discourage further development of low-lying areas and natural waterways (as delineated by the computerized model) into residential or commercial zones.
- Rationalize the drainage (and possibly dike) building projects of the City Government for optimal impact.
- Develop a river engineering study that will comprehend flood models
- Develop a comprehensive drainage master plan
- Update its comprehensive land use plan with focus on the future land uses and integrating geo-information in a risk based planning.
- Develop more linkages in GIS and Spatial planning with institutions, Educational centers etc.

Research and education in emergency preparedness and response are crucial as we search for conditions that are hazardous to life and habitat, undertake mitigation efforts, and respond during emergencies to reduce loss of life and property, and settle and restore a damaged environment. In some instances, we found that early warning systems need to be built, while in other instances, we need to change more fundamental elements such as land use and lifestyle. In almost all instances, large databases that contain information on humans, their activities, and their habitat are necessary. We need to ensure that these data are accessible to assess risk, prepare to engage disaster, and aid in effective response and settlement. Although the tools must be engineered to effectively assist emergency workers, we must also ensure privacy of the individual so exploitation can not occur.

The question is whether advances in research and education priorities might contribute to needs within the application of emergency preparedness and response. By identifying and recommending priorities for research, education, and policy contributions to emergency management, a focus for geographic information science for this application challenge can be identified. The interaction between humans and their environment under conditions that are hazardous to life and habitat can be facilitated through advances in geographic information science.

Through emergency preparedness and response we will be able to realize shifts where policy can be more directly linked to underlying processes rather than simply the form that appears during and as result of a disaster.



GLOSSARY

Geo-information are digital descriptions of geographic locations and characteristics of features, boundaries and phenomena for a given period. Geographic information (or geo-information) can be obtained from GIS applications for assessing natural hazards have been developed both in commercial or locally tailored to suit for its needs.

Flood risk management includes the spectrum of activities aimed at reducing the risk factors (hazard and vulnerabilities) existing in flood-prone areas and consequently to prevent or lessen the harmful impact of floods on the people, environment and economy of a given community.

Information management system is a process by which the distribution of resources and conditions at city, community, household and individual level can be monitored.

Nagueños Residents of Naga

HRVA WORKSHEETS



OTHER ANNEXES



MDG 1: Food Security

Science City of Munoz, Philippines



MESSAGE



Republic of the Philippines
Province of Nueva Ecija
SCIENCE CITY OF MUÑOZ



OFFICE OF THE CITY MAYOR

M E S S A G E

The underlying objective of disaster awareness is to know how to act and react when faced with such situation. It has been a primordial sentiment amongst us to defend ourselves or at least prevent a calamity waiting to happen which at the onset seems like a tall order unless we are equipped with the proper knowledge, training and logistical requirements. Hence, the conception of this Hazard Risk Vulnerability Analysis (HRVA) to help us counter such calamities and untoward incidents that may happen and provide us with necessary details on how to neutralize the dangers that come with this kind of circumstances.

This HRVA provides relative pointers on how to better respond to adversity and tackle several aspects of disaster preparedness such as food security, medical concerns and insightful procedures on addressing disaster-related problems. It also shows the liabilities we have in our preparations, which somehow will indicate what we need to improve on in designing better preventive programs for the safety of the vulnerable sector of our locality.

The Science City of Muñoz wishes to extend its sincerest appreciation to the “Meet the MDG Project” under the leadership of its Project Manager, Juan Blenn Huelgas and the UN-Habitat, for the support and help they gave in the development of this project. Their technical expertise greatly assisted us in making this HRVA informative and accessible to everyone.

May the partnership between UN-Habitat and the Science City of Muñoz continue in our aim of becoming a premium science city and the delivery of impartial public service to our constituents.

NESTOR L. ALVAREZ, Ph.D.
City Mayor



PREFACE

The Hazards, Risks and Vulnerabilities Assessment (HRVA) Guidebook was prepared primarily by the HRVA Core Team of Science City of Muñoz to assist the City Disaster Coordinating Council (CDCC) and Barangay Coordinating Council (BCC) in the preparation of Disaster Management Plan and formulation of Strategic Framework to mitigate the threat of both natural and human-made disasters.

The criterion was presented mostly by a combination of narrative and tabulated form to facilitate easily the understanding of readers. The guidebook offers basic steps in the formulation of HRVA and provides basic community profile related to the concept of the study. In addition, sample forms, sample letters, pictures and other photographic representations were integrated in the guidebook for better understanding. The materials presented are the actual scenarios that happened during the conduct of the study of the HRVA Core Team which teamed up with CDCC, BDCC, POs, NGOs, and stakeholders.

For this edition the HRVA Core Team wishes to express their grateful acknowledgement to those who worked with them making possible the publication of this guidebook.

The HRVA Core Team

ACKNOWLEDGMENTS

The HRVA Core Team convey its deepest gratitude for all the support we received; to UN-Habitat, CDCC, BDCC and to all who assist the team in one way or another and made this humble guidebook possible for publication, again THANK YOU VERY MUCH!

THE HRVA CORE TEAM



ACRONYMS

MEET - Mitigating the Effect of External Threats

HRVA - Hazard-risks Vulnerability Assessment

CDCC - City Disaster Coordinating Council

BDCC - Barangay Disaster Coordinating Council

ARC - Agrarian Reform Communities

UN-HABITAT - United Nation Resettlement Programme

MDG - Millennium Development Goals

LGU - Local Government Unit

PAG-ASA - Philippine Atmospheric Geophysical Astronomical Service Administration

IRA - Internal Revenue Allotment

DA - Department of Agriculture

PhilRice - Philippine Rice Research Institute

CLSU - Central Luzon State University

PCC - Philippine Carabao Center

BPRE - Bureau of Postharvest Research and Extension

BFAR - Bureau of Fisheries and Aquatic Resources

NFFTRC - National Freshwater and Fisheries Training and Research Center

UPRIIS-CMIPP - Upper Pampanga River Integrated Irrigation System-Casecnan Multi-purpose irrigation and Power Project

DENR - Department of Environment and Natural Resources

DOST-NE - Department of Science and Technology-Nueva Ecija

RSTC - Regional Science and Technology Center

SWRMC - Soil and Water Resources Management Center

RCPC - Regional Crop Protection Center

RMCARES - Ramon Magsaysay Center for Agricultural Resources and Environmental Studies

ATI - Agricultural Training Institute

NSRC - National Small Ruminant Center

PhilSCAT - Philippine-Sino Center for Agricultural Technologies

FVSC - Fruits and Vegetables Seeds Center

LWUA - Local Water Utility Administration

NEECO II - Nueva Ecija Electric Cooperative II

PLDT - Philippine Long Distance Telephone Company

SWIP - Small Water Impounding Project

SRIP - Small Reservoir Impounding Project

CBMS - Community-Base Monitoring System

INTRODUCTION

This guidebook is the product of the joint initiative of United Nations Human Settlements Programme (UN-Habitat) and the City Government of Science City of Muñoz to mitigate the threats of hazards in the locality. Specifically, this guidebook focuses on MDG 1 – Food Security and the hazards that threaten this important MDG target namely: flooding, drought and pest infestation.

The principal concept underlying in this guidebook is to strengthen and enhance the city's preparedness to the threats brought about by natural hazards. It stresses the importance of being prepared through identification and mitigation of potential hazards. More importantly, this guidebook will be a useful reference for disaster managers and will serve as an indicative guide for them in assessing past disaster events and potential hazards that have affected the communities.

The guidebook is simple and straightforward to use and presented in a practical and ready reference style. It enumerates and discusses the processes involve by means of step-by-step procedures of activities. The guidebook has five stages composed of different activities; these are Planning Stage, Data Gathering, Data and HRVA Assessment, Government Reform Agenda Formulation and HRVA and GRA Legitimization.

It is hoped, that this guidebook will serve as a useful tool for local government units in planning, assessing and responding to the threats of hazards in the localities.



OVERVIEW

Agricultural activities in Science City of Muñoz are mainly affected by hazards particularly flooding during wet season, long drought during dry season and the perennial problem in agricultural infestation. These hazards burden the farmers in their efforts to produce more agricultural goods.

In 1991, the Science City of Muñoz was affected by long drought. Minimal rainfall occurred during dry season and temperature increase during summer. Rainy season occurs late in the third quarter of the year. Delay of rain affected the activities in farming and proximity of drought has been expected.

In 2003 and 2004, typhoons “Chedeng” and “Yoyong” visited the city and damaged millions worth of agricultural crops. The two major bridges were devastated. Typhoons brought voluminous amount of rain water causing the Baliwag River and irrigation canal to overflow.

Insect infestation is the perennial problem in farming system. Its irreversible effect in plant growth and development cannot be kept back by farmers. In year 1991, growth of insect infestation in the nearby provinces has occurred. Although the Science City of Muñoz has not been affected by the said infestation, the threat this hazard occurring in the city cannot be ignored.

The development of the Science City of Muñoz mainly relies on the economic stability of its agricultural sector. Hazards directly threaten this development.

BRIEF LGU PROFILE

The Science City of Muñoz is one of the five (5) cities of Nueva Ecija. It has a population of 73,846 (2005 CBMS) with an annual growth rate of 2.56 %. It has a total land area of 16,305 hectares and considered agricultural in nature.

Science City of Muñoz is an agricultural community considering that eighty percent (80%) of its total land area is devoted for agriculture. Muñoz is a home agricultural research and development institutions which dedicated its expertise to the development of latest technologies in agriculture. These research and development institutions are partnered with City Agriculture Office in dissemination of up-to-date knowledge in the field of agriculture.

Nueva Ecija is the rice bowl of region III and Muñoz contributes an average of Eighty Five Thousand (85,000) tons (according to data provided by Local DA Office) of rice every year. This production is equivalent to 20% of the total rice production of the Province of Nueva Ecija.

Rice cropping in Science City of Muñoz is undertaken twice a year, wet and dry season. Twenty percent of agricultural land was irrigated by Pantabangan Dam, thirty percent by means of deep well, ten percent by SWIP and SRIP and the remaining areas are by rain fed and other sources of irrigation.

The city is bounded by six (6) municipalities and one (1) city, all farming communities. The city belongs to the “W” Growth Corridor of Central Luzon where the city is tasked to share its expertise in agri-technologies towards the development of the region. Muñoz is also home to the prestigious Central Luzon State University (CLSU) where most of the R&D centers and other centers of excellence are located.

Nationally, it is known as the first and only Science City of the country and probably the first legislated Science City in the world. It is visualized to be known as a source of innovation, new knowledge, and breakthroughs in the field of agricultural research and development. Being one of the most prestigious communities in the field of agricultural technology, the city is tasked to produce high yielding rice varieties, advance machineries in agriculture and continuous research in propagation of domesticated farm animals that can be utilized by farmers. These research and development institutions have a common goal of securing food for every household.

The city's vision states:

“The science city of Muñoz as an exemplar of good local governance, progressive and globally competitive, promoting the application of agricultural science, technologies, culture and the arts in an atmosphere of harmony and peace.”

It aspires to the following Mission:

Muñoz capitalizes on the presence of the various Research and development Centers and other related institutions to advance its mission, that is: to unite this institutions and establish a common direction in transforming the countryside into a huge learning laboratory for technology promotion, rural development, productivity and profitability, and educational and agro-tourism, and center for culture and the arts.

MDG FOCUS: FOOD SECURITY

The Science City of Muñoz focuses on Millennium Development Goal Number 1 which is the Eradication of Extreme Poverty and Hunger. It is always the city's mission to provide food for every household.

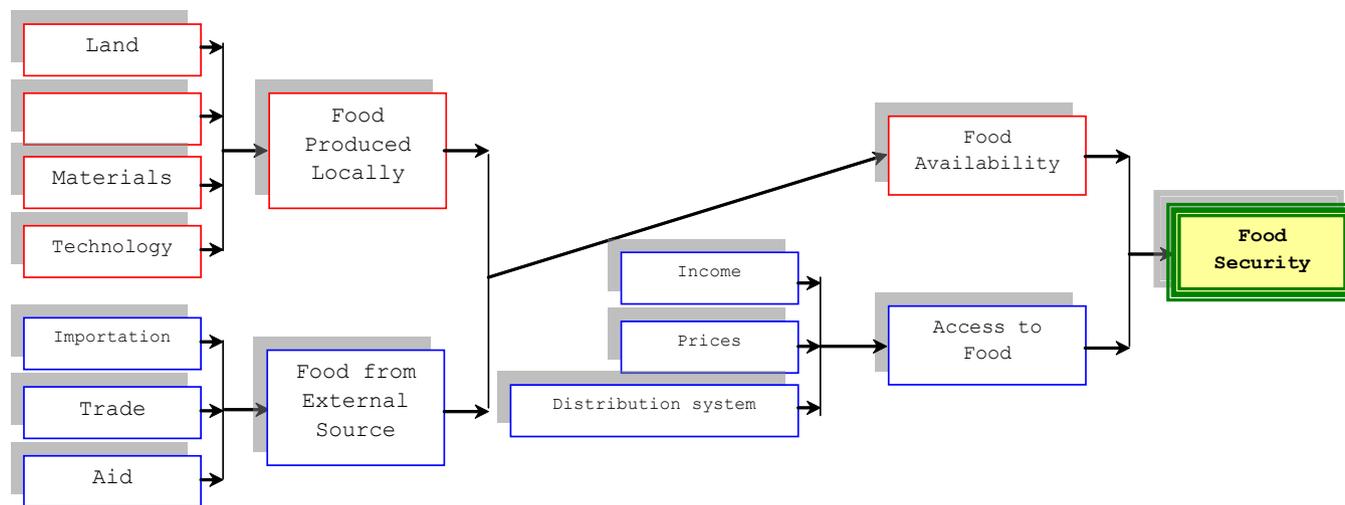
In order for the city to attain this mission, volume of food produce must be enhanced. These may be attained through provision of advance agricultural machineries, hi-breed rice seeds, improvement of agricultural practices, dissemination of agricultural breakthroughs to the farmers and limited conversions of agricultural land into commercial, industrial and residential areas. Those are some expenses that the city government can be provided to the producers to enhance their production of foods.

Food security in the city can be measured through volume of production. Corruption, political conflicts, high cost of farm inputs and land disputes contribute to the decline of food security which can lead to famine. Those are man-made calamities that hinder the development of agricultural sector in the community.

Availability of food mainly depends on environmental condition in an area. The city experiences the environmental threats in past few years where agricultural sector is mainly affected. Statistics gathered by the local Agricultural Office and experience of its staffs tell how natural calamities affected the production of farm commodities in the city. Cost of farm inputs, land conversions, labors and technology are factors that can be controlled by human or government in farming system but the disastrous effects of natural calamities remain a threat to the farming communities and agricultural production.

Importation and trading of rice and aid from other countries are the external source of food in a community. Income of household also tells if they have access on food. Prices dictate the affordability of food to a community. Even distribution system or transportation availability will show how affordable the food to the community.

The following diagram illustrates the framework for analyzing the factors that contribute to food security. These are also the factors where the HRVA will be directed on.



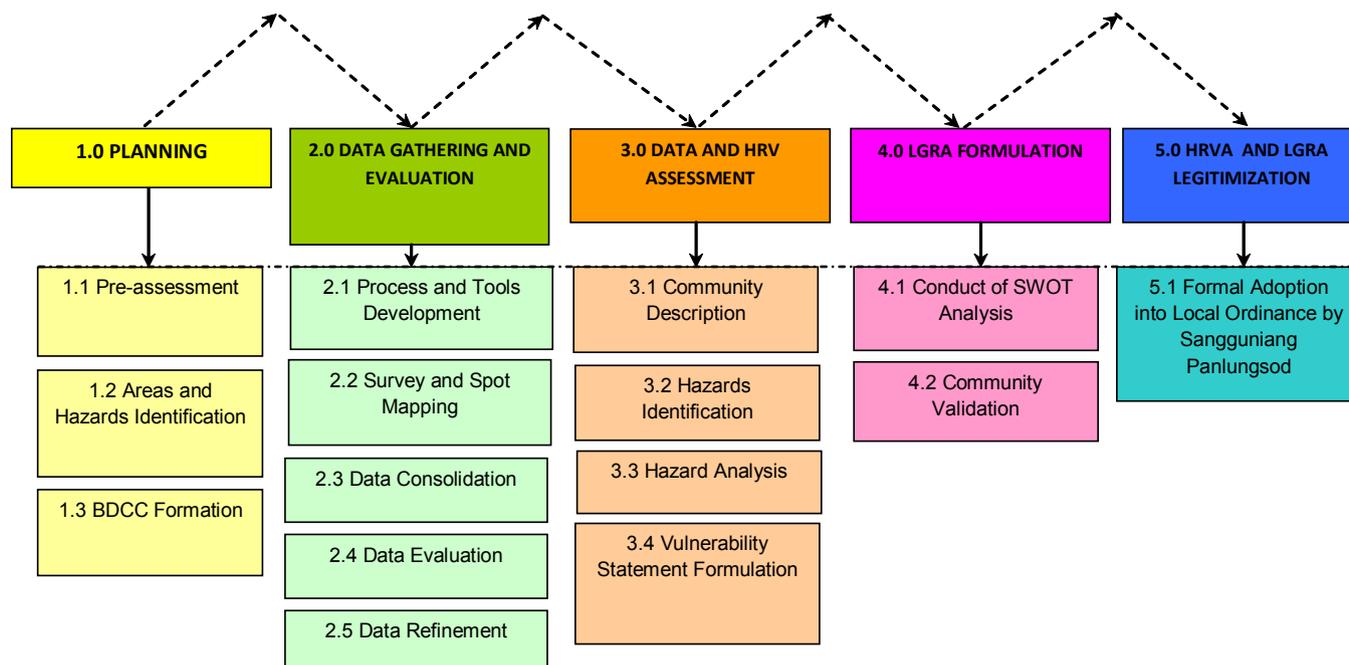
BRIEF DESCRIPTION OF THE PROJECT

The Project focuses on ensuring that Disaster Management and Hazard-based Vulnerability and Risk Management (HRVA) are mainstreamed into the UN-Habitat resource cities development planning technologies and processes. This is done through the introduction of the HRVA assessment tool and strengthening the city's capacities in doing hazard based vulnerability and risk assessment.

Objectives of the study:

1. To familiarize the members of the City Disaster and Coordinating Council, HRVA Core Team and community at risks in mitigating the effect of external threats in the attainment of Millennium Development Goals
2. To involve the community at risks in formulation of Disaster Management Plan
3. To provide the stakeholders basic understanding of objectives of conducting the Hazard-risk Vulnerability Assessment
4. To discuss briefly the role of HRVA in the attainment of Millennium Development Goals

THE HAZARDS, RISKS AND VULNERABILITY ASSESSMENT (HRVA) PROCESS



1.0 . PLANNING

The planning process involves the orientation of the core team on the nature, scope and objectives of the project. It identifies the activities that the project has to undergo for the proper implementation of the project. It covers the following sub processes:



1.1 Pre-assessment

a. Program Orientation

Objective of the Activity

- To familiarize the CDCC members in the scope of the project
- To produce a HRVA Guidebook that focuses on food security for the city
- To formally create the HRVA Core Team to manage the conduct of the study
- To Reconvene/organize of the City Disaster Coordinating Council
 1. The HRVA Core Team was created to conduct of HRVA Assessment in the city.
 2. Coordination with the focal person of UN-Habitat regarding the updates of orientation of the Core Team to the person concern
 3. Issuance of letter of invitation to the members of the CDCC for orientation of the project
 4. Preparation of audio-visual, venue and materials needed in the orientation of the project.

b. Official Recognition of Composition of HRVA Core Team

1. Preparation of Letter of Invitation for the members of CDCC for the formal selection of members of HRVA Core Team. Qualification of selected members of HRVA Core Team was based on their functions, position, expertise and roles to perform the functions as members of the HRVA Core Team. The team members must have at least one of the following qualifications:
 - a. Member must have experience in undertaking infrastructure projects and related civil undertakings for the rehabilitation of devastated properties.
 - b. Experience in rendering social services
 - c. Financial expertise in handling and budgeting of funds
 - d. Expertise in planning and management
 - e. Medical professional that can be utilized during emergencies
 - f. Monitoring and evaluation of city's agricultural produce
 - g. Technical staff

c. Re-orientation and Planning of the HRVA Project

Objectives of the activity

- To orient the member of the HRVA Core Team on the project
- To identify and clarify the HRVA forms to the members of HRVA Core Team
- To be able to produce series of plans and activities to be undertaken during the conduct of activities

Pre-activity

1. Information dissemination to the selected members of HRVA Core Team
2. Preparation of materials needed with regards to the re-orientation of HRVA program
3. Preparation of resource person

During discussion

1. Presentation of the chairman to the HRVA Core Team of the background of the project
2. Group discussion of the processes/work plan to be undertaken during the conduct of the study and some important inputs of the members
3. Development of process flowchart
4. Finalization of work plan and activities undertaken

Listed on the table below is the work plan of the HRVA Core Team

ACTIVITY	RESPONSIBLE OFFICE	TARGET
1.0 PLANNING STAGE		
1.1 Pre-assessment	HRVA Core Team	Formation of groups to manned the project
1.2 Identification of possible hazards	CDCC-HRVA Core Team	Identified hazards to be assessed
1.3 Identification of areas mostly affected by hazards	CDCC-HRVA Core Team	Identified areas to be assessed
1.4 Formation of Barangay Disaster Coordinating Council in the selected areas and orientation of the project	CDCC and HRVA Core Team	List of selected members of BDCC duly oriented
2.0 DATA GATHERING AND EVALUATION		
2.1. Process and tools development	HRVA Core Team-CPDO	Identify the tools to be utilized
2.2. Conduct of Survey	CPDO	To capture data related to the study
2.3 Data Consolidation	HRVA Core Team-CDCC	To consolidate data ready to analyze
2.4 Data evaluation	HRVA Core Team-CDCC	To Evaluate the captured data
2.5 Refinement of data captured	HRVA Core Team-CDCC	To finalize the data captured

3.0 DATA AND HRV ASSESSMENT		
4.0 FORMATION OF GRA		
4.1 Identification of GRA	HRVA Core Team-CDCC	To identify the GRA through concern institutions
4.1.1 Convene	HRVA Core Team, CDCC and BDCC	
4.1.2 Conduct of SWOT Analysis	HRVA Core Team-CDCC and concern institutions	To identify SWOT of the areas concerned
4.1.3 Setting-ups the target	HRVA Core Team, CDCC and BDCC	To formulate targets to be addressed by the project
4.1.4 Formalization of GRA	HRVA Core Team, CDCC and BDCC	Approval of GRA by the HRVA Core Team, CDCC and BDCC
4.2 Legitimization	Sangguniang Panlungsod	Approval of GRA by Sangguniang Panlungsod
5.0 FORMALIZATION OF HRVA		
5.1 Preliminary write-ups of HRVA Guidebook	HRVA Core Team and CDCC members	Draft write-ups of HRVA Guidebook
5.2 Submission of draft write-ups of the HRVA Guidebook	HRVA Core Team	Submitted to UN-Habitat focal person
5.3 Final write-ups of the HRVA Guidebook	HRVA Core Team	Submission of final write-ups before the deadline
5.4 Publication of the HRVA Guidebook	UN-Habitat	HRVA Guidebook ready for public reference

1.2 Identification of hazards and areas mostly affected and description of the areas identified

Objective of the activity

- To identify strategically the hazards that greatly affects the MDG
- To identify areas mostly affected by the hazards

Pre-activity

1. Preparation of venue and materials to be utilized in the said activity.

During the session

1. In focus group discussion, members were asked to share their actual experience. For example, based on his experience, Mr. Nemesio Macabale identified the four ARC barangays mostly affected by flooding, six barangays mostly prone to drought and six barangays mostly affected by insect infestation.

2. The team identified barangays with the highest contributions to food production. Based on land area and volume of production, the following barangays in the New ARC are:
 - a. Gabaldon
 - b. Linglingay
 - c. Mangandingay
 - d. Rang-ayan
 - e. Villa Isla
 - f. Villa Santos
3. The bases for evaluation are data from actual experience and previously conducted surveys.
4. The team identified on the map areas where flooding, drought and insect infestation occur based on the data collected and experience of the HRVA core team.
5. The result of this process is summarized on the table below

Identified Areas (New ARC)	Land Area	Population	Total Number of Households	Total production in Mt/ha/cropping	Hazards
Gabaldon	447.0863	1680	380	4.17	Insect Infestation, Long drought, Flooding
Linglingay	673.4620	2264	498	5.49	Insect Infestation, Long drought, Flooding
Mangandingay	919.1019	1457	350	6.0	Insect Infestation, Long drought, Flooding
Rang-ayan	374.6428	2014	454	5.19	Insect Infestation, Long drought, Flooding
Villa Isla	689.6129	2230	522	5.72	Insect Infestation, Long drought, Flooding
Villa Santos	267.8643	755	251	5.06	Insect Infestation, Long drought, Flooding

1.3 Formation of Barangay Disaster Coordinating Council and Orientation of the project to the selected members and Enumerators

Objective of the activity

- To form the Barangay Disaster Coordinating Council
- Orientation of the project to the selected members of the BDCC and enumerators

Pre-activity

1. Preparation of letter invitation to the prospective members of BDCC.
2. Preparation of venue and needed materials for the activity

During the session

1. Selection of chairman of the BDCC in every area concerned and identification of enumerators
2. Orientation of BDCC members and enumerators on the MEET project
3. Presentation of work plan to the members of the BDCC and enumerators

2.0 DATA GATHERING AND EVALUATION

2.1 Process and Tools Development

Work Plan for the conduct of HRVA

Objective of the activity

- To strategically distribute activities to the members of HRVA Core Team and persons concerned
- To project strategically the financial utilization
- To create a work plan of activities

During the session

1. Revisit the Work Plan developed by the Core Team and identify the detailed activities for the conduct of the survey.
2. The HRVA Core Team formulates the list of activities to be undertaken during the conduct of data gathering activity with regards to community characteristics
3. Round table discussion for the formulation of design format of survey questionnaire
4. Assessment of required materials needed in the conduct of the project
5. Scheduling of vehicle route was based on the distance of barangay with each other
6. Finalization of work plan

Result

List of data needed for HRVA:

1. Demographic Profile
2. Community Description
3. Physical Characteristics
4. Social Characteristics
5. Economic Profile

Data on demographic profile, economic profile and physical characteristics can be obtained based on the actual interview in the community using the Community Based Monitoring System (CBMS). Social characteristics can be determined using actual observation of the behavior of the community, while community description can be identified based on the overall figure of the community.

Materials and Equipment Needed:

1. Tool kit
2. Transportation Vehicle
3. Meals and Snacks

2.2 Survey and Spot Mapping

2.2.1 Orientation of Household Listing Survey to the enumerators

Objective of the Activity

- To familiarize the enumerators on the format of survey form
- To gather the Barangay Profile of the selected areas of the study

Result

1. The CBMS format or the Household Profile Questionnaire for the socio-economic profile, also used as the HRVA survey form of the selected barangays was adopted by the HRVA Core Team and CDCC since it is a comprehensive profile questionnaire



Step 3. Conduct of HRVA Household Listing Survey (CBMS)

Objective of the activity

- To conduct the actual gathering of data of the selected barangays
- To gain reliable data for use in the HRVA

Activities covered

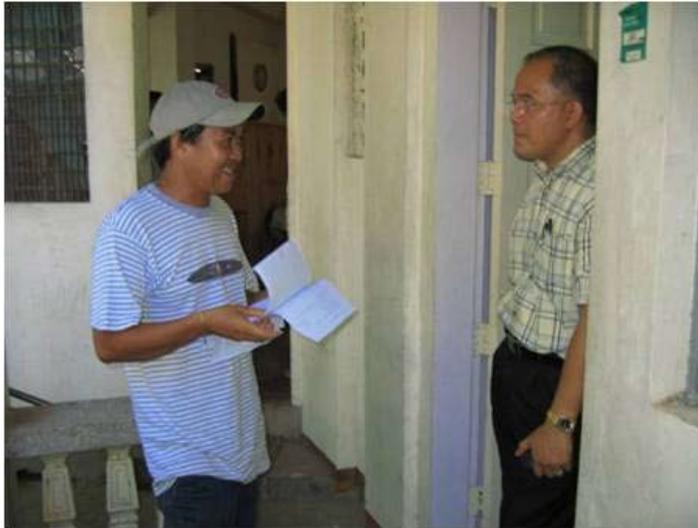
1. Household listing survey was manned by 8 personnel, 1 Barangay Health Worker, 1 Barangay Nutrition Scholar and the remaining 6 are composed of barangay officials and Bantay Bayan in each area concerned
2. The survey was accomplished in 4-5 days. Survey started at 8 am and ended at 5 pm
3. Enumerators' transportation was shouldered by the barangay since the barangay has its own barangay service
4. A total of 2,544 households were covered by the survey
5. Enumerators met in a certain place at the end of the day for review of the accomplished forms

Problems encountered

1. Weather condition like heavy rains caused unpaved road sludge
2. Time of travel of each enumerator was long because some households were distant from each other
3. Hesitation of the respondent to answer question related to financial information
4. Availability of transportation and punctuality of the driver and enumerators
5. Presence of valuable respondent in a certain household
6. Availability of enumerators

Step 5. Consolidation of Data

1. Data gathering lasted for 5 days of interviewing for the six barangays of New ARC
2. Household survey questionnaires were turned over to HRVA Core Team for validation and consolidation
3. The HRVA Core Team received the household survey questionnaire and then validated the same
4. The core team summarized the data from New ARC areas



Pictures taken during actual interview of CBMS



The respondent filling-up the questionnaire during the gathering of data

NSICAP-CBMS FORM 1 (2014.06.05) 04/11/2014
Community-Based Monitoring System
Household Profile Questionnaire

A. PAKIKAKILANLAN

I. Lokasyon : 1. Rural 2. Urban

II. Pagtatakilanan ng Lokasyon

a. Lungsod : _____

b. Lungsod/Bayan : _____

c. Barangay : _____

d. Purok/Dito : _____

III. Numerong Pagtatakilanan ng Sambahayan : _____ (Dito)

IV. Pangalan ng Tagapanyam : _____

V. Pangalan ng Nakapanyam : _____

VI. Tahanan ng Sambahayan : _____

VII. Petsa ng Panayam : _____

VIII. Oras Nagsumala : _____

IX. Oras Natapos : _____

X. Puna/pansin sa kalidad at toala sa nakulang impormasyon.

Front cover of CBMS Form

NSICAP-CBMS FORM 1 (2014.06.05) 04/11/2014
Community-Based Monitoring System
Household Profile Questionnaire

A. PAKIKAKILANLAN

I. Lokasyon : 1. Rural 2. Urban

II. Pagtatakilanan ng Lokasyon

a. Lungsod : _____

b. Lungsod/Bayan : _____

c. Barangay : _____

d. Purok/Dito : _____

III. Numerong Pagtatakilanan ng Sambahayan : _____ (Dito)

IV. Pangalan ng Tagapanyam : _____

V. Pangalan ng Nakapanyam : _____

VI. Tahanan ng Sambahayan : _____

VII. Petsa ng Panayam : _____

VIII. Oras Nagsumala : _____

IX. Oras Natapos : _____

X. Puna/pansin sa kalidad at toala sa nakulang impormasyon.

The CBMS form duly answered by the respondents

2.3 Data Consolidation

Preliminary data consolidation was undertaken after a day of survey. Enumerators met in a certain place or in barangay hall to put together all the accomplished questionnaires. Final consolidation commenced after all the barangays have been completely accomplished. Questionnaires were delivered to the Office of the CPDO for final consolidation using the CBMS

2.4 Data Evaluation

Data evaluation took place immediately after data consolidation. This was undertaken by the CPDO through the help of concerned departments such as Engineering Office, Budget Office, Accountant’s Office, Civil Registrar’s Office, Mayors Office and Treasurer’s Office. Heads of the concern departments contributed substantial comments and evaluation to improve the data gathered through round table discussion.

2.5 Data Refinement

Data refinement resumed after the data evaluation has been finished. Technical personnel of CPDO inputted the comments of the concerned departments.

Number of Malnourished Children 0-5 years old

Barangay	Children 0-5 Years Old			Malnourished Children 0-5 years old					
	Total	Male	Female	Magnitude			Proportion		
				Total	Male	Female	Total	Male	Female
Gabaldon	245	130	115	6	2	4	2.5	1.6	3.6
Linglingay	351	175	176	23	9	14	6.6	5.1	8
Mangandingay	180	104	76	20	14	6	11.3	13.4	8.5
Villa Isla	286	153	133	23	10	13	8.1	6.5	10
Villa Santos	97	51	46	12	6	7	12.5	10.9	14.3
Rang-ayan	254	136	118	3	1	2	1.3	0.8	1.8

Number of Households below Poverty and Food Threshold and Experiencing Food Shortage

Barangay	Total Households	# of Households Below Poverty Threshold		# of Households Below Food Threshold		# of Households Experiencing food shortage	
		Magnitude	Proportion	Magnitude	Proportion	Magnitude	Proportion
Gabalдон	380	247	65	194	51.1	23	6.1
Linglingay	498	366	73.5	267	53.6	5	1
Mangandingay	350	279	79.6	247	67.2	12	3.4
Villa Isla	522	389	74.6	318	61	0	0
Villa Santos	251	178	70.9	137	54.4	5	1.9
Rang-ayan	454	265	58.4	178	39.3	4	0.9

Number of Households Engage with Crop Farming and Other Related Agricultural Activities

Barangay	Total Households	# of Households	
		Magnitude	Proportion
Gabalдон	380	195	51.3
Linglingay	498	272	54.6
Mangandingay	350	194	55.4
Villa Isla	522	333	63.8
Villa Santos	251	149	59.5
Rang-ayan	454	179	39.4

Labor Force Participation 15 years old and above

Barangay	Member of Households 15 Years old and Above			Members of Labor Force					
				Magnitude			Proportion		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Gabalдон	1076	537	539	407	271	136	37.8	66.67	33.33
Linglingay	1411	728	683	469	362	107	33.26	77.16	22.84
Mangandingay	965	505	460	362	269	93	37.56	74.31	25.69
Villa Isla	1455	740	715	511	390	121	35.12	76.38	23.62
Villa Santos	506	278	228	242	167	74	47.81	69.21	30.79
Rang-ayan	1304	667	637	526	368	158	40.33	70.01	29.99

Unemployment Rate

Barangay	Member of Labor Force			Unemployment Rate					
				Magnitude			Proportion		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Gabaldon	407	271	136	18	9	9	4.4	3.4	6.3
Linglingay	469	362	107	73	42	30	15.5	11.7	28.5
Mangandingay	362	269	93	77	37	40	21.4	13.7	43.5
Villa Isla	511	390	121	50	32	18	9.8	8.1	15
Villa Santos	242	167	75	19	11	8	7.9	6.6	10.9
Rang-ayan	526	368	158	53	29	23	10	8	14.7

Employment Rate

Barangay	Member of Labor Force			Employment Rate					
				Magnitude			Proportion		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Gabaldon	407	271	136	389	262	127	95.6	96.6	93.61
Linglingay	469	362	107	396	320	77	84.5	88.3	71.64
Mangandingay	362	269	93	285	232	52	78.6	86.3	56.33
Villa Isla	511	390	121	461	358	103	90.2	91.9	84.72
Villa Santos	242	167	75	223	156	67	92.1	93.4	89.21
Rang-ayan	526	368	158	473	339	135	90	92	85.34

3.0 DATA AND HAZARD RISK VULNERABILITY ASSESSMENT

This process was done through a workshop by the Core Team.

Objective

- To enhance the capability of the members of the BDCC and concerned agencies in the assessment of hazards in the area concerned
- To identify the strategy, weaknesses, opportunities and targets (the strategical framework)
- To accomplish the vulnerability analysis forms

Pre-activity

1. Distribution of Letter of invitation to the participants of the program
2. Preparation of venue, foods and snacks

The workshop design is as follows:

FORMULATION OF LGRA	FORMULATION OF LGRA
First Day (morning session) <ol style="list-style-type: none"> 1. Registration/Attendance 2. Invocation 3. National Anthem 4. Short Message from the chairman of HRVA Core Group 5. Presentation of Disaster Management 6. Background of MEET the MDGs Project 	Second Day (morning session) <ol style="list-style-type: none"> 1. Recap of yesterday's session 2. Formulation of Strategical Framework
First day (afternoon session) <ol style="list-style-type: none"> 1. Group Work – Vulnerability Analysis 2. Presentation of result of group work 	Second Day (afternoon session) <ol style="list-style-type: none"> 1. Presentation of Strategical Framework 2. Closing Remarks

3.1 Community Description

3.2 Identification of Hazards

1. Long period drought (El Niño)
2. Strong typhoons (La Niña)
3. Insect infestation

FLOODING

Science City of Muñoz is an agricultural community where farming is the main source of income of every household. Farming is vulnerable to certain types of hazards such as flooding, drought and insect and pest infestation. These hazards can result in low farm production or even lost lives and properties when not properly mitigated.

Influx of hazards related to weather condition such as drought and flooding, can be predicted through previous rainfall data. The Science City of Muñoz has an average of 140-170 millimeter level of water every year according to data provided by Philippine Atmospheric Geophysical Astronomical Service Administration (PAGASA) located at Central Luzon State University. Below this level is an indication of proximity of drought. On the other hand, above this level is the indication of flooding. The tables below shows the 15-year rainfall data provided by the PAGASA which shows that flooding and drought occurred in year 1993, 2003 and 2004 when the Science City of Muñoz was visited by super typhoons which caused the rivers and creeks to overflow resulting in damage to properties including the two major bridges in the city.

YEAR	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL
1991	2.2		5.4	2.8	31.8	174.7	189.5	385.2	546.7	87.2	39.0		122.0
1992	10.6	23.5	0.0	9.8	112.0	180.8	503.4	495.3	356.5	153.8	28.0	2.5	156.4
1993			2.8	30.0		463.9	481.4	397.3	284.8	484.4	160.2	43	195.7
1994	6.5		4.0	7.6	188.5	199.7	687.1	261.1	251.5	70.7	2.8	11.5	140.9
1995	0.0	0.6	0.1	0.7	149.4	200.4	411.9	304.9	492.1	227.4	112.2	98.9	166.6
1996	3.9	0.0	66.6	66.8	293.1	69.7	498.0	256.8	367.8	113.5	89.7	0	152.2
1997	0.0	46.8	0.0	32.2	272.0	451.7	264.1	313.4	257.7	3.6	0.2	2.9	137.1
1998			2.8	0.0	312.2	182.3	177.3	266.4	536.7	456.9	67.2	143.7	178.8
1999	8.9	1.3	25.2	172.1	97.5	316.5	310.1	548.1	356.2	159.2	60.8	22.4	173.2
2000	0.4	85.3	71.2	71.6	296.6	177.6	481.7	405.5	198.4	311.5	51.5	52.8	183.7
2001	9.2	36.5	86.5	9.2	263.8	169.8	472.9	314.2	370.1	67.4	70.3	16.6	157.2
2002	12.6		0.0	6.2	180.7	225.4	603.8	300.1	362.4	158.9	38.2	11.6	158.3
2003	0.0	0.0	0.0	3.0	503.6	195.7	443.4	448.7	503.0	140.6	48.6	1.2	190.7
2004	2.0	15.6	0.0	14.6	198.4	331.2	424.4	621.6	173.2	83.0	197.6	123.6	182.1
2005	0.2	0.0	25.8	20.4	189.4	306.0	162.6	269.6	319.1	166.8	74.9	68.7	133.6
TOTAL	56.5	194.0	290.4	447.0	2197.6	3645.4	6111.6	5588.2	5376.2	2684.9	1041.2	405.9	2336.6
MEAN	3.8	12.9	19.4	29.8	146.5	243.0	407.4	372.5	358.4	179.0	69.4	27.1	155.8

Pictures of Typhoons cause by Typhoon in year 2003-2004



Photo showing the overflowing of rainwater from Baliwag River at Barangay Linglingay



Engineering staff evaluated the damages after being hit by Typhoon Chedeng in year 2004

DROUGHT

Irrigation water is the perennial problem of farmers in the city particularly those residing in the New ARC areas. The New ARC areas mostly affected by the drought are the Barangays of Mangandingay and Villa Isla. These barangays are located in the uppermost part of the city and irrigation water is almost impossible to go through. Cropping is undertaken once every year and they mainly rely on rainfall. If rainfall volume is lower than the normal level in the second and third quarter of the year, the proximity of drought is high.

In year 1991, drought hit the city where several hectares of farm fields, fishponds, shallow wells, pasture lands and even the major waterways turned dry particularly on the uppermost areas of the municipality. During that year, rice production dropped by almost 100 tons or 25% of the total rice production of the city. Relatedly, loss of capital investment and demand for pasture land for domesticated farm animals such as carabaos and cattles go high. Plants and other related crops were slowly devastated as temperature went higher and rainfall intensity was lower than the normal level. Pictures below shows the devastating effect of drought to plants.



Photo showing the slowly devastated rice plants in some parts of Villa Isla and Mangandingay



Photo showing the characteristics of soil affected by long drought

INSECT AND PEST INFESTATION

Insect and pest infestation is considered a hazard to the farming system since it has a negative effect on the growth and development of plants. Plant diseases slowly worsen the physical condition of the plants resulting in sluggish growth of seedlings and low production.

In the Science City of Muñoz, insect infestation is not a big problem in agricultural sector because advance studies in agricultural pest control has been conducted by the agricultural research and development institution with central experiment station located at the city. This research institution includes Philippine Rice Research Institute, Bureau of Postharvest Research and Extension, CLSU, PhilScat and other agricultural research agencies. Presence of agricultural research and development institutions is a factor in mitigating the effects of pest infestation but the possible occurrence of agricultural pest has to be considered.

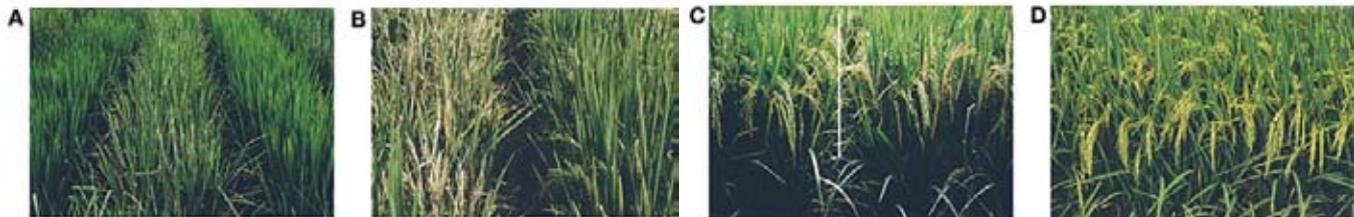
Case of pest infestation happened in 1991 when mass migration of grasshopper or “balang” from other province occurred. Numerous grasshoppers attacked the provinces of Tarlac, Pampanga and Nueva Ecija and brought major damages to the crops of Tarlac and Pampanga. Fortunately, Muñoz reported no damages cause by the said insect but the threat of possible attack of “balang” will be served as forewarning to the farmers. Other agricultural related diseases are presented through pictures below.



Rice Bacillus



Rice Bug



Other identified plant diseases

3.3 Hazard Analysis

HAZARD NAME	DAMAGING CHARACTERISTICS	FOREWARNING
1. Long drought (El Niño Phenomenon)	1.1 Low production of crops 1.2 Causes loss of capital investment	1.1 Minimal rainfall amount during rainy season
2. Strong typhoon (La Niña Phenomenon)	2.1 Damages crops and properties 2.2 May cause loss of lives	2.1 Frequent visit of super typhoons in the vicinity 2.2 Overflowing of rainwater even if there is no typhoon in the area
3. Insect, rodents and other agricultural related pest.	3.1 Loss of capital investment 3.2 Denuded rice crops and high value crops	3.1 Sluggish growth of seedlings after a week of transplanting.
SPEED OF IMPACT	IMPACT DURATION	CAUSES
1.1. Slow deterioration of crops affected	1.1 Five (5) months	1.1 Environmental imbalance
2.1 Hastily deterioration of crops during and after the strike.	2.1 One (1) to Two (2) weeks	2.1 Cause by unpredictable weather condition
3.1 Slowly worsen the condition of plants	3.1 One (1) to Five (5) month/s	3.1 Traditional variety of rice susceptible to plant diseases
HISTORY	PREDICTABILITY	PROBABILITY
1.1 Happened several years ago	1.1 Unpredictable	1.1 Slightly high
2.1 Occurs once or twice every year	2.1 Predictable	2.1 High
3.1 Perennial	3.1 Predictable through observation	3.1 High
CONTROLLABILITY	GROWTH	COMMENTS
1.1 Presence of on-going construction of Super Diversion Canal of CASECNAN	1.1 Dry-farming System has been developed	1.1 No one knows when the CASECNAN irrigation project will be operational
2.1 Diversion canal for excess water during rainy season	2.1 Development of foundation seeds which is high anaerobic tolerance	2.1 Financial availability
3.1 Presence of R & D institutions that could disseminate technology in plant diseases prevention	3.1 Development of seeds which is resistant to plant diseases. 3.2 Progressive development of modern equipment	3.1 Some farmers tend to detest hybrid/ GMO rice varieties

Impact Consequences

Hazard	Long Drought (El Niño Phenomenon), Super Typhoon (La Niña Phenomenon) and Insects, rodents and other agricultural related pest
Effect on human settlements	Food shortage, lost of capital investment and damage to properties
Effect on Government	Economic instability, Lost of Capital Investment and Environment Destruction
Effect on sources of livelihood	Poor accessibility to livelihood fund
Effect on emergency organizations	Require more fund to sustain needed services to deliver
Effects on lifelines	
• Communications	Damage to communication equipment and facilities
• Water supply	Poor access to potable water
• Drainage	Demand for comprehensive drainage system
• Fuel supply	Increase cost of fuel and oil
• Electricity	Damage to electrical facilities
• Other	
Effect on cultural treasures	N/A
Effect on agriculture	Damage to rice fields and lost of capitals
Effect on industry	
• Capital	Loss of capital investment
• Stock	Widespread of livestock diseases and pest
• Production capacity	Low production
• Other	Lower in price of farm produce
Effect on informal economy	Low income
Effect on any other element	Low sales of traders since no much money to be spent by the majority of affected barangays

Vulnerability Statement Formulation

The following hazards have been analyzed:

1. Long drought (El Niño Phenomenon)

Drought is a period of time when there is not enough water to support agricultural urban or environmental water needs. A drought usually refers to an extended period of below normal rainfall, but can also be caused by drying bores or lakes, or anything that reduces the amount of liquid water available.

Droughts have significant social, economic, and environmental impacts. The impacts affect many sectors and extend beyond the area experiencing the physical drought. Direct impacts of droughts include reduced water supplies, crop, rangeland, and forest; increased risk of fires; increase in mortality of livestock and wildlife; and damage to wildlife and fish habitat. Some of the examples of indirect impacts are reduced income and livelihoods of farmers, increase in disease and health risks, increased consumer prices, unemployment, migration, and conflict. Environmental losses can be observed through damages to plant and animal species, affecting wildlife habitat, air and water quality, soil erosion, and degradation. Social impacts include public safety issues, health concerns, potential conflict among water users, and priorities over water usage (i.e. potable water vs. irrigation). Droughts are one of the most important natural triggers for malnutrition and famine. Famine related deaths are sometimes mistakenly attributed to drought, rather than to the underlying causes such as government policies or civil strife.

Damaging Characteristics

- Low production of crops
- Loss of capital investment
- High cost of farm inputs
- Food Shortage
- Economic activity is affected

FOREWARNING

- Minimal rainfall amount during rainy season
- Rainfall level is below normal
- Occurrence of high temperature

SPEED OF IMPACT

The New ARC areas are considered agricultural in nature. Main economic activity is agricultural farming and other related agricultural activities. Plenty of irrigation water is in demand in the areas of New ARC areas. Insufficient water means low production of farm products and high cost of farm inputs. Drought greatly affects the production of farm products in the areas involve. It slowly deteriorates the crops during its strike.

IMPACT DURATION

Base on history and data gathered from PAG-ASA drought happens in the decade of 1990s. It greatly affected the New ARC areas for almost a year with very minimal amount of rainfall. The drought last for 5 months with a very minimal intensity of rainfall that damages the crops and dries the entire areas.

CAUSES

Environmental imbalance. Environmental imbalance is a world-wide effect on environment of unpredictable condition of weather. Global warming is the cause of continuous denudation of ozone layer that causes drought to some part of the world. Drought in the New ARC areas was caused by a very minimal or below normal level of rainfall during wet season or cause by environmental imbalance.

HISTORY

Latest drought occurrence in the areas happened in the year 1991. New ARC areas located at Northwestern part of the city which considered the uppermost part or hilly portion of the city particularly the barangays of Villa Isla and Mangandingay.

PREDICTABILITY

Natural observation can be a factor of predictability of occurrence of the identified hazard. Observation during wet season could inform if there is an occurrence of long drought. If there is below normal level of rainfall during wet season and no visit of typhoons these indicates that drought may occur.

PROBABILITY

Probability of occurrence happened every decade based on the data gathered in PAG-ASA. Anticipating the occurrence of drought could surely prevent worst effect of the identified hazard.

CONTROLLABILITY

Drought is uncontrollable by nature but its worst effect can be anticipated and mitigated.

GROWTH

- Installation of deep well irrigation project each in every barangay affected by drought
- Construction of Super Diversion Canal of NIA-CASECNAN
- Construction of Small Reservoir Impounding Project

COMMENTS

Dry farming system should be introduced as an alternative to the conventional farming system. Planting of high value crops should be introduced, where it only demands small amount of water.

2. Strong typhoon (La Niña Phenomenon) and Flooding

Flood is the outpouring of land areas that are not normally covered by water. A flood is usually caused by a temporary rise of the water level on a river, stream or other water course, inundating adjacent lands of flood plains. It could also be due to a temporary rise of lakes, oceans or reservoirs, or long period of rains during wet season.

The major type of flood that usually affected the identified community is river flooding and early and long/heavy rain during wet season.

DAMAGING CHARACTERISTICS

- Damages crops and properties
- May cause loss of lives
- Loss of Capital
- Food Shortage
- Economic activity is affected

FOREWARNING

Frequent visits of super typhoon in the city could indicate that there is an occurrence of flooding in the area. Warning in the release of water from Pantabangan Dam could also serve as a forewarning in the visit of flooding since water from Pantabangan Dam is one of the causes of flooding in the area. Relatively, media or other means of communication give their warnings if there is an incoming visit of typhoon in the area.

SPEED OF IMPACT

Fast deterioration of crops during and after the strike

IMPACT DURATION

The effect will last one (1) to two (2) weeks after the strike

CAUSES

- unpredictable weather condition
- release of irrigation water from Pantabangan Dam

HISTORY

- Occurs once or twice every year when Pantabangan Dam releases irrigation water
- Occurs when super typhoon visits the city

PREDICTABILITY

- Predictable by the PAG-ASA

- Predictable through natural observation

PROBABILITY

- Due to modern devices use by the PAG-ASA, direction of typhoons are predictable in nature
- Schedule of release of irrigation water from Pantabangan Dam was announce by the personnel of National Irrigation Administration but not regularly undertaken

CONTROLLABILITY

- Diversion canal for excess irrigation and rain water should be developed to divert excess water to the outlet
- Regular weather news could be a factor to control the effect of flooding
- Regular information from National Irrigation Administration regarding the release of irrigation water from Pantabangan Dam

GROWTH

- Development of foundation seeds which is highly anaerobic tolerance
- Construction of Super Diversion Canal of NIA-CASECNAN

COMMENTS

- Financial availability is always the question raised during the conduct of a project

3. Insect, rodents and other agricultural related pest infestation

An infestation is the presence of a large number of pest organisms in an area or field, on the surface of a host or anything that might contact a host or in the soil. Agricultural infestation is a slowly devastation of crops that leads to poor production of certain crops.

DAMAGING CHARACTERISTICS

- Damages crops and properties
- Loss of Capital
- Food Shortage
- Possible epidemic spread in the area

FOREWARNING

Sluggish growth of seedlings after a week of transplanting could be an indication of rodents and insect infestation. Relatively, insects or rodents infestation may occur in the early stage of plant maturity or flowering stage. Stem borers and plant hoppers attacks during flowering stage but rodents attack in any stage of plant development. There is no clear forewarning can be identified in case of agricultural infestations since insects and rodents attacks whenever they want. The only forewarning that indicates the presence of hazards is by actual observation.

SPEED OF IMPACT

Speed of impact can be classified by slow to rapid. It slowly worsens the condition in the first stage of attack and getting worst when it take effect.

IMPACT DURATION

Agricultural infestation is a perennial problem of farmers. Study on pest control is a continuous task of research experts. Research and Development institutes in the city works on the development of strategies and policies in pest control. Impact duration will begin at early stage of transplanting up to the last stage of development.

CAUSES

- Natural Habitat of insects and pest was on the field
- Migration of insects and pest from other place going to the affected areas

HISTORY

In the past few years, incidence of agricultural infestation not only in the areas of New ARC but in the whole city was randomly occurs every cropping. City Agriculturist Office together with Philippines Rice Research Institute (PhilRice) works for the monitoring of possible insect and pest infestation every year.

PREDICTABILITY

- Predictable in the early stage of attacks through field observation

PROBABILITY

There is a high probability of occurrence of insect and pest infestation in the area since farm field is the natural habitat of insects and rodents. Relatively, neighboring barangays and towns of the areas of New ARC is also an agricultural area. Migration of pest from neighboring towns and barangays may occur.

CONTROLLABILITY

Insect infestation can be controlled through the use of insecticides duly recommended by Fertilizers and Pesticides Authority. It is also controllable through the use of highly resistant to plant diseases seeds. The presence of technical agricultural experts from different Research and Development Institutions in the city could be a factor of pest control through its knowledge in handling pest control.

GROWTH

Development of advance strategies and techniques in pest control could be introduced to farmers. Progressive development of modern equipment for pest control is a very welcome knowledge to the experts.

COMMENTS

Participation of Non-government Organizations (NGOs) and Peoples Organizations (POs) are great help in the dissemination of advance knowledge to the stakeholders.

Elements of Community that are Mostly Vulnerable:

1. Farmers
2. Children
3. Women
4. Barangay Government

Elements are Vulnerable in the Following Ways:

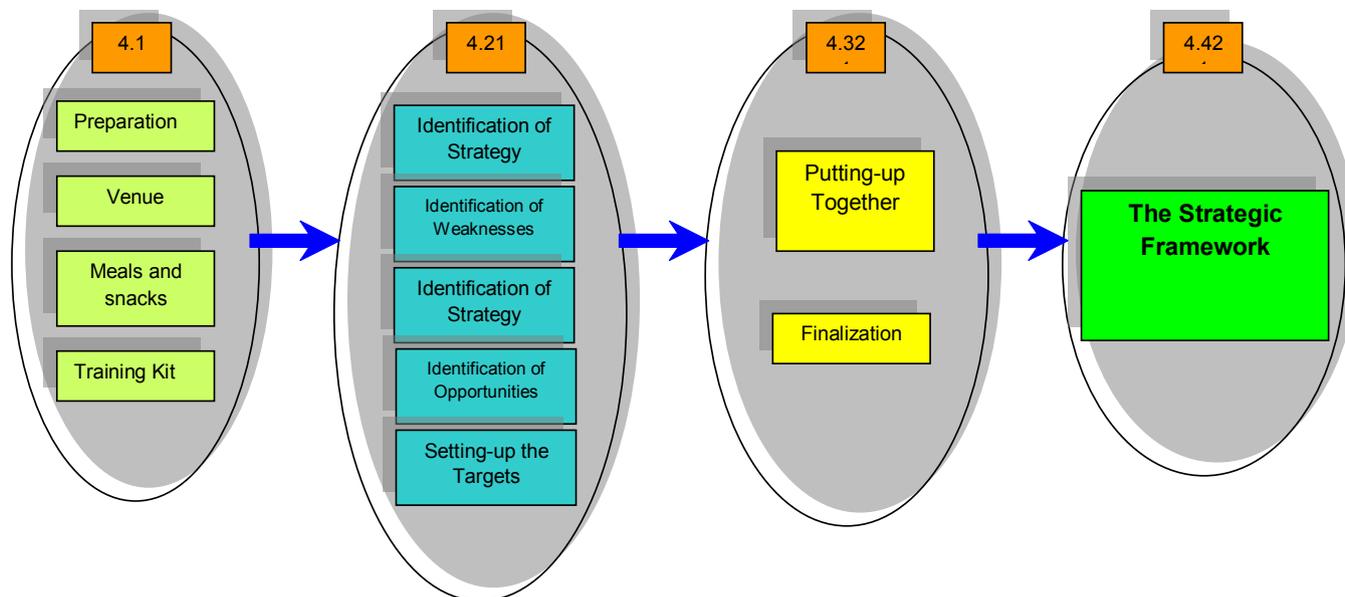
1. Financial stability
2. Effect of disasters
3. Resettlement sites

The Most Urgent Actions required are:

1. Infrastructure support
2. Livelihood programs
3. Capitals for small businesses
4. Relief goods
5. Medical Assistance

GOVERNMENT REFORM AGENDA FORMULATION

This process aims to 1) identify and formulate strategies, weaknesses, opportunities and targets to properly mitigate the effects of external threats of identified hazards and 2) form a strategic framework which will serve as the guide of the HRVA Core Team, CDCC, BDCC and vulnerable communities in mitigating the external threats cause by identified hazards



4.1 Conduct of SWOT Analysis

Pre-activity

1. Preparation of needed materials in the conduct of the formulation of Government Reform Agenda
2. Preparation of venue
3. Facilitator provides the needed training kit such as manila paper, pilot pen, pencil, ball pen and bond paper

Activity

Step 1. Strategy Identification

1. The participants is grouped into four
2. The group was directed to identify strategies to increase food security, particularly increased food production.
3. The groups are directed to identify the strategy needed to properly mitigate the identified HRVs.
4. Consolidation of identified strategy will be undertaken after the identification

The output of this process follows:

Step 2. Identification of Weaknesses and opportunities

1. The same group was utilize in the identification of weaknesses related to identified strategy
2. Consolidation of identified weaknesses

Step 3. Identification of possible opportunities

1. Development of possible opportunities has been identified by the two groups
2. Opportunities is base on the identified strategy in step 1
3. After the opportunities has been developed, the facilitator collected the identified opportunities and then filed

Step 3. Identification of Targets

1. Targets have been set by the groups through individual sharing base on the identified strategy in step 1.
2. Consolidation of targets

Below is the consolidated matrix resulting from the GRA formulation workshop:

STRATEGY	WEAKNESSES	OPPORTUNITIES	TARGET
Agricultural Related Concerns			
Application of modern technology on agricultural farming system	Difficulties of the government to change the conventional farming strategies of the farmers	Introduction of up-to-date technologies for the farmers in the said area	High production volume of crops and farm produce
Utilization of Research and Development Institution present in the city	Schedule of works of the technical expertise from research and development institutions	Knowledge transfer from technical manpower of research and development institutions to the farmer beneficiaries	Established knowledge sharing scheme from technical expertise to the farmers and vice versa
Introduction of new breeds of rice seeds	High cost of hybrid rice seeds	Access to innovative seeds from research and development institutions	High production volume every cropping
Use of modern facilities in insect, pest and agricultural related diseases control	Expensive cost of modern facilities	Government owned insect and pest control facilities	Zero incident of pest and insect infestation
Infrastructure Related Concerns			
Construction of irrigation and diversion canals	Expensive construction cost of irrigation and diversion canals	The area is traverse by on-going project of NIA-CASECNAN	Sufficient irrigation water during dry season and comprehensive diversion canal for excess water during wet season
Institutionalization of Barangay Disaster Coordinating Council	Insufficient knowledge of affected sectors to the threat of environmental hazards in their area	New groups will be organized to facilitate/mitigate the threat of environmental hazards	Established Barangay Disaster Coordinating Council as HRVA core group in the area
Strategic identification of suitable relocation site for affected sectors of the area	The affected area is generally classified as agricultural community and if converted into relocation site smaller area will be utilized for farming	Development of new housing projects for the affected families	Identified suitable relocation site for the affected families of the area or possible housing projects for the said barangays
Capacity Building Program			
Regular drill exercise on disaster management	Insufficient fund for the regular conduct of drills on environmental hazards	Model area to the other in mitigating the external threats of hazards	A well prepared community to face the threat of hazard-risk in their area
Formulation of emergency rescue team	High cost of operation and technical manpower to manage the operation of the team	Job opportunities to the technical professionals and locals of the area	Organized emergency rescue team

Strategic formulation of City Disaster Management Plan	Difficult to convene the members of City Disaster Coordinating Council and HRVA Core Team	Unification of City Disaster Coordinating Council, HRVA Core Team, BDCC, POs, NGOs and National Agencies	Legitimized Comprehensive Disaster Management Plan
Health Related Concern			
Anticipation of possible widespread of epidemic in the area	Insufficient fund for the purchase of vaccines for children of affected areas	Access to medical and health services on both and local and national even in international community	Zero casualty during the spread of epidemic

4.2 Community Validation

Community was validated through furnishing of final copy of Government Reform agenda. Copy of Government Reform Agenda was forwarded to the 37 barangays of the city. The Barangay Council will brief their constituents regarding the Government Reform Agenda and Hazard Risks Vulnerability Assessment project.



Pictures taken during the consolidation of identified strategies, weaknesses, opportunities and setting-up of targets.



HRVA AND LGRA LEGITIMIZATION

5.1 Formal Adoption into Local Ordinance by Sangguniang Panlungsod

The formulated Hazard Risks Vulnerability Assessment (HRVA) and Local Government Reform Agenda (LGRA), after being finalized and validated to the community, was submitted to the Office of the Sangguniang Panlungsod for adoption. The HRVA and GRA was presented by the HRVA Core Team to the Sangguniang Panlungsod for enactment of Resolution adopting the HRVA and GRA formulated by the Core Team, CDCC, BDCC and concerned person.

GLOSSARY

CBMS Community-Based Monitoring System is a computer-base program for community monitoring that was provided by the Department of Interior and Local Government (DILG) to selected LGUs in the Philippines with trainings and seminars for the technical personnel.

Food Security Food security has three dimensions: availability, access and utilization. Food is available when people have sufficient quantities of food of appropriate quality. Food is accessible when households and individuals have adequate resources to acquire appropriate foods for a nutritious diet. Food is utilized effectively through adequate diet, water, sanitation, and health care. Food security exists when all people at all times have physical and economic access to sufficient food to meet their dietary needs for a productive and healthy life.

Famine can result from both natural and complex emergencies whenever food is scarce or in low supply, or local populations lack income to purchase food (complex emergencies displacements) from other areas. The total food supply in the country may be sufficient to meet the needs of the entire population, but in the affected area (i.e. drought situations), people can be vulnerable to starvation due to insufficient access to basic needs.

There are various definitions of droughts. A meteorological drought is defined as a deficit in precipitation from the long-term average. Agricultural drought focuses on precipitation deficit, shortages in soil-water deficit, and surface and subsurface water resources failing to meet the demands of a specific crop. Hydrological droughts usually occur when surface and subsurface water supplies are below normal and lag behind meteorological and agricultural drought. Socio-economic drought develops when the demand for water supplies are exceeded due to weather-related water shortages. It is critical to identify the type of drought in order to take proper measures to lessen its impacts.

MANUAL DEVELOPMENT TEAM

HRVA CORE TEAM

- | | |
|-----------------------------|---------------------------|
| 1. Engr. Armando E. Miranda | Chairman |
| 2. Ligaya S. Jaime | 1st Assistant
Chairman |
| 3. Herminio D. Burnot | 2nd Assistant
Chairman |
| 4. Eric B. Tubalinal | Member |
| 5. Gladys Escote | Member |
| 6. Fredalyn Pagay | Member |
| 7. Nemesio Macabale | Member |
| 8. Randy G. Baldedara | Member |

BARANGAY DISASTER COORDINATING COUNCIL CHAIRMAN

- | | |
|-----------------|------------------------|
| 1. Gabaldon | Bernardino E. Bautista |
| 2. Linglingay | Dominador T. Antolin |
| 3. Mangandingay | Adrian A. Quero |
| 4. Rang-ayan | Gilberto R. Dizon |
| 5. Villa Isla | Melencio F. Paclibare |
| 6. Villa Santos | Elpidio Bengaño |

CITY DISASTER COORDINATING COUNCIL

- | | |
|-------------------------------|---------------|
| 1. Nestor L. Alvarez, Ph.D. | Chairman |
| 2. P/Supt. Fernando L. Galang | Vice Chairman |
| 3. Angelica F. Manalang | Member |
| 4. June Franklyn Fernandez | Member |
| 5. Mary Rose Y. Orejana | Member |
| 6. Herminio D. Burnot | Member |
| 7. Herminia S. Leonardo | Member |
| 8. Eric B. Tubalinal | Member |
| 9. Erlinda Aban | Member |
| 10. Raul Elfeo Villacorta | Member |
| 11. Leonida Bacena | Member |
| 12. Roy F. Concepcion | Member |
| 13. Josefina Enriquez | Member |
| 14. Elizer Abundo | Member |
| 15. Jerry Rigos | Member |
| 16. Ligaya Jaime | Member |
| 17. Myrna Estrada | Member |
| 18. Amelia Ignacio | Member |
| 19. Gladys Escote | Member |
| 20. Ma. Teresa Sayco | Member |
| 21. Juarlito Daus | Member |
| 22. Nemesio Macabale | Member |
| 23. Enrique Lazaro | Member |
| 24. Jun Mico | Member |
| 25. Lito Cabigon | Member |
| 26. Priscilla Casillan | Member |
| 27. Rey Urmilla | Member |
| 28. Rosario Ferry | Member |
| 29. Marilou Bocatot | Member |
| 30. Librada Lacambra | Member |
| 31. Armando E. Miranda | Member |
| 32. Edelmar M. Isidro | Member |



MDG 2: Primary Education

MEETing PRIMARY EDUCATION

Mitigating the Effects of External Threats
on the Primary Education of Students in
Tuguegarao City



MESSAGE



Poverty complicates life. Illiteracy discriminates and debilitates. In a world whose survival is heavily compromised by misuse, abuse and over use, poverty and illiteracy hasten the decay and deterioration of our living conditions.

The Millennium Declaration signed by 189 UN-member states including the Philippines is humankind's commitment to work in partnership for a shared vision for the future - a world with less poverty, hunger and disease, better educated children, equal opportunities for women, better chances for mothers and their babies to survive, a healthier environment and a world where the rich and poor countries work in partnership for the betterment of all.

This HRVA Guidebook for Primary Education is based on our learnings and accomplishments in localizing MDG Goal No. 02 - the achievement of universal primary education. We hope to help provide answers, encouragement and guiding steps to move closer to achieving the Millennium Development Goals in our own localities. As Confucius said, the journey of a thousand steps begins with a single step. We pray that this guidebook be a meaningful step for humankind.

RANDOLPH S. TING
City Mayor

The HRVA Process

- 1 Institutionalization
 - 1.1 Orientation on Disaster Management
 - 1.2 Orientation on HRVA and the Project (MEET the MDGs)
 - 1.3 LGU Commitment (Executive and Legislative)
 - 1.4 Identification of the LGU MDG focus
 - 1.5 Formation of LGU HRVA Team
 - 1.5.1 Issuance of Executive Order
 - 1.5.2 Operationalization of the Executive Order
- 2 Orientation of Stakeholders and Work Planning
 - 2.1 LGU Capability Building and Work Planning
 - 2.2 Pre-HRVA
 - 2.3 Team Planning and Preparations
 - 2.4 Operational Planning
 - 2.4.1 Strategy formulation
 - 2.4.2 Process development
 - 2.4.3 Tools development
 - 2.4.4 Assessment Team formation
 - 2.5 Area Preparation
- 3 Data Gathering and Analysis
 - 3.1 Actual conduct of HRVA Survey
 - 3.2 Data processing
 - 3.3 Area based Assessment
- 4 HRV Assessment Formulation
 - 4.1 List of hazards
 - 4.2 Analysis of Hazards
 - 4.3 Description of Community
 - 4.3.1 Physical Community
 - 4.3.2 Social Characteristics
 - 4.4 Impact Consequences
 - 4.5 Analysis of State of Vulnerability
- 5 Local Government Reform Agenda (LGRA) Formulation

ACRONYMS

AICS	Assistance to Individuals in Crisis Situations
ALS	Alternative Learning System
BEC	Basic Education Curriculum
BP-OSA	Balik Paaralan – Out of School Adults
CCDP	City Comprehensive Development Plan
CDCC	City Disaster Coordinating Council
CDS	City Development Strategy
CLUP	City Land Use Plan
CWD	Children with Disabilities
DRM	Disaster Risk Management
FDS	Family Data Survey
HRVA	Hazards, Risks and Vulnerabilities Assessment
MBN	Minimum Basic Needs
NFE-A&E	Non-Formal Education - Accreditation and Equivalency
OSY	Out-of-School Youth
PGS	Public Governance System
PTCA	Parents-Teachers-Community Associations
RLAs	Regional Line Agencies
RST	Responsive Shelter of Tuguegarao
SPA	Special Program for the Arts
SPED	Special Education
TODAs	Tricycle Owners and Drivers Associations
TWG	Technical Working Group
UN/ISDR	United Nations/International Strategy for Disaster Reduction

ACKNOWLEDGMENTS

This guidebook was prepared by the HRVA Technical Working Group (HRVA-TWG) of Tuguegarao City led by the City Planning and Development Coordinator and the MDG Localization Focal Person, Maria Fe B. Agu-Villania and which included Carolina A. Calucag, Angelina T. Cambri, Zenaida C. Baltazar, Jesusa Maralli, May Asuncion, Clifford Escobar, Loreta Cabalza, Wilfred Martin and Cory Samatra. The staff of the City Planning and Development Coordinator's Office and Marian Narag provided research assistance. Marlowelle Feliciano provided technical assistance in lay-outing the draft copy of the book.

The HRVA-TWG team acknowledges the support and participation of the school teachers and officials of the Tuguegarao City Schools Division, the Barangay officials of barangays Centro 1, 4, 5, 6, 7, 9 and 10 who graciously cooperated and hosted the HRVA –TWG team.

The team thanks the guidebook reviewers UN-Habitat MEET the MDGs Coordinator, Juan Blenn Huelgas and Knowledge Manager, Christopher E. Rollo for their excellent technical assistance and camaraderie that allowed the team to develop positive actions to undertake and finish the Project.

The team also acknowledges the Sangguniang Panlungsod for their trust and confidence that Tuguegarao City can successfully undertake the MDG Localization Project.

Most of all, we graciously acknowledge the Honorable Mayor Randolph S. Ting for his leadership and support to finish the project. His youthful idealism and desire to provide quality living conditions for all, especially the vulnerable groups, those exposed to the highest risks and those who live in the midst of hazards, inspired the team and lent the needed focus and drive to undertake and finish the Project.

INTRODUCTION

Efforts to reverse our adverse conditions fall largely on the shoulders of the local government units (LGUs) - the real front service providers. In developing countries like the Philippines, major and widespread improvements in living conditions that are sustainable are best engineered by LGUs with competent workforce, efficient work processes, valid organizational structures, effective management styles, appropriate technology, adequate resources, enabling work culture, and effective participatory processes.

Education transforms and enables. It provides knowledge, skills and attitudes vital to growth and change. It is therefore fundamental for reducing poverty and opening choices and opportunities throughout life. With education, people's access to and enjoyment of other rights is enhanced. Of great significance is the inspiration, the desire to become better that is awakened by education that provides glimpses of what a better world is. The desire to improve has to be kept alive and burning strong.

In the midst of all the contradictory, urgent and important demands and messages we are beleaguered with everyday, we need steady lights, tiny signposts, little steps, simple guidebooks to direct us to meaningful achievements. This MDG 2 Primary Education Guidebook provides simple sequential steps to achieve universal primary education for all. It aims to encourage local government units, organizations and institutions to take real and simple steps towards enabling people discriminated by illiteracy to learn and master the simple rudiments of reading, writing and doing simple calculations. It hopes to help more people to discover the joys and fruits of education.

The Project, Mitigating the Effects of External Threats to Millennium Development Goals (MEET the MDGs) focuses on ensuring that Disaster Management and Hazard Risk and Vulnerability Assessment (HRVA) are mainstreamed into the development planning technologies and processes of Tuguegarao City. This is done through the introduction of the HRVA tool and strengthening the city's capacities in doing hazard based vulnerability and risk assessment focused on the achievement of primary education.

The MEET @ Education Project has four (4) major components for Tuguegarao City, namely:

- Capacity and institutional building on disaster management, specifically on hazard risk and vulnerability assessment
- The conduct of the HRVA focused on the achievement of primary education for all
- The development of the experience-based HRVA guidebook or toolkit focused on MDG 2;
- The formulation of the Local Reform Agenda based on the output of the HRVA.

The major outputs of the project are:

1. Hazards, risks and vulnerabilities (HRVA) guidebook/toolkit focused on the achievement of universal primary education.
2. Local government reform agenda (LGRA) based on a sound and systematic assessment and analysis of the hazards, vulnerabilities and risk levels.

PROJECT FRAMEWORK



The Project focuses on the child going to school, being educated in school, working with teachers, classmates and school officials and on the child going home, living with the family and relating with the environment. The project identifies and examines all hazards, risks and vulnerabilities impacting on the child at home, in school and the larger environment, to determine the elements that are most vulnerable and in what ways, to determine how these conditions affect the child's finishing primary education and to develop the most urgent actions needed to be done to eliminate or reduce the conditions that adversely affect the child's ability to complete primary education.

TUGUEGARAO CITY PROFILE

Tuguegarao City is a peninsula in the lower Cagayan River basin of the Cagayan Valley Region (Region 02) in the northeastern portion of the Island of Luzon. It is located immediately west of the Sierra Madre foothills. The city is the main entry of the Province of Cagayan. Founded as a mission-pueblo on May 9, 1604, Tuguegarao City was converted into a component city of the Province of Cagayan on December 18, 1999.

Today, Tuguegarao City is a show window for health and nutrition, research and development, culture and total human development. It is a Primary Growth Center of the Cagayan Valley Region and the Regional Trading Center. It is also the Regional Support Service Center for Tourism and Industrial Development and Agricultural Modernization. As the designated service center for education, government and religion, it serves not only the needs of the city, but also those of the neighboring towns of Cagayan, Isabel, Kalinga and Apayao. Tuguegarao City received the award “Regional Outstanding City” for 2000 and 2001. For its outstanding achievements in nutrition and child welfare and protection, Tuguegarao City received the Nutrition Honor Award in 2006 and the Hall of Fame Award as the Most Child Friendly Component City of the Philippines in 2003.

City Disaster Risk Management

The Tuguegarao City Disaster Coordinating Council (CDCC) is functional and is most active for disaster prediction and warning of vulnerable communities, in disaster emergency response, in search and rescue operations and in disaster rehabilitation and reconstruction. While the CDCC has prepared the city well and strengthened its capacities to cope with disasters, it still has to formally document the city disaster risk management plan with HRVA.

The CDCC provides leadership, policy orientation and program coordination as well as serving as a reference for best practices on how to reduce risk and vulnerability to hazards and to continually improve on the city’s capabilities to sustain safe communities. The City Mayor leads the city disaster management efforts as CDCC Chairman with the City Chief of Police providing over-all support as CDCC Vice-Chairman. The City DILG



Officer leads the intelligence and disaster analysis while the CPDC leads planning and operations. Logistics is the responsibility of the GSO. Communications, Warning and Public Information is led by KABALIKAT, an communications NGO. Evacuation is led by the Liga ng mga Barangay supported by the PNP and BFP. The City Health Office takes care of Health, while the City Engineer's Office is responsible for transportation supported by resources in the City Health Office and City Mayor's Office. The CSWDO is responsible for Relief and Distribution, BFP for Fire Protection and PNP for Police Protection.

Since natural hazards can affect anyone, and anywhere, disaster risk management is everybody's concern. Hence, the cooperation of NGOs and community associations is an integral part of the Tuguegarao CDCC for relief and rescue operations, community services and goodwill, information dissemination, community development and socio-economic advancement.

While natural hazards are inevitable, deaths and preventable losses from hazards need not happen. Having learned to live with risk being situated in the bed of the grand Cagayan Valley, Tuguegarao City has learned from all its lessons from the past and has adopted:

- Land Use planning to avoid built up areas in parts of the city that are exposed to hazards;
- Early Warning systems and communication systems to prepare vulnerable communities;
- Fire drills for schools and emergency evacuation drills for vulnerable communities;
- Evacuation centers and teams to take care of displaced individuals and families
- Trained RESCUE 49 disaster volunteers complete with rescue boats and equipment
- Emergency relief assistance to displaced families
- Seeds distributed to farmers to replace destroyed crops

MDG FOCUS: PRIMARY EDUCATION

Utilizing the City Development Strategy (CDS) in its pursuit to improve living conditions, Tuguegarao City formulated and implemented solutions with the help of the city's CDS champions to reduce poverty, generate employment and investment, increase capability and productivity, improve environment and rediscover the rich Ibanag Cultural Heritage.

Education is the main driver for the eradication of illiteracy. To ensure that all children are educated, Tuguegarao City has utilized a combination of projects (better roads connecting homes to schools making trips to and from the school safer, making the police very visible in schools and commercial districts, additional school buildings, better classrooms, new schools, textbooks, computers, musical instruments for schools, teachers' trainings, alternative learning system for out-of-school youth, leadership trainings, student exposure in regional, national and international competitions, children's parks, security facilities and services for schools, livelihood programs for parents, values trainings, spiritual exercises, parents classes for health and nutrition, feeding program, sports development, communal gardens, and actively involving children in making the city a better place to live in).

Parents-Teachers-Community Associations (PTCAs), civic organizations, regional line agencies, churches, corporations and barangay governments all cooperated to successfully implement and sustain the projects and activities.

The combined efforts of the different CDS Champions of Tuguegarao City resulted in the following outputs and outcome in the area of education:

Performance Indicators	SECONDARY LEVEL					
	School Year					
	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005
Cohort Survival Rate	91.22	93.05	94.40	94.50	96.08	98.62
Participation Rate	96.11	96.59	97.27	93.35	96.08	97.94
Achievement Rate	60.00	64.08	75.79	76.10	84.50	
	ELEMENTARY LEVEL					
Cohort Survival Rate	91.375	92.10	93.20	94.37	94.62	100.12*
Participation Rate	97.34	98.88	98.89	98.94	99.77	105.97*
Achievement Rate	51.26	53.72	61.09	63.56	66.09	
# of Enrollees	OUT-OF-SCHOOL YOUTH AND ADULTS					
Balik Paaralan – Out of School Adults (BP-OSA)	25	25	25	25	25	75
Non-formal Education –Accreditation & Equivalency/Alternative Learning System (NFE-AE/ ALS)	50	167	200	285	350	

* includes transferees from other towns and provinces

Tuguegarao City has broadened its networks of CDS Champions and Public Governance System (PGS) Partners to include all barangays, schools, churches, military, media, business, labor unions, professionals, youth, elderly, farmers, market vendors, tricycle owners and drivers associations (TODAs), non-government organizations (NGOs), regional line agencies (RLAs), civic organizations (COs), the Provincial Government of Cagayan and international donors.

With all these partners, communities and individuals at risk are identified and immediately linked to the CDS programs and projects to reduce or eliminate problems to include disease, hunger, malnutrition, lack of education, lack of employment, lack of decent housing and other hazards like floods, fires, crime, abuse, discrimination and the like.

MDG Focus: Achievement of Universal Primary Education (MDG 2)

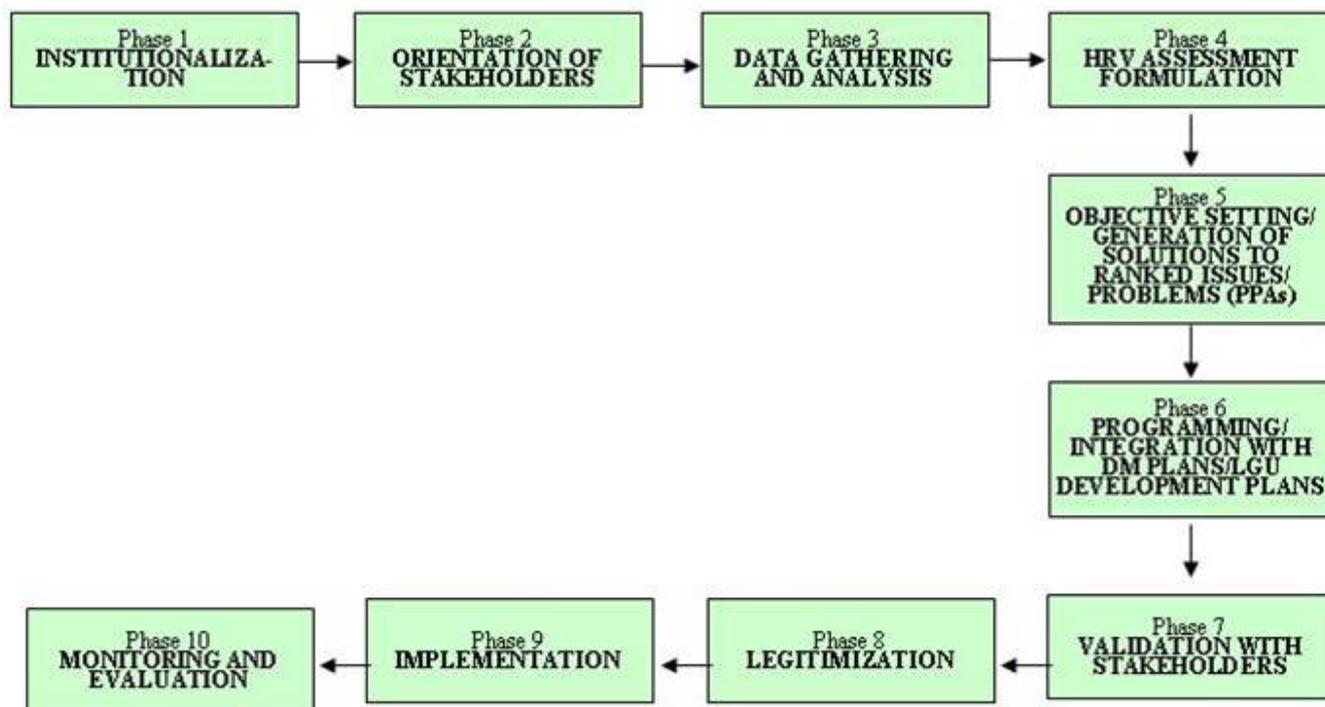
In recognition of the transformative and enabling role of education in human development and to enhance the city's achievements in child welfare and protection, Tuguegarao City chose to focus on MDG 2 - the achievement of universal primary education. As the Most Child Friendly Component City of the Philippines – Hall of Fame Awardee, Tuguegarao City seeks to continually provide the best opportunities and practices in child survival, development, protection and participation.

Elementary and secondary education in the Philippines is free. Poverty however, delimits this guaranteed right to education when the family could not afford the daily cost of fares and meals. In extreme cases, children miss school to help bring food to the family table.

Education is fundamental for reducing poverty and opening choices and opportunities throughout life. With education, people's access to and enjoyment of other rights is enhanced. Across many countries, evidence shows that better educated parents are more likely to responsibly plan their families, families have smaller sizes, women have safer pregnancies and childbirths, infants and small children have greater chances of survival and families have greater chances for better living conditions.

Therefore, to effectively eradicate poverty and hunger, promote gender equality and empower women, reduce child mortality, improve women's reproductive health, combat HIV/AIDS and other diseases, ensure environmental sustainability and eventually develop global partnership for development, education that allows functional literacy is the fundamental success factor.

THE HAZARDS, RISKS AND VULNERABILITY ASSESSMENT (HRVA) PROCESS



1.0 Institutionalization

1.1 Orientation on Disaster Management

Objectives:

- 1.1.1 To briefly discuss the MDGs and its relation to Disaster Management
- 1.1.2 To provide basic understanding of the different types of hazards, risks and vulnerability and their assessment in a particular community
- 1.1.3 To explain why HRVA has to be conducted

1.2 Orientation on HRVA and the Project (MEET the MDGs)

Objectives:

- 1.2.1 To discuss basic project information, description, objectives and outputs
- 1.2.2 To provide basic understanding of HRVA process and outputs

1.3 LGU Commitment (Executive and Legislative)

Preparatory Activities:

The City Mayor presented the MDGs and the MEET the MDGs Project to City Officials and to the City Development Council (CDC). The CDC and the Sangguniang Panlungsod approved MDG Localization in Tuguegarao City. The UN Habitat Disaster Management consultant visited Tuguegarao City to orient the city functionaries about MDG, DRM and the Project.

The following steps were undertaken:

- 1.3.1 Review of MOA between UN Habitat and the City Government for the Project
- 1.3.2 Sangguniang Panlungsod Approval of MOA and grant of authority to the Mayor to enter into said agreement in representation of the city.
- 1.3.3 Signing and transmittal of MOA to UN Habitat

On March 10, 2006, the City Development Council (CDC) approved and endorsed the Localization of the Millennium Development Goals with CDC Resolution 04-2006, approved by the City Council in Sangguniang Panlungsod Resolution 036-2006.

Upon receipt of the MOA from UN Habitat, the Mayor transmitted it to the City Council for review. The City Council passed Sangguniang Panlungsod Resolution 150-2006 on October 31, 2006 approving the MOA and granting authority to the Mayor to enter into said agreement in representation of the city. On the same day, Mayor Ting signed the MOA.

Mayor Ting reviewed the MDG Goals in consultation with the CDC Members, City Council Chairpersons for Education, Social Services, Appropriations, Infrastructure, and Women and Family and the MDG Focal Person. Considering that Tuguegarao City is directing its efforts to be the Center of Excellence in Education, Commerce and Culture for Northeast Philippines, the consensus was to focus on the Achievement of Universal Primary Education.



**15th City Development Council Meeting
Office of the City Mayor, Tuguegarao City Hall
March 10, 2006.**

On March 10, 2006 after the 15th CDC Meeting, Mayor Ting confirmed with UN Habitat the city's choice of MDG focus.

Lesson Learned:

Involving city stakeholders creates excitement in joining world efforts to achieve the Millennium Development Goals. The ensuing enthusiasm renews commitment and energy for city efforts to continue improving city living conditions and to serve as a model for the neighboring towns.

1.4 Identification of the LGU MDG focus

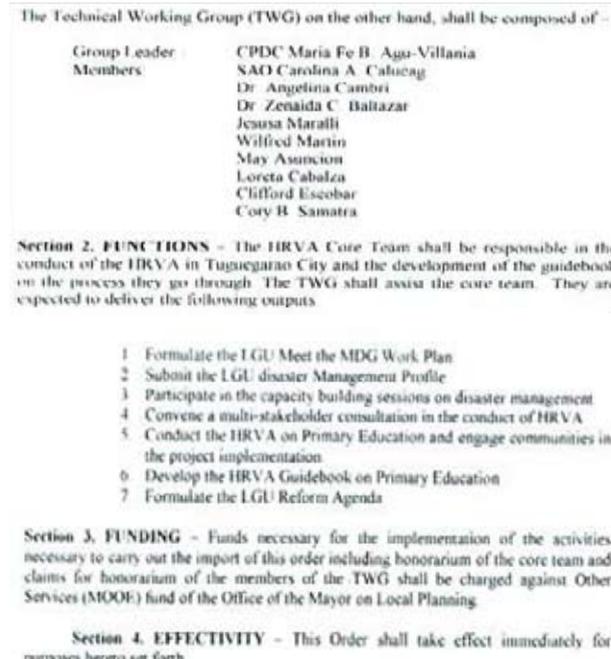
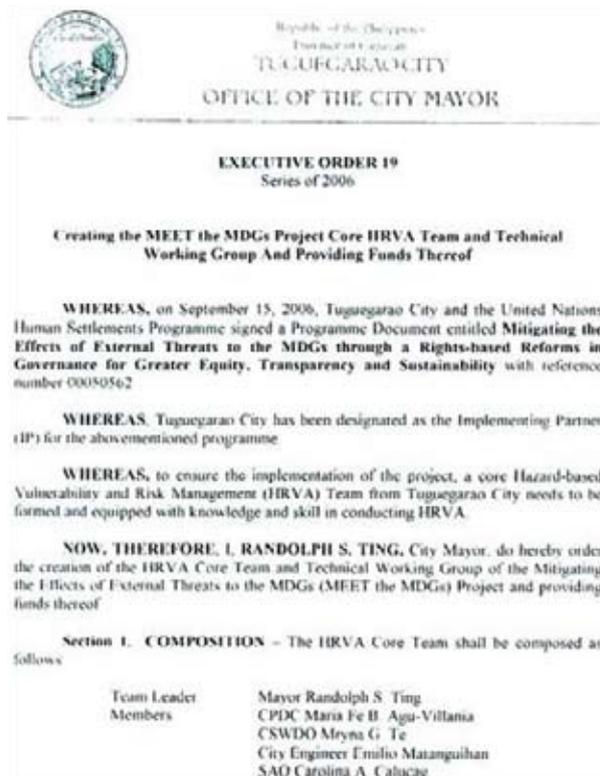
In identifying the focus of the project, the following steps were undertaken:

- 1.4.1 Discuss MDGs with city stakeholders.
- 1.4.2 Using city development goals as decision criteria or any other criteria deemed essential by the city, decide on City MDG focus.

1.5 Formation of LGU HRVA Team

1.5.1 Issuance of Executive Order

- 1.5.1.1 Guided by the Project objectives and outputs, determine the key functions of the Project Core Team.
- 1.5.1.2 Identify the key functionaries to undertake the Project.
- 1.5.1.3 Issue the EO creating the Project Core HRVA Team and Technical Working Group and Providing Funds thereof.



ISSUED this 8TH day of August 2006 at Tuguegarao City

RANDOLPH S. TING
City Mayor

1.5.2 Operationalization of the Executive Order
Steps:

The Project Core Team Leader convenes the organizational meeting.
Discuss with the Core Team members the Project, its objectives and outputs.
Get the members' commitment to complete the Project.

2.0 Orientation of Stakeholders and Work Planning

2.1 LGU Capability Building and Work Planning

Objectives:

- 2.1.1 To discuss the MDGs and the present state of the cities with regards to meeting their MDGs.
- 2.1.2 To introduce Disaster Management framework, perspectives and concepts, including concepts of vulnerability and risk reduction to allow conceptualization of disaster mitigation vis-à-vis the MDGs.
- 2.1.3 To introduce the hazard-based risk and vulnerability assessment tool and processes.
- 2.1.4 To formulate work plans to generate city outputs and process documentation for the guidebook.



Representatives sent by the Core Team, joined by City Councilors at the MEET the MDGs City Disaster Management Workshop at Antipolo City, August 2006

When asked to echo the training to the Core Team and TWG, the representatives trained at Antipala City could not provide directions on how Tuguegarao City will undertake the MDG Localization Project focused on Primary Education.

CPDC Villania studied the Training Materials to be able to prepare the City Work Plan for submission to UN Habitat to signify the city's interest and commitment to the Project.

For the Project to proceed, the TWG Group Leader requested for another DRM, HRVA and Process Documentation training. The City Mayor approved the added Capability Building activity because the City Core Team and TWG did not know what to do next.

The UN Habitat Project Coordinator and Knowledge Manager conducted a Special MEET Session for Tuguegarao City at El Nito's Inn, Quezon City on October 26-27, 2006.



Project Coordinator Juan Blenn Huelgas and Knowledge Manager Cris Rollo conducted the Special MEET Training for the Tuguegarao City HRVA TWG at Quezon City, October 2006.

Lesson Learned:

in The inability of Core Team to commit themselves to complete the Project will cause undue delays in Project implementation and documentation.

2.2 Preliminary HRVA

- 2.2.1. Using available data and local knowledge, the TWG lists and discusses all likely hazards related to the achievement of primary education (What factors or conditions will prevent the children from completing primary education?)
HRVA Sheet 1- Hazards List
- 2.2.2 Classify identified hazards. Describe the main categories of hazards.
HRVA Sheet 2- Hazard Analysis
- 2.2.3 Describe the selected community
HRVA Sheet 3- Community Description
HRVA Sheet 3a -Physical Characteristics
HRVA Sheet 3b- Social Characteristics
- 2.2.4 Determine the main impact consequences
HRVA Sheet 4- Impact Consequences
- 2.2.5 Produce the Vulnerability Statement
HRVA Sheet 5- Vulnerability Statement

2.3 Team Planning and Preparations

- 2.3.1 Using the results of the Preliminary HRVA, review the City HRVA Work Plan.
- 2.3.2 Using cause-and-effect analysis, detail the activities for each phase of the Project
- 2.3.3 Assign the different steps to the TWG Members making sure that each member understands how every step relates to the whole Project.
- 2.3.4 Agree on deadlines for each step and on reports to be generated after each step to facilitate Project progress assessment.
- 2.3.5 Coordinate supplies, transport, communications and other needed resources to successfully generate the intended outputs at each step.

CITY	TUGUEGARAO CITY
MDG Focus	Primary Education
City MDG 2 Target	Primary Participation Rate – 100 by 2015 Primary Cohort Survival Rate – 85 by 2015
City Core Group	
Team Leader	City Mayor Randolph S. Ting
Members	CPDC Maria Fe Agu-Villania - MDG Focal Person Supervising Adm. Officer Carolina Calucag
City Technical Working Group	
Team Leader	CPDC Maria Fe Agu-Villania, CPA, MBA, CSEE
Members	SAO Carolina Calucag, LLb Angelina Cambri, PhD Zenaida Balthazar, PhD CTEC Jesusa Maralli, BS Psychology Engr. Clifford Escobar, CE Loreta Cabalza, BS Architecture May Asuncion, R Social Worker Cory Samatra, BS Business Administration Wilfred Martin, BS Education

1.0 Institutionalization of Project

- 1.1 Orientation of LGU Tuguegarao on MDG, Disaster Risk Management, Hazards Risks and Vulnerabilities Assessment and MEET the MDGs
- 1.2 LGU Commitment (Executive and Legislative)
- 1.3 Identification of LGU MDG Focus

2.0 Formation of Core Group and Technical Working Group (TWG)

- 2.1 Preparation of Executive Order
 - 2.1.1 Orientation of City Functionaries on MEET the MDGs
 - 2.1.2 Identification of Key Functionaries and Key Functions
- 2.2 Orientation of TWG Members
 - 2.2.1 Organizational Meeting of Core Group and TWG
 - 2.2.2 Work Planning Workshop
- 2.3 Capacity Building of TWG Members
 - 2.3.1 Orientation on MDG and MEET the MDGs
 - 2.3.2 Orientation on Disaster Management
 - 2.3.3 Hazard Risk and Vulnerability Assessment Orientation
 - 2.3.4 Process Documentation Orientation
 - 2.3.5 HRVA Workshop
 - 2.3.6 Process Documentation Workshop
 - 2.3.7 Refinement of Work and Financial Plan

3.0 Hazard Risk and Vulnerability Assessment of Initial Study Area

- 3.1 TWG Operational Planning
 - 3.1.1 Identification of Initial Study Area
 - 3.1.2 Strategy Formulation
 - 3.1.3 Process Development
 - 3.1.4 Tools Development
 - 3.1.5 Assessment Team Formation
- 3.2 Area Preparation
 - 3.2.1 Meeting with School Officials
 - 3.2.2 Meeting with Teachers
 - 3.2.3 Coordination with Barangay Officials
- 3.3 Initial Analysis of Available Data
 - 3.3.1 Education Sector Data
 - 3.3.2 Barangay Survey
- 3.4 Primary Education Survey
 - 3.4.1 Survey of Primary Education Drop-outs and Falterers
 - 3.4.2 Survey of Study Area Characteristics
 - 3.4.3 Survey of Primary Education Teachers
 - 3.4.3 Data Processing
 - 3.4.4 Focused Group Discussion with City and School Officials
- 3.5 Actual Conduct of HRVA Process
 - 3.5.1 Identification of Hazards to Primary Education
 - 3.5.2 Analysis of Hazards
 - 3.5.3 Analysis of Community
 - 3.5.4 Identification of Impact Consequences
 - 3.5.5 Analysis of State of Vulnerability of Initial Study Area
- 3.6 Validation with Stakeholders
 - 3.6.1 Gather all Stakeholders
 - 3.6.2 Presentation of HRVA Results
 - 3.6.3 Processing and Integration of Feedback
 - 3.6.4 HRVA Assessment Refinement
- 3.7 Process Documentation (MEET the MDG #2 Guidebook)

4.0 Replication of Initial Study to the entire city**5.0 Hazard Risk and Vulnerability Assessment of Entire LGU****6.0 Formulation of Local Government Reform Agenda**

- 6.1 Identification of City's vulnerabilities impacting on Primary Education
- 6.2 Develop policies to eliminate or reduce these vulnerabilities
- 6.3 Formulate strategies to eliminate or reduce vulnerabilities
- 6.4 Develop programs/projects/activities (PPA) to achieve 100% Primary Education Participation Rate and 85% Primary Education Cohort Survival Rate by CY 2015

7.0 Institutionalization

- 7.1 Adopt HVRA Process to City Development Planning System
- 7.2 Incorporate the Local Government Reform Agenda in the CCDP/CLUP
- 7.3 City Development Council Approval and Endorsement to SP
- 7.4 Sangguniang Panlungsod Approval
- 7.5 Sangguniang Panlalawigan Approval

8.0 Implementation

- 8.1 Include Primary Education PPA in Annual Development Plan
- 8.2 Include Primary Education PPA Funding Annual Budget
- 8.3 Train Program Managers and Implementors
- 8.4 Set Annual Targets of Primary Education (per school, per grade level)
- 8.5 Carry out approved PPAs for Primary Education

9.0 Monitoring and Evaluation

- 9.1 Gather Accomplishment Reports per school, per grade level
- 9.2 Compare Actual Accomplishment with Annual Targets
- 9.3 Analysis of Accomplishment discrepancies
- 9.4 Development of mitigating measures

2.4 Operational Planning

2.4.1 Strategy formulation

Guided by the Preliminary HRVA and the City HRVA Work Plan, brainstorm on the most efficient and effective means of carrying out the Project steps. Agree on the best means (simple steps, easy to implement, not costly, produce stable and true answers).

MEET the MDGs Primary Education Project Strategies Tuguegarao City

A. Initial Study Area

Due to its geographical centrality being in the city Central Business District, the Tuguegarao East Central School was chosen as the Initial Study Area to include barangays Centro 1, 4, 5, 6, 7, 9 and 10 in its influence area.

B. Primary School Drop-outs Identification

Drop-outs shall be tracked down using official school records and Barangay Family Data Base kept in the City Social Welfare Office.

The assistance of school officials and barangay officials shall be solicited to effectively identify and reach all Primary School drop-outs. This needs careful area preparation.

C. Interviews

All Primary School drop-outs in the area shall be interviewed to determine their personal profile and reasons for dropping school.

The parents or guardians of the interviewed drop-outs shall be interviewed to determine their personal profile and attitudes towards the child's access to primary education and to determine the family living conditions as a factor affecting access to primary education.

The teachers of pupil drop-outs shall be interviewed to determine their personal profile and attitude as a factor affecting the child's access to primary education.

Barangay officials, leaders of barangay organizations, community leaders, private concerned citizens, and owners of commercial establishments in the neighborhood shall be interviewed to determine the community characteristics and factors affecting child welfare and protection.

School and barangay officials shall be interviewed to determine hazards to access to primary education not apparent to mere observers.

D. Study of Community Characteristics

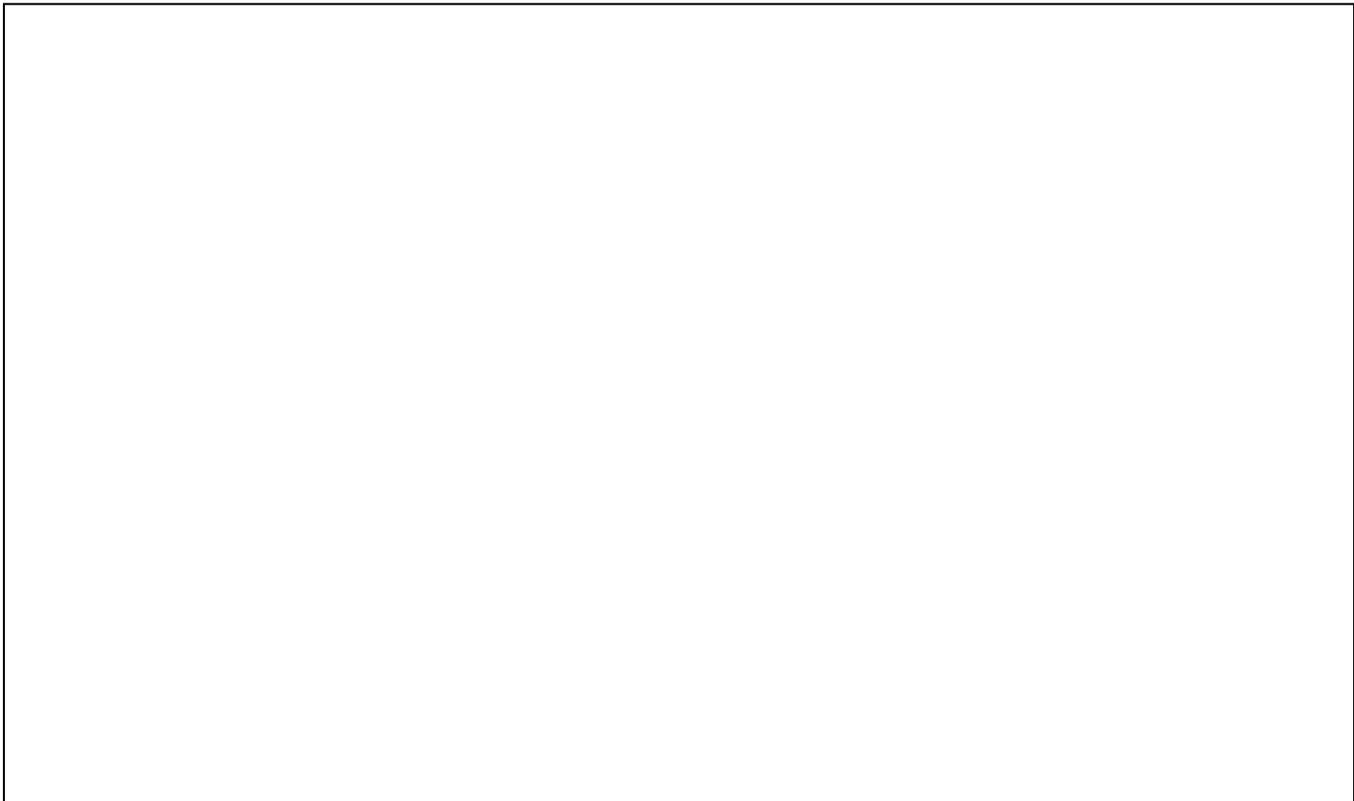
The TWG shall observe and document the physical conditions of the school and of the barangays in the study area, as well as the social characteristics of the school and barangays.

E. Validation of Initial Study Area Results

When survey results of the Initial Study Area are processed, the study shall be replicated in representative schools in the eastern and northern parts of the city to compare and substantiate results of the Initial Study Area.

Eventually, all schools in the city shall be studied to determine the city situation regarding the hazards faced by the children of Tuguegarao City in achieving Primary Education.

(INSERT Initial Study Area Map HERE)



2.4.2 Process development

- 2.4.2.1 The TWG members guided by the leader agree on the major stages of the project.
- 2.4.2.2 For each stage, detail the activities, the resulting outputs and reports to be generated.
- 2.4.2.3 Prepare a Process Flowchart.

Importance:

This step clarifies the interrelationships of the different activities to the whole Project. It provides focus and direction to the team efforts especially when the members break off into teams.

(Insert PROCESS FLOWCHART here.)

2.4.3 Tools development

- 2.4.3.1 TWG Members with doctoral or masteral degrees shall develop the survey instrument for pupil drop-outs, their parents, the members of the community and barangay officials.
- 2.4.3.2 The TWG shall test the survey instruments against the Preliminary HRVA to ensure that survey results will either validate or negate the Preliminary HRVA and will reveal hazards, risks and vulnerabilities not identified by the preliminary assessment.
- 2.4.3.3 The TWG shall test the survey instruments against the Work Plan to ensure that the survey shall provide answers needed to undertake all Project activities.

(Insert the SURVEY KIT HERE)

2.4.4 Assessment Team formation

- 2.4.4.1 Considering actual work load, capabilities and availability, the TWG agrees on the members who shall actually undertake the Hazards, Risks and Vulnerabilities Assessment.
- 2.4.4.2 The chosen members agree on deadlines in coordination with the other TWG members who are responsible for data generation and logistics.
- 2.4.4.3 The TWG Leader and Member from the Office of the Mayor update the Mayor of decisions made by the TWG and of the deadlines agreed upon.

2.5 Area Preparation

- 2.5.1 The TWG members shall personally coordinate with the Barangay Chairmen, officials and workers of the barangays included in the Initial Study Area.
- 2.5.2 The TWG members shall personally coordinate with the City Schools Division Superintendent, the Tuguegarao East District Supervisor, and the School Principal and Primary School Teachers of the Tuguegarao East Central School.
- 2.5.3 The TWG members shall present to the barangays and to the school the Project, its objectives, process, activities and expected outputs.

3.0 Data Gathering and Analysis

3.1 Actual conduct of HRVA Survey

Preliminary Activities:

- 3.1.1 Identify Families with children ages 6-10
 - Use the Family Database duly accomplished survey forms
 - List families in the Initial Study Area with children ages 6-10
- 3.1.2 Identify Primary School Drop-outs
 - Get copies of duly submitted DepEd forms for School Drop-outs
- 3.1.3 Prepare Survey Team
 - Train and familiarize the Survey Team members need with the survey tool.
 - Agree on common answers for clarifications most likely to be raised by survey respondents.
 - Agree on common recording of survey responses most likely to be received.
 - Set the survey date (preferably a school day), assembly place and the time and means of transportation.
 - Synchronize time pieces utilized (wristwatch, cellphone, etc.) by the members of the survey team.

Steps:

Courtesy Call

1. The Survey Team calls upon the Barangay Chairman on the time and date agreed upon during the Area Preparation stage..
2. The Barangay Chairman accompanies the Survey Team to the families identified with children ages 6-10. Alternately, a Barangay Official (Kagawad, Secretary or Treasurer) or worker (Day Care Worker, Barangay Nutrition Scholar, Barangay Health Worker) could be designated to accompany the Survey Team.

Interview of Children, Parents, Community members and officials

1. Ask all identified families whether the children ages 6-10 are in school or not. Skip the family if the child is in school.
2. Interview all children ages 6-10 found not in school.
3. Interview the parents or guardians of all interviewed drop-outs.
4. Interview barangay officials, leaders of barangay organizations, community leaders, private concerned citizens, and owners of commercial establishments in the neighborhood to determine the community characteristics and factors affecting child welfare and protection.
5. Interview school and barangay officials to determine hazards to access to primary education not apparent to mere observers.

Interview of Teachers

1. Interview all Primary School teachers of the Initial Study Area.
2. Follow up drop-outs to locations indicated in the school reports.

Survey of Community

1. Observe the physical conditions of the school and of the barangays in the study area, as well as the social characteristics of the school and barangays.
2. Take pictures of the interviews of drop-outs, parents, officials and members of the community, as well as of the houses and surroundings of those interviewed.
3. Take pictures of the interviews of teachers and of the school surroundings and facilities.

(Insert Photos of Survey here.)

3.2 Data processing

Steps:

1. Tabulate the survey results.
2. Reflect survey results in tables, charts and diagrams.
3. Analyze the survey results with statistician.
4. Validate survey results.
 - a. Replicate survey in representative schools in the eastern and northern parts of the city to compare and substantiate results of the Initial Study Area.
 - b. TWG reviews and comments on the results of the Initial Study Area survey and replication surveys.

Lessons Learned:

The Survey enumerators and TWG Members had difficulty handling the images of extreme poverty they encountered in the field. Data processing of survey results was relegated to the background. Providing answers to the problems they uncovered during the actual survey was prioritized.

The Survey Team needs psychological preparation aside from the technical preparation for the survey. Of equal importance is their psychological debriefing after the survey. When heavily affected, the team shall not be able to do the necessary processing and reports.

Survey Results

Two of the 3 drop-outs are male. All the drop-outs are Roman Catholics, who sometimes attend church. Their ages range 6-12 years old. The two brothers belong to a 6-member family supported by grandparents in their 60s, while the girl drop-out have 7 other siblings. The girl lives with a foster family. The parents/guardians finished secondary education.

While, they cannot support the children's education and have very little available time aside from earning a living, the parents/guardians can sustain "three-times-a-day" modest meals for all the children, have a house with basic amenities such as electricity, water supply, bathroom and kitchen.

The survey showed that Parent's Attitude is the main factor affecting the dropping out of children. The brothers' mother had multiple partners and left her sons in the care of her aging parents. The girl's parents do not exert effort to send their children to school. Thus, Extreme Poverty is an indicative factor. An emerging factor is the Pupil's Attitude.

Other factors - teacher's attitude and community influence, showed insignificant results during the survey.

Statistical Tests:

Using Regression Analysis to determine the significance of the factors, namely, Pupil’s Attitude, Parent’s Attitude, Teacher’s Attitude and Environmenral Influence as determinants to the Dropping out of Students, statistical results show that at 95% confidence interval, Student’s Attitude and Parent’s Attitude proved significant. Thus, regression equation for the survey undertaken is as follows:

$$\text{Dropping Out} = 0.480 * \text{Pupil’s Attitude} - 0.120 \text{Parent’s Attitude} + \text{error}$$

**Table 1
Coefficients**

		Standardized Coefficients	t	Sig.
	Std. Error	Beta		
(Constant)	1.070		5.106	.002
Pupil’s Attitude	.480	-.126	-.897	.001
Parent’s Attitude	-.120	.260	2.166	.000
Community Influence	.464	.006	.042	.968
Teacher’s Attitude	.108	.912	7.311	.932

- a Dependent Variable: Dropping Out of Students
- b. Results derived through Statistical Package for Social Sciences (SPSS) software

The Pearson’s Coefficient of Correlations reveals that two factors, namely, “Parent’s Attitude” and “Pupil’s Attitude” are highly correlated. It may be said that “Parent’s Attitude” directly affects “Student’s Attitude”.

**Table 2
Pearson’s Coefficient of Correlation**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.935	.874	.810	.6513

- a Predictors: (Constant), PARENT’S ATTITUDE, PUPIL’S ATTITUDE
- b. Results derived through Statistical Package for Social Sciences (SPSS) software

Conclusion: Of the factors, Parent’s Attitude and Pupil’s Attitude are significant. The higher the “negativity” of parent’s attitude, the greater the chance of the pupil to drop-out.

Observations/Findings:

1. Once asked to stop studying, boys easily lose interest in schooling.
2. Girls sustain their hope to finish their studies.
3. Boys turn their attention to games, fun and thrill seeking when asked to stop studying.
4. Girls are made to take care of younger siblings and do household chores. Whatever leisure time they have is not enough for them to undertake the alternatives the boys choose to focus on.
5. Boys are also made responsible for odd household chores.
6. Female drop-outs then opt to become housemaids and get paid for the very chores they do at home for free.
7. Male drop-outs choose to become pahinante, bodegero or do odd jobs in the neighborhood or in nearby business establishments.
8. Male drop-outs also become scavengers and sell recyclables to junkshops. Scavenging exposes children to diseases and eventually to poor health. Scavenging also complicates the solid waste management cycle when packed, segregated waste ready for collection for final disposal is forcibly opened and culled, creating scattered mounds of unsightly garbage and wind-blown litter.
9. Large-sized poor families with parents who did not finish college or technology programs most often have malnourished, sickly and out-of-school children.
10. Extremely poor parents with many children need several support systems. It is not enough to provide occasional financial assistance, emergency feeding during calamities or even livelihood. Integrated efforts are needed to allow them to acquire knowledge, skills and attitudes to create conditions that nurture sustainable growth and improvement.
11. School drop-outs need to be identified, assisted to go back to school and nurtured to keep studying. The families need to be monitored as they immediately give in to the easy way out.
12. Elementary school teachers are also guidance counselors. Per DepEd regulations, every public school teacher is a remedial teacher. Considering the class size and the mix of responsibilities of these teachers, children at greatest risk of quitting school do not get the assistance they need.
13. The cost of providing formal guidance counseling services in public elementary schools would be lower than the cost of rehabilitating school drop-outs, lowered moral standards and dysfunctional families.
14. Weakening morals give rise to socio-economic problems. Unregistered, illegitimate children do not have birth certificates needed for enrollment. Permissiveness and lack of direction are root causes of teenage pregnancies and early marriages, which is very risky for both mother and infant and increases socio-economic burdens for the family and community.
15. Weak spirituality causes despair, false humility, misguided concepts about life.

(Insert Stories from the field.)

3.3 Area based Assessment

- 3.3.1 List all physical conditions of the school and of the barangays in the study area.
- 3.3.2 List all social characteristics of the school and barangays.
- 3.3.3 Correlate the observed negative physical and social characteristics to the causes of Primary School dropping-out in the area.
- 3.3.4 Determine possible actions to eliminate or reduce the negative conditions and characteristics so as to eliminate the cause of dropping-out.

Tuguegarao East Central School is surrounded by major socio-economic activities and distractions. This did not affect the community. Of 847 children aged 6-10 in the Initial Study Area, only 3 were not in school.

While this could mean very insignificant, the stories of the children are very disturbing. When nothing is done to remove the identified hazards, the insignificant 0.35% Primary School Drop-out Rate could slowly escalate. The City chooses to achieve 100% Primary School Participation Rate.

While the Parent's Attitude and Pupil's Attitude remain the significant hazards in the replication surveys, the drop-out rate increased to 3.47% for Linao West and 1.14% for Tagga. The aggregate drop-out rate of the western barangays is 0.56% while that of the eastern barangays is 0.65%, both rates higher than the aggregate drop-out rate of 0.35% for the Tuguegarao East Central School..

The further the barangay is from the Central Business District (CBD) where the demand for cheap, unskilled labor is very high, the greater the impact of extreme poverty. This is however mitigated by the higher availability of food in the rural barangays usually at no cost, compared to the urban barangays where cost of food is high.

While distractions from education proliferate in the CBD, services and facilities are better in the Center which support better levels of education and serve as inspiration for children to excel to be able to afford comfort and convenience. Rural children are at a disadvantage in this aspect.

INITIAL STUDY AREA SURVEY				
Barangays	2006 Population	Population	Number of	Drop-out Rate
		6 - 10	Drop-Outs	
1	1,296	114	1	0.88%
4	1,223	82		
5	2,017	194		
6	313	19		
7	251	21		
9	1,555	147		
10	2,676	270	2	0.74%
Total	9,331	847	3	0.35%

REPLICATION AREA SURVEY				
Barangays	2006 Population	Population	Number of	Drop-out Rate
		6 - 10	Drop-Outs	
Linao East	6,160	708		
Linao Norte	3,059	338		
Linao West	1,583	202	7	3.47%
Total	10,802	1,248	7	0.56%
Tagga	1,390	175	2	1.14%
Dadda	1,201	133		
Total	2,591	308	2	0.65%

4.0 HRV Assessment Formulation

4.1 List of hazards

- 4.1.1 List all the hazards you can think of which might affect your chosen community.

Focus on the child going to school, attending classes, working with teachers, classmates and school officials and on the child going home, living with the family, with neighbors and in relation with the environment.

- 4.1.2 Identify all hazards, risks and vulnerabilities impacting on the child at home, in school and within the environment of the child.

(Vulnerability Analysis Cover sheet and Sheet 1 – please see HRVA Sheets folder – Tuguegarao Final HRVA files)

4.2 Analysis of Hazards

- 4.2.1 Examine each hazard separately.
- 4.2.2 Identify Damaging Characteristics of the hazard that prevents the child from successfully completing Primary Education.
- 4.2.3 Determine any Forewarning of the hazard.
- 4.2.4 Determine Speed of Impact of the hazard on the child's ability to complete Primary Education.
- 4.2.5 Calculate Impact Duration of hazard on the child and his/her schooling.
- 4.2.6 Determine Causes of the hazard as it adversely affect the child's Primary Education.
- 4.2.7 Find out the History of the hazard as a negative factor on Primary Education.
- 4.2.8 Determine the Predictability of the hazard, if possible.
- 4.2.9 Determine the Probability of the hazard, if possible.
- 4.2.10 Determine the Controllability of the hazard so as to determine possible positive actions to save the child.
- 4.2.11 Find out the Growth of the hazard as a negative factor on Primary Education.
- 4.2.12 List any relevant comments to help formulate the Local Government Reform Agenda for Primary Education.

(Vulnerability Analysis Sheet 2 – please see HRVA Sheets folder – Tuguegarao Final HRVA files)

4.3 Description of Community

- 4.3.1 Define the Community's geographical boundaries.
- 4.3.2 Where possible, define the Community's Grid References,
- 4.3.3 Physical Community
Considering its physical conditions, assess the Community's ability to provide quality living conditions.

4.3.2 Social Characteristics

Considering its social characteristics, assess the Community's ability to provide quality living conditions.

(Vulnerability Analysis Sheet 3, 3a and 3b – please see HRVA Sheets folder – Tuguegarao Final HRVA files)

4.4 Impact Consequences

4.4.1 Examine each hazard separately.

4.4.2 Determine the hazard's effect on the child's completion of Primary Education.

4.4.3 Determine the hazard's effect on the

- a. Child's physical health
- b. Child's morale and emotional well-being
- c. Child's ability to finish Primary Education
- d. The school
- e. The community
- f. The city in general

4.4.4 Determine any other effect the hazard is most likely to have

(Vulnerability Analysis Sheet 4 – please see HRVA Sheets folder – Tuguegarao Final HRVA files)

4.5 Analysis of State of Vulnerability

4.5.1 List the hazards to Primary Education that have been analyzed.

4.5.2 Determine the elements that are most vulnerable to the hazard.

4.5.3 Find out in what ways are the elements vulnerable.

4.5.4 Determine how the hazards affect the child's finishing Primary Education.

4.5.5 Develop the most urgent actions needed to be done to eliminate or reduce the conditions that adversely affect, or even the likelihood that these conditions could affect the child's ability to complete Primary Education.

(Vulnerability Analysis Sheet 5 – please see HRVA Sheets folder – Tuguegarao Final HRVA files)

Hazards, Risk and Vulnerability Assessment of Primary Education in Tuguegarao City

HRVA of Primary Education allowed Tuguegarao City to shift its manner of analyzing and developing solutions to ensure that all children are educated and that all persons 10 years and over are able to read and write and do simple calculations. Identification and analysis of hazards, analysis of the community, its physical, social and economic characteristics, as well as the critical facilities needed or affected revealed many insights and areas of improvement that could be crucial to sustainable efficiency and effectiveness of measures to achieve universal primary education in Tuguegarao City.

While Tuguegarao City is confident that it has implemented many programs, projects and activities to ensure child welfare and protection, of which education is a major component, HRVA revealed threats, vulnerabilities and risks of the city not being able to achieve 100% primary education for all and to protect the city's gains in survival, development, protection and participation of children.

Traditional LGU planning for education focused on the school and its facilities. Tuguegarao City innovated to include planning with the school children, the teachers and school officials to include trainings, equipment, textbooks, sports development and others. However, other hazards have been revealed by HRVA process. These are:

1. Large-sized poor families with parents who did not finish formal schooling are most likely to have malnourished, sickly and out-of-school children.
2. Extremely poor parents with many children need several support systems that will provide the necessary momentum and critical mass for them to be able to start a virtuous cycle of growth and development. Left on their own resources, they are most likely to remain poor. In many instances, their parents and grandparents were likewise poor. Their children will most likely become poor parents, also with many children.
3. Elementary school teachers double up as guidance counselors. Children with difficulties miss out on opportunities of being assisted. These vulnerable children could eventually give up schooling.
4. Weakening morals give rise to socio-economic problems that include unregistered illegitimate children, who could not enroll for lack of birth certificates.
5. Out-of-school children need to be identified, assisted to be enrolled and to stay in school. With no special attention on this matter, no energy flows to create the desirable conditions for these children. Unassisted, these children will become mere statistics of those that fell in the cracks of our multifarious concerns.

To lessen or eliminate these hazards, risks and vulnerabilities, Tuguegarao City needs to adopt new policies, institute more innovative and target-focused procedures, and install more facilities to achieve primary education for all while sustaining the city's achievements in child welfare and protection..

LOCAL GOVERNMENT REFORM AGENDA (LGRA) FORMULATION

5.0 Identification of programs, projects and activities

- 5.1 From the Hazard Analysis sheets, prioritize the hazards to be addressed.
- 5.2 For each prioritized hazard, list the new policies, programs, projects and activities (PPPAs) and the strengthen the existing PPPAs needed:
 - 5.2.1 to eliminate or reduce the damaging effects of the hazard
 - 5.2.2 to eradicate the causes of the hazards
 - 5.2.3 to prevent the hazard from adversely affecting the child's successful completion of Primary Education
 - 5.2.4 to mitigate the damaging effects of the hazard
 - 5.2.5 to strengthen the community's/city's physical and social infrastructure so as to prevent, eliminate or mitigate the effects of the hazard.

(Local Government Reform Agenda – separate file)

Tuguegarao City Governance Reform Agenda - Primary Education

Access to basic education

1. Barangay officials and volunteers shall identify all children unable to go to school and the causes of their incapability. Barangays are directed to submit the Barangay Annual Inventory of Out-of-School Youth (OSY) and children not later than the first week of July (Executive Order No. 11, series of 2002).
2. Tuguegarao City shall continue to concrete all main thoroughfares and ensure reliable and efficient public transport services to ensure the safety and convenience of children to and from school.
3. The Local School Board shall objectively monitor and evaluate the physical conditions of all public schools to ensure adequacy and safety of school facilities and the school's continued physical capacity to admit pupils.
4. The City Schools Division of Tuguegarao shall continue to monitor all schools and encourage them to provide continued leadership in excellent primary education through searches for excellent practices, competitions and awards for outstanding performances.

5. The Local School Board shall promote the Adopt-A-School Program to mobilize private sector support for the public basic education system.
6. The Tuguegarao City Government shall work with the Saint Paul University Philippines, University of Saint Louis Tuguegarao and the Cagayan State University for the Tuguegarao City Distance Learning Program using the Tuguegarao City website as primary learning platform with the Barangay internet stations as distance learning stations. The Barangay stations shall connect the barangays to the city government 24/7 (twenty-four hours, seven days a week) for several socio-economic and governance purposes.
7. Barangay governments shall be trained and shall submit the Barangay Quarterly Inventory of Population Movements due to births (new residents), deaths (decrease in residents), marriages (new families), out-migration (people who left the barangay) and in-migration (new arrivals in the barangay).
8. The City Government shall update annually the MBN/Family Data Survey (FDS) using both primary survey and administrative data. The survey results shall serve as both input for new cases and follow up of existing cases as well as monitoring of results to ensure that all children are in school and that Tuguegarao City is gaining ground in achieving the Millennium Development Goals.
9. The Responsive Shelter of Tuguegarao (RST) Center shall be the temporary haven for children rescued from abuse and danger.
10. The City Library shall become the city's learning resource center open to all. Children and families shall be encouraged to use the library extensively to gain new and better knowledge so as to develop better coping mechanisms in life and actively participate in achieving the Millennium Development Goals.

B. Improving the quality of education

1. The City Government through the Local School Board shall continue to encourage the partnership of the public schools with the parents, community, LGUs, NGOs and businesses to mobilize community resources in improving the facilities and services of public schools aimed at improving the quality of education.
2. The City Schools Division of Tuguegarao shall promote the Restructured Basic Education Curriculum (BEC) which allows concentration on critical key subjects (English, Science, Mathematics and Pilipino)
3. The City Schools Division of Tuguegarao shall promote the New Performance-Based Grading System which eliminates the use of a transmutation table for giving out student grades.
4. The Local School Board and the City Schools Division of Tuguegarao shall continue providing Continuing In-service Training for teachers for BEC Teaching Competencies.
5. The City Government through the Local School Board and the City Schools Division of Tuguegarao shall continue its efforts to create centers of specialization as follows:

West Central School - School of the Future (for gifted children in mathematics, science and technology)

East Central School - Special Education (SPED) for Children with Disabilities (CWD)

North Central School - Special Program for the Arts (SPA) for children with talents in music and the arts.

North-East Central School - Industrial Arts and Sports Excellence

6. Specialization shall provide the children of Tuguegarao City the beginnings of career development early in life and move these children to optimize their gifts and opportunities. The city hopes to nurture children committed to excellence and leadership and provide the city with valuable professional competence and leadership in the future.
7. The City Library shall be a major support facility to improve the quality of education in Tuguegarao City. Children shall be encouraged to use the library's books and the on-line knowledge facilities so as to optimize their learning curve and momentum.
8. The City Government through the Local School Board and the City Schools Division of Tuguegarao shall continue providing Leadership Trainings for the children and Basic School Management Trainings for principals and head teachers.
9. The City Government through the Local School Board and the City Schools Division of Tuguegarao shall endeavor to provide all teachers with opportunities to upgrade capabilities and to renew their commitment to the children of Tuguegarao City and their education.
10. Positions for elementary school Guidance Counselors are to be created, funded and filled up with competent, committed counseling professionals. The City Government and the DepEd shall determine the most viable procedure to actualize this priority.
11. Spiritual counseling shall be institutionalized in public elementary schools and high schools. Priests, nuns, lay ministers and PTCAs shall be invited to provide counseling for groups, families and children (in-school and out-of-school).
12. Student leaders and pupil government officers shall be capacitated to undertake peer counseling with children with difficulties.
13. The deployment of teachers as well as the distribution of textbooks and other basic education resources shall be based on the actual needs of the individual schools, as determined by the Local School Board and the City Schools Division of Tuguegarao City.
14. The City Government shall continue to provide textbooks for the BEC subjects when necessary, and computers and sports equipment to public schools to ensure quality education for all children.

C. Improving school retention capacity

1. The Local School Board and the City Schools Division of Tuguegarao City shall actively promote Brigada Eskwela, a school maintenance project that involves labor and resources volunteered by the community, teachers, parents and pupils for the rehabilitation and maintenance of classrooms, gardens, laboratories, workshops, comfort rooms and other school facilities.

2. The City Government shall continue to construct better classrooms and more school buildings and to provide better facilities to continually upgrade the carrying capacities of the public schools and to ensure safe, quality education for all children.
- D. Improving governance, resource allocation and resource mobilization
1. Responsible Parenthood and Family Planning sessions shall be a mandatory component of all city government programs and projects.
 2. The City Government shall continue to improve its Assistance to Individuals and Families in Crisis Situations (AICS). Clients shall be encouraged and assisted to improve their living conditions as proof that they have gained new knowledge, skills and attitudes to be eligible to higher forms of assistance.
 3. Extremely poor families shall be provided gainful employment for at least one able-bodied, eligible family member just to ensure that school-age children are able to go to school, and that their school and basic needs are adequately provided for.
 4. To assist extremely poor families, different city government programs have to work in complementation with each other:
 - a. Social Welfare
 - b. Agriculture (for rural barangays)
 - c. Health
 - d. Nutrition
 - e. Department of Education
Planning and Development
Environmental Management
Engineering
Technology and Livelihood Development Center
Bilis Aksyon Officer
Philippine National Police
 5. The City Poverty Reduction measures shall be intensified bringing to the schools the city programs for:
 - a. health and nutrition to ensure healthy, bright children
 - b. environmental management to ensure livable conditions for children to allow them to successfully finish primary education
 - c. livelihood program for parents for family income security to ensure that no child need forego schooling just to help bring food to the family table
 - d. low-cost housing program to provide decent shelter and protection for the families
 - e. agricultural modernization for food security of the entire city and every family
 - f. college scholarships to increase the employability of poor but deserving members of the most vulnerable families.
 - g. peace and order program to guarantee the protection and safety of families and communities

6. The school-based City Poverty Reduction projects shall focus on the children most at risk of dropping school due to poverty. The City Schools Division of Tuguegarao City shall require all class advisers and teachers to list the names of the children in need and the type of special support needed and regularly submit this report to the City Government through the Local School Board.
7. The City Government shall support Food for School projects like the Functional School Canteens and Productive School Gardens of the Department of Education with seedlings and technology to provide indigent pupils with nutritious meals in school, just to ensure that these vulnerable children can have a decent meal every school day.
8. The City Schools Division shall actively promote the projects by conducting annual searches for the Most Functional School Canteen and Most Productive School Garden.
9. Pupils shall be encouraged to maintain vegetable gardens in their homes. The City Government shall provide seedlings and trainings for free to all pupils.
10. The City Demo Farm shall continue to be a year-round exhibit of the production of high value commercial crops to inspire the pupils to raise vegetables on their own and to acquire valuable practical knowledge and skills in recognizing fresh vegetables.
11. Vegetable gardening in a basket shall continually be promoted for pupils without garden spaces in their home lots.

6.0 Programming and Integration

- 6.1 Inclusion of the LGRA PPAs in the City Comprehensive Development Plan/Comprehensive Land Use Plan (CCDP/CLUP).
- 6.2 Operationalization of the annual components of the CCDP/CLUP through their inclusion in the City Approved Annual Development Plan.
- 6.3 Synchronization of the City Annual Development Plan with the City Approved Annual Budget.

7.0 Validation with Stakeholders

- 7.1 Generation of City Database of Primary School Drop-outs through the City wide Replication of the Primary Education survey
- 7.2 Discussion of results of the Primary Education survey and the City LGRA in
 - 7.2.1 Barangay Assemblies
 - 7.2.2 PTCA Federation Meeting
 - 7.2.3 City Education Congress or Conference
- 7.3 Support-building for the City LGRA

8.0 Legitimization of the Local Government Reform Agenda

8.1 Joint Resolution for the Adoption of the City LGRA

Republic of the Philippines
Province of Cagayan
LOCAL GOVERNMENT REFORM AGENDA
CITY DEVELOPMENT OFFICE (CDO)
LOCAL GOVERNMENT REFORM AGENDA
CITY BOARD OF EDUCATION (CBOE)

JOINT RESOLUTION NO. 02-2008

JOINT RESOLUTION FOR RECOMMENDING TO THE HONORABLE SENATE, PARLISANANG PANGKALAKANG PANGULO, AND THE COMMISSION ON GOVERNMENT REFORM (COGR) TO ADDRESS THE PROBLEMS AND CONCERNS IDENTIFIED BY THE TEACHERS' ASSOCIATION OF CAGAYAN (TAC) AND VULNERABILITY ASSESSMENT GROUP OF BANGALANG EDUCATION

WHEREAS, on September 19, 2008, Tagapangasinan City and the United Nations Disaster Assessment and Response (UNDAR) Program signed a Program Document entitled **Winning the Effects of Natural Hazards in the MDGs through a Rights-based Approach in Governance for Greater Equity, Transparency and Sustainability** and released under 8007092;

WHEREAS, Tagapangasinan being a vulnerable city has been designated as the Implementing Partner (IP) for the above-mentioned program;

WHEREAS, to ensure the implementation of the project, the **Disaster Risk and Vulnerability Assessment (DRVA)** Core Group and Technical Working Group (TWG) has been organized in Tagapangasinan City;

WHEREAS, the DRVA conducted by the DRG revealed threats, vulnerabilities and risks of the city not being able to achieve MDG primary education for all and to promote the city's goals in natural development, protection and participation of children;

NOW, THEREFORE, to join voices, the Local School Board (LSB), the City Development Council (CDC) and the City Disaster Coordinating Council (CDCC), hereby recommend to the Sangguniang Pangkalahatan the adoption of the following Local Government Reform Agenda for Primary Education to ensure that all staff successfully complete Primary Education in Tagapangasinan City:

I. DRVA RESULTS

1. Large number poor families with parents who did not finish formal schooling are most likely to have malnourished, sickly and out-of-school children.
2. Extremely poor parents with more children and several support systems that will provide the necessary resources and skills for them to be able to meet a complete cycle of growth and development. Left on their own resources, they are most likely to remain poor. In many instances, their parents and grandparents were likewise poor. Their children will most likely become poor parents, also with many children.
3. Disoriented school teachers' disability or as graduate operators. Children with difficulties may not an opportunity of being assisted. These vulnerable children could eventually give up schooling.
4. Weakening threat that due to socio-economic problems that include unemployed/impoverished children, who could not attend for lack of both necessities.

II. Special counseling shall be institutionalized in public elementary schools and high schools. Health, basic life resources and PTCs shall be provided to provide counseling for groups, families and children (involved and not of school).

12. Student leaders and pupil government officers shall be encouraged to undertake peer counseling with children with difficulties.
13. The deployment of teachers as well as the distribution of textbooks and other basic education resources shall be based on the actual needs of the individual schools, as determined by the Local School Board and the City Schools Division of Tagapangasinan City.
14. The City Government shall continue to provide textbooks for the BIC activities when necessary, and computers and sports equipment to public schools to ensure quality education for all children.

C. Improving school retention capacity

1. The Local School Board and the City Schools Division of Tagapangasinan City shall actively promote Disruptive Education, a school management project that involves safety and retention enhancement, garden, laboratories, workshops, conflict rooms and other school facilities.
2. The City Government shall continue to construct better classrooms and meet school buildings and to provide better facilities to continuously upgrade the learning capacities of the public schools and to ensure safe, quality education for all children.

D. Improving the protection, retention, attendance and resource mobilization

1. Responsible Parenthood and Family Planning systems shall be a mandatory component of all city government programs and projects.
2. The City Government shall continue to improve its Assistance to Individuals and Families in Crisis Situations (AIFCS). Classes shall be managed and assisted to improve their living conditions as proof that they have gained new knowledge, skills and attitudes to be eligible to higher forms of assistance.
3. Extremely poor families shall be provided parental employment for at least one able-bodied, eligible family member just to ensure that vulnerable children are able to go to school, and that their school and basic needs are adequately provided for.
4. To meet extremely poor families, different city government projects have to work in complementation with each other:
 - a. Social Welfare
 - b. Agriculture (for rural households)
 - c. Health
 - d. Nutrition
 - e. Department of Education
 - f. Planning and Development
 - g. Environmental Management
 - h. Engineering
 - i. Technology and Livelihood Development Center
 - j. Child Welfare Officer
 - k. Philippine National Police
5. The City Poverty Reduction measures shall be institutionalized, bringing to the schools the city projects for:
 - a. health and nutrition to ensure healthy, bright children
 - b. environmental management to ensure suitable conditions for children to allow them to successfully finish primary education
 - c. livelihood program for parents for family income security to ensure that no child needs to leave schooling just to help bring food to the family using low-cost housing program to provide decent shelter and protection for the families
 - d. agricultural modernization for food security of the entire city and every family
 - e. college scholarships to increase the employability of poor but deserving members of the most vulnerable families
 - f. peace and order program to guarantee the protection and safety of students and communities

1. Unschool children need to be identified, assisted to be enrolled and to stay in school. With no special attention on this matter, no energy flows to create the desirable conditions for these children. Unattended, these children will become more statistics of those that fall in the number of our malnourished citizens.

THEREFORE, to insure an alternative, these health, skills and vulnerability, Tagapangasinan City needs to adopt new policies, institute more intensive and target-based procedures, and invest more facilities to achieve primary education for all while sustaining the city's advancement in child welfare and protection.

II. LOCAL GOVERNMENT REFORM AGENDA (LGRA)

A. Access to Basic Education

1. Strategic officials and volunteers shall identify all children capable to go to school and the reasons of their non-enrollment. Requests are directed to submit the Barangay School Inventory of Out-of-School Youth (OSY) and children not later than the first week of July (Executive Order No. 11, Series of 2007).
2. Tagapangasinan City shall continue to conduct all state demographic and census activities and officers public transport services to assess the safety and convenience of children to and from school.
3. The Local School Board shall objectively monitor and evaluate the physical conditions of all public schools to ensure adequacy and safety of school facilities and the school's continued physical capacity to admit pupils.
4. The City Schools Division of Tagapangasinan shall continue to monitor all schools and encourage them to provide continued leadership to establish primary education through matches for evolved practices, competitions and awards for outstanding performance.
5. The Local School Board shall promote the Adapt-A-School Program to mobilize private sector support for the public basic education system.
6. The Tagapangasinan City Government shall work with the Saint Paul University Philippines, University of Iloilo-Los Baños, Tagapangasinan and the Capizote State University for the Tagapangasinan City Distance Learning Program using the Tagapangasinan City satellite primary learning facilities with the Barangay special distance education learning stations. The program shall ensure the languages in the city government (287 towns) that have never done a work to prevent an overpopulation and government program.
7. Barangay governments shall be trained and shall submit the Barangay Quarterly Inventory of Population Movement due to births (new residents), deaths (deceased), marriages (new families), and migration (people who left the barangay) and migration (new arrivals in the barangay).
8. The City Government shall update annually the MDR/Family Data Inventory (FDI) using both primary activity and administrative data. The survey results shall serve as both input for more needs and follow-up of existing cases as well as monitoring of trends to ensure that all children are in school and that Tagapangasinan City is gaining ground in achieving the Millennium Development Goals.
9. The Barangay Officer of Tagapangasinan (BIO) Center shall be the temporary liaison for children removed from these and beyond.

10. The City Library shall become the city's learning resource center open to all children and families shall be encouraged to use the library resources to gain new and better knowledge as an in-school learning coping mechanism, a life and actively participate in achieving the Millennium Development Goals.

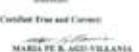
B. Improving quality of Education

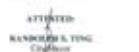
1. The City Government through the Local School Board shall continue to encourage the partnership of the public schools with the parents, community, NGOs, NPOs and business to mobilize community resources to improve the facilities and services of public schools aimed at improving the quality of education.
2. The City Schools Division of Tagapangasinan shall promote the Reinvented Basic Education Curriculum (RBE) which allows concentration on critical key subjects (English, Science, Mathematics and Filipino).
3. The City Schools Division of Tagapangasinan shall promote the New Performance-Based Teaching for which emphasizes the use of a memorandum order for giving out student grants.
4. The Local School Board and the City Schools Division of Tagapangasinan shall continue providing Continuing In-service Training for BIC Teaching Institutions.
5. The City Government through the Local School Board and the City Schools Division of Tagapangasinan shall continue to efforts to ensure centers of specialization as follows:
 - a. West Central School - School of the Future (to gift children in mathematics, science and technology)
 - b. East Central School - Special Education (SPED) for Children with Disabilities (PWD)
 - c. North Central School - Special Program for the Arts (SPA) for children with talents in music and the arts
 - d. South-East Central School - Industrial Arts and Sports Excellence
6. Specialization shall provide the children of Tagapangasinan City the benefits of career education early on and ensure these children to utilize their gifts and aptitudes. The city hopes to nurture children connected to excellence and leadership and provide the city with relative professional competencies and leadership in the future.
7. The City Library shall be a single support facility to improve the quality of education in Tagapangasinan City. Children shall be encouraged to use the library's books and on-line knowledge facilities so as to optimize their learning curve and motivation.
8. The City Government through the Local School Board and the City Schools Division of Tagapangasinan shall continue providing Leadership Training for the (M)DR and Basic Management Trainings for principals and head teachers.
9. The City Government through the Local School Board and the City Schools Division of Tagapangasinan shall endeavor to provide all teachers with opportunities to upgrade capacities and to ensure their commitment to the children of Tagapangasinan City and their education.
10. Proficient in elementary school Guidelines Curriculum are to be created, tested and tried up with competent, concerned counseling professionals. The City Government and the DPEID shall continue to make viable provision to sustain this priority.

Joint Resolution No. 02-2008 by the Local School Board (LSB), the City Development Council (CDC) and the City Disaster Coordinating Council is **UNANIMOUSLY APPROVED**.

December 7, 2008 at Tagapangasinan City, Cagayan

Attested:

 CAROLINA S. CALACAC City Secretary	 MARIA FE R. AGUI-VILLANIA City Secretary	 MARIA G. TE FDC Secretary
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ATTACHED:

 RANDOLPH S. YUNG
 City Clerk

8.2 Sangguniang Panlungsod Approval of the City LGRA

8.3 Sangguniang Panlalawigan Approval of the City LGRA

9.0 IMPLEMENTATION

9.1 Include Primary Education PPAs in Annual Development Plan

9.2 Include Primary Education PPA Funding in the Annual Budget.

9.3 Train Program Managers and Implementors

9.4 Set Annual Targets for Primary Education (per school, per grade level)

9.5 Carry out approved PPAs for Primary Education.

10.0 MONITORING AND EVALUATION

10.1 Gather Accomplishment Reports, per school aggregated by grade level.

10.2 Compare Actual Accomplishments with set Annual Targets.

10.3 Analyze discrepancies between targets and actual accomplishments.

10.4 Develop mitigating measures.

APPENDICES AND ANNEXES

1. HRVA Worksheets

Preliminary Vulnerability Analysis Sheets

Final Vulnerability Analysis Sheets

2. Other Appendices and Annexes

Accomplished Survey Forms

Survey Tables

Initial Study Area Survey

Replication Survey

Stories from the Field

GLOSSARY

Alternative Learning System (ALS) – is the bureau for Alternative Learning System Curriculum which provides Literacy Program or alternative means of learning to respond to the needs of illiterates/neo-literates youth and adults, out-of-school youths, 15 years old and above for a period of 5-10 months or 200-800 contact hours.

City Comprehensive Development Plan (CCDP) – operationalizes the Comprehensive Land Use Plan (CLUP) and the Municipal Physical Framework Plan (MPFP), the city’s long-term plan. The CCDP/CLUP is the integration of all sectoral plans. It identifies the City Goals, Objectives, Policies, Targets and Strategies, after discussing the development problems and constraints, as well as the development opportunities and advantages of the city. It broadly identifies the programs, projects and activities that need to be undertaken to attain the identified development goals, objectives and targets which are supportive of the city’s functional roles and are reflective of the locality’s prioritized needs.

City Land Use Plan – discusses the best uses of our limited land. Like the CCDP, it also operationalizes the MPFP. The MPFP & CLUP have considered land capability, soil suitability, other physical and natural characteristics, and the existing and potential general and urban land uses. Also taken into consideration in the formulation of the MPFP & CLUP are alternative land uses, the city’s strengths, weaknesses, opportunities and threats, and the influence and implications of the best land uses of the city on its neighboring municipalities, on the province and on the region as a whole.

City Development Strategy (CDS) - is a program developed by World Bank to assist cities in preparing a strategy for development that relies on the involvement and commitment of key stakeholders. It combines the learning developed by World Bank and the Sustainable Cities Approach of UNDP, in partnership with the Cities Without Slums Plan of the Alliance endorsed by the UN Millennium Declaration.

Public Governance System (PGS) - is a management system that enables management and stakeholders to pull the organization in the same direction. Using the principle of cause and effect, PGS connects strategy & action, top & bottom level scorecards, policies and programs and short-and-long term goals. It is initiated by the Institute of Solidarity in Asia (ISA).

Participation Rate – reflects the general level of access to primary education. It also indicates the capacity of the education system to provide access to Grade I. for the official school-entrance age population.

Cohort Survival Rate – computes the percentage of a cohort of pupils/students who are able to reach Grade VI/Year IV. It is used to access the internal efficiency and “wastage” in education.

Drop-out Rate – calculates the percentage of pupils/students who do not finish a particular grade/year level. It does not capture pupils/students who finish a grade/year level but do not enroll in the next grade/year level in the following school year.





MDG 3: Gender Equality

Sorsogon City - MEET the MDGs
HRVA Poblacion Bacon



POBLACION

BAEON

ACKNOWLEDGMENTS

Overall Disaster Mitigation / Management Framework

Overall HRVA Framework / Concept Map

- Basic Concepts
- Definition of Terms
- General Approaches

MDG-Specific LGU DM / HRVA Framework (per LGU)

- LGU Concepts
- Definition of Terms – define risk based on the slant on women

Vulnerability - A condition or set of conditions that reduces people's ability to prepare for, withstand or respond to a hazard. (include a slant on women)

Capacity - Capacities are those positive conditions or abilities which increase a community's ability to deal with hazards.

Capability - Qualitative assessment of human and material resources

Risk Assessment - Determines the scale of the estimated losses that can be anticipated in particular areas during a specified time period.

Vulnerability Ability - Process of estimating the vulnerability of specified elements at risk to potential disaster hazards.

Hazard Assessment - Process of analysis that attempts to specify the "hazard occurrence probability" occurring in a certain area within a stated time/period (type/intensity/space/time). This is based on the collection of historical and scientific data to be presented in scales and maps.

- LGU Approaches
- Vulnerability Analysis
- Hazards Analysis
- Context

COMMUNITY PROFILE

Sorsogon City lies from 123° 53' to 124° 09' east longitude and from 12° 55' to 13° 08' north latitude. It is approximately 600 road kilometers southeast of Manila and is located at the southernmost tip of Luzon. As part of the geographical chain linking Luzon to the rest of the Philippines, it is a transshipment corridor and serves as the gateway to the Visayas and Mindanao Islands. Its geographical location is such that it opens into both the Pacific Ocean and the China Sea.

Total area of the city is 31,158 hectares (311.58 sq. km.) It is divided into three (3) districts, which are composed of 64 barangays. Eighteen (18) of which are urban barangays, thirty six (36) are coastal barangays.

The climate of Sorsogon is Type II under the Coronas classification system. There is no pronounced dry season but with a very pronounced maximum rain period from November to January. Rains start late September or early October. Annual rainfall ranges from 2,800 mm to 3,500 mm. Rain is expected 200 days in a year and even in the driest months, unexpected downpour occurs.

It is a fact that Philippines is listed as among the most disaster prone countries in the world. Typhoon and earthquake poses the most danger to the lives of the Filipinos as it lies along the earthquake belt in the Pacific and along the breeding ground of typhoons in the Pacific Ocean.

In Central Philippines, Bicol Region is among the areas most frequently visited by typhoons, and Sorsogon being part of the region is no exception. Bounded by China Sea (Sorsogon Bay) on the south and by Pacific Ocean (Albay Gulf) on the north, Sorsogon has endured strong typhoons. Just recently, in the last quarter of 2006, Sorsogon was again hit by two raging typhoons Reming and Milenyo --- leaving nothing but havoc, devastation, and despair.

During typhoons, it is the coastal areas that are often greatly affected. Sea-floods and other related hazards bring adverse effects on lives and properties of those residing near the area. In Sorsogon City, Barangay Poblacion is among those 36 coastal barangays that are most vulnerable or prone to hazards. It lies ten kilometers away

from Sorsogon City proper and has a total land area of 173.50 hectares. It is composed of 962 households and has a total population of 4,695, of which 2,250 are male and 2,445 are female. Poblacion comes close to a one-is-to-one (1:1) ratio in gender distribution.

Community Characteristics

Demography	Culture	Economy	Infrastructure	Environment
Population & distribution ?	Traditions ?	Trade ?	Communications & transportation network ?	Land forms ?
Mobility ?	Social Values ?	Agriculture		
Livestock ?	Essential Services ?	Geology ?		
Useful skills ?	Religion ?	Investments ?	Community ?	Waterways ?
Hazard awareness ?	Normal food types ?	Wealth ?	Resource base ?	Flora & Fauna ?
Vulnerable groups				
Health states ?				
Educational ?				

I'm not so sure about this, hehe

For the past years, Sorsogon City, having a lady chief executive has been mainstreaming its Gender and Development Programs. It has a visible Gender and Development Council and a very active GAD Core Team. In 200_, a Women's Crisis Center, also known as Balay Bukas Palad was established. It provides assistance and temporary shelter to individuals who have been subject to abuse, battering, and other related cases.

Having a gender-aware chief executive, SP Officials, and department heads, Sorsogon City has been enforcing a gender-responsive budget circular. Mechanisms to address gender concerns were developed. GAD focal person and council members have gone through series of trainings to equip them of vital knowledge in gender and development. The City was also able to develop gender-responsive database GAD planning and budgeting, establish networking and partnerships, conduct gender sensitivity and policy orientation seminar in the barangays, and implement a gender-responsive health programs.

At present the local government advances to incorporate gender concerns in all its programs particularly in disaster management. The LGU believes that it is but proper and timely to address the roles women play in times of disaster. After all Sorsogon City has a male to female ratio of 1:1.01. Given the right approach and assessment, women's social and economic roles in community will be more establishes; and their capacities in responding to and coping with disasters, defined.



- **Impact Assessment**
 - **Vulnerability Statement**
-

HRVA PROCESS PER LGU

(Follow the Sequence of Phases in the Overall Process Framework)

1. Institutionalization

1.1. Orientation on DM/Development and HRVA

To capacitate the LGUs with the processes that will enhance their planning and budgeting, the UN Habitat Philippines conducted the MEET the MDGs Disaster Management Training. This is aimed at increasing the awareness of the LGUs in disaster management frameworks, concepts, technologies and processes, as well as, introduce and facilitate the transfer of the hazard risk vulnerability and capacity assessment technology to the participants.

The city sent five participants to the training to compose the Core Team. The team was composed of the following:

Engr. Regino Derilo, Project Evaluation Officer IV, Planning and Development Office

Engr. Raden Dimaano, Asst Head, Engineering Office

Ronaldo Gerona Jr., Head, Environment and Natural Resources Office

Adolfo Enciso Jr., Head, General Services office

Victorino Daria IV, Clerk II, Management Information Office

The training is also designed to increase the level of participants' awareness of natural and human-made hazards facing the urbanized and urbanizing areas, the vulnerability of the people and the risks it poses to the social and physical infrastructures. It will further provide the cities with a tool to assess these risks and vulnerabilities. A review of the Millennium Development Goals, disaster management concepts and risk and vulnerability assessment

1.2. LGU commitment (Executive and Legislative)

Backed up with abling legislation, the City Government went on with the signing of a Memorandum of Agreement with the United Nations Human Settlements Programme for the implementation of the mitigating effects of external threats to MDGs through rights-based reforms in governance for greater equity, transparency and sustainability project or “MEET MDG TARGETS”.

In the MOA, it states that the City Government of Sorsogon as the implementing party is responsible for the activation of the project within the context of rights and reform approach particularly the mainstreaming of human rights, gender and the Right-Based Approach for the Realization of the Millennium Declaration/Millennium Development Goals in development, implementation, monitoring and evaluation of the project. It shall also closely coordinate with the responsible party, the UN Habitat, all related actions and activities carried out in the entire course of the project. The UN Habitat shall, above all, provide guidance, supervision, and oversight on the implementing party’s performance of its responsibilities.

1.3. Identification of LGU MDG focus

For the past years, Sorsogon City, having a lady chief executive has been mainstreaming its Gender and Development Programs. It has a functional Gender and Development Council and a very active GAD Core Team. In 2002, a Women’s Crisis Center, also known as Balay Bukas Palad was established. It provides assistance and temporary shelter to individuals who have been subject to abuse, battering, and other related cases.

Having a gender-aware chief executive, SP Officials, and department heads, Sorsogon City has been enforcing a gender-responsive budget circular. Mechanisms to address gender concerns were developed. GAD focal person and council members have gone through series of trainings to equip them of vital knowledge in gender and development. The City was also able to develop gender-responsive planning and budgeting on health sector, establish networking and partnerships, conduct gender sensitivity and policy orientation seminar in the barangays, and implement a gender-responsive health programs.

At present the local government advances to incorporate gender concerns in all its programs particularly in disaster management. The LGU believes that it is but proper and timely to address the roles women play in times of disaster. After all Sorsogon City has a male to female ratio of 1:1.01. Given the right approach and assessment, women’s social and economic roles in community will be more establishes; and their capacities in responding to and coping with disasters, defined.

Looking also at the cases and services rendered by the Balay Bukas Palad involving women and children, it has an annual average of 67 cases for the past three years, mostly physical battering .

Case offense against adult

Cases/Services	2004	2005	2006
Physical battering	13	58	49
Rape	-	13	2
Economic abused	1	7	4
Psychological/emotional abused	1	15	5
Attempted rape	-	15	1
Adultery/Concubinage	-	-	2
Abandonment	-	-	6
Trespass to dwelling with threat to kill	-	5	1
Mentally ill	-	-	4
Total	15	113	74

Case offense against children

Cases/Services	2004	2005	2006
Physical abuse	-	27	18
Rape	2	13	7
Acts of Lascivousness	1	13	13
Abandonment	-	24	2
Rape (incest)	1	5	2
Kidnapping	-	1	-
Missing	-	1	2
Vagrant	-	5	8
Shoplifting	-	-	6
Attempted rape	-	-	2
Street children	-	-	11
Mentally ill	-	-	2
Total	4	89	73

To continue this initiative, the HRVA focused on Goal 3 – Promote gender equality and empower women, would add to the Gender and Development Program of the city.

1.4. LGU HRVA Team Formation (formalized by an EO)

In August, 2007, the UN Habitat conducted a rapid assessment of the disaster risk management capacities of the local government units through a PROFILE Survey Form. Upon evaluation, the Local Government of Sorsogon qualified to be one of the pilot cities to undertake the Hazard Risk and Vulnerability Assessment, a method for identifying hazards and vulnerability and for determining these possible effects on a community, activity, and organization of the environment.

The City received an invitation to an Orientation on Disaster Management and Hazard Risk and Vulnerability Assessment (HRVA). A group composed of five persons was sent to represent the City Government of Sorsogon in the workshop.



Executive Order 011-2006

AN ORDER CREATING THE MEET MDG TARGETS CORE TEAM AND TECHNICAL WORKING GROUP

WHEREAS, Sorsogon envisions to be a progressive gateway to the south by 2015 through an empowered citizenry enjoying people-centered governance;

WHEREAS, this vision is anchored as well on the national government's campaign to stem poverty;

WHEREAS, as a resource city of the MDG Localization Project in the Philippines, Sorsogon is committed to the attainment of the millennium development goals (MDGs) in efforts to achieve the City's vision;

WHEREAS, in furtherance of this commitment, the City Government has entered into a Memorandum of Agreement with the United Nations Human Settlements Program for the implementation of the Mitigating the Effects of External Threats to MDGs through Rights-Based Reforms in Governance for Greater Equity, Transparency and Sustainability Project or "MEET MDG TARGETS";

WHEREAS, for the Project to be fully realized, there is a need for a core team and technical working group that will oversee activities necessary for the implementation of the Project;

NOW THEREFORE, by the powers vested in me by law, rules and ordinances, I, SALLY A. LEE, Mayor of Sorsogon City, hereby order the creation of the MEET MDG TARGETS Core Team and Technical Working Group with the following specifications, to wit:

A. COMPOSITION

The MEET MDG TARGETS CORE TEAM shall be composed of the following:

1. Adolfo A. Enciso, Jr. (City General Services Officer)
2. Ronando F. Gerona, Jr. (City Environment & Natural Resources Officer)
3. Raden D. Dimaano (Assistant City Engineer)
4. Regino B. Derilo (Project Development Officer IV)
5. Victorino N. Daria IV (Clerk II)

The Technical Working Group shall be composed of the following:

Chairman: Engr. Orlando F. Huenda (City Planning & Development Officer)

Members:

1. Engr. Honore D. Jordan (Executive Assistant II)
2. Victorino N. Daria IV (Clerk II)
3. Ma. Victoria P. Pilapil (Private Secretary III)

5. Roberto Haylar (Office Clerk)
6. Gina Baco (Office Clerk)
7. Representative of the Department of Education
8. Onofre D. Dioneda (Punong Barangay, Poblacion)
9. Representative of the City Health Office

B. FUNCTION

The Core Team and the Technical Working Group shall undertake the following:

1. Formulate the LGU Meet the MDG Work Plan
2. Submit the LGU Disaster Management Profile
3. Participate in the capacity building sessions on disaster management
4. Convene a multi-stakeholder consultation in the conduct of the Hazard Risk and Vulnerability Assessment (HVRA)
5. Conduct the HVRA on the chosen MDG focus and engage communities in the project implementation
6. Develop the HRVA Guidebook on the chosen MDG focus
7. Formulate the LGU Reform Agenda

IN WITNESS WHEREOF, I have hereunto set my hand and cause the seal of the City to be affixed;

Done in the City of Sorsogon this 23rd day of November 2006.

SALLY A. LEE
City Mayor

1.5. LGU HRVA Operational scope

The Core Team piloted the Barangay Poblacion of Bacon District for its HRVA program. Initially the assessment focused on the natural disasters threatening the area. It would focus on the roles of the women during disasters and assess its vulnerabilities and capacities. Available secondary data will be used for the profile of the barangay.

2. Orientation and Stakeholders Planning

2.1. LGU Capability Building and Work-planning

In the course of the orientation/workshop, this team together with the Local Chief Executive, Mayor Sally A. Lee committed to implement and institutionalize through legislation the HRVA program and incorporating therein the Millennium Development Goal number 3 which is “to promote gender equality and empower women”--- by this means correlating gender with disaster.

With the thrust of the city government on good governance, people’s welfare and empowerment is of utmost importance. This includes the safety and well being of the constituents in times of disasters or calamities. In empowerment of the constituents, it is just imperative to include women in the community in all the planning and preparations. From early warning system to relief distribution, women can perform vital tasks to help the community. Thus, focusing on MDG goal number three, the team planned out ways on how to adopt the project locally by developing an experienced-based guidebook on Hazard Risk and Vulnerability Assessment.

2.2. Pre-HRVA (participatory)

Meeting with teachers etc...bgy captain, key persons

2.3. Team Planning/ Preparations

Coming fresh from the Orientation on Disaster Management, development and Hazard Risk and Vulnerability Assessment (HRVA), a five-man MEET MDG Targets Core Team was created. The team was composed of the City General Services Officer, City Environment & Natural Resources Officer, Assistant City Engineer, Project Development Officer, and one office personnel from the City Information Management Team. This team shall be equipped with the knowledge and skills in conducting the HRVA and shall be responsible too in the conduct of the HRVA in their respective cities and the development of the guidebook based on the process they went through.

Insert scanned document – City Work and Financial Plan

Having this in mind, the team immediately prepared the Work and Financial Plan and other pertinent documents to substantiate their request to the City Council to authorize the City Mayor to enter into a Memorandum of Agreement with the UN Habitat.

Human / Man-Made Disaster

A Profile (Brgy. Poblacion only)

Hazard/Disaster	2004	2005	2006
1 Child Labor (below 18)	(no data yet → plan some measures to attain data)		
2 Child Abuse	Data % CSWD / Balay Bukas-Palod		
3 Rape Cases (Relative - Incest Non-Relative)			
4 Battered Housewives			
5 Teenage Pregnancy			
6 ...			

Human Disaster	Vulnerabilities	Capacity
1 Child Labor (below 18)	<ul style="list-style-type: none"> • Extreme/widespread poverty • Lack of sense of responsibility/ Education • No Organization 	<ul style="list-style-type: none"> • Develop/strengthen livelihood opportunities • Education to Parents
2 Child Abuse	<ul style="list-style-type: none"> • Lack of Local Organization like BCP & NGOs to work for the welfare • Effect of Culture • LGU is not ready/responsive to take care of victims 	Maintain Functional LGU & Non-gov't Organizations
3 Rape Cases	<ul style="list-style-type: none"> • Poverty • Slow Law Enforcements • No organization to attend to rape cases 	do-
4 Battered Housewives	<ul style="list-style-type: none"> • Ignorance of (Personal Low/Night) • Positivity/Attitudes on the Culture of Women • No Organization 	Educate the Housewives do-
5 Teenage Pregnancy	<ul style="list-style-type: none"> • Influence of Media (Blogs etc.) • Poverty • Lack of Parental Guidance • No Organization 	do-

2.4. Operational Planning

- 2.4.1. Strategy formulation
- 2.4.2. Process development\
- 2.4.3. Tools development
- 2.4.4. Assessment Team Formation

2.5. Area Preparation/Social Preparation Community Meetings ...etc

3. Data Gathering and Analysis

- 3.1. Actual conduct of HRVA Survey
- 3.2. Data processing
- 3.3. Area Based Assessment
- 3.4. Analysis of State of Vulnerability

-
- 1. HRVA Analysis
 - 2. HRVA Formalization and Validation

-
- 1. Objective Setting/Generation of Solutions to Ranked Issues/Problems (PPAs)
 - 2. Programming/Integration with Disaster Management Plans/ LGU Development
 - 2.1. Plans
 - 3. Validation with Stakeholders
 - 4. Legitimization
 - 5. Implementation
 - 6. Monitoring and Evaluation
-

- **Pre-Assessment**

- **Organize a Core Team**

In _____, the UN Habitat conducted a rapid assessment of the disaster risk management capacities of the local government units through a PROFILE Survey Form. Upon evaluation, the Local Government of Sorsogon qualified to be one of the pilot cities to undertake the Hazard Risk and Vulnerability Assessment, a method for identifying hazards and vulnerability and for determining these possible effects on a community, activity, and organization of the environment.

The City received an invitation to an Orientation on Disaster Management and Hazard Risk and Vulnerability Assessment (HRVA). A group composed of five persons was sent to represent the City Government of Sorsogon in the workshop.

- **Conduct Core team orientation**

In the course of the orientation/workshop, this team together with the Local Chief Executive, Mayor Sally A. Lee committed to implement and institutionalize through legislation the HRVA program and incorporating therein the Millennium Development Goal number 3 which is “to promote gender equality and empower women”--- by this means correlating gender with disaster.

With the thrust of the city government on good governance, people’s welfare and empowerment is of utmost importance. This includes the safety and well being of the constituents in times of disasters or calamities. In empowerment of the constituents, it is just imperative to include women in the community in all the planning and preparations. From early warning system to relief distribution, women can perform vital tasks to help the community. Thus, focusing on MDG goal number three, the team planned out ways on how to adopt the project locally by developing an experienced-based guidebook on Hazard Risk and Vulnerability Assessment.

- **Prepare Work and financial plan**

Coming fresh from the Orientation on Disaster Management, development and Hazard Risk and Vulnerability Assessment (HRVA), a five-man MEET MDG Targets Core Team was created. The team was composed of the City General Services Officer, City Environment & Natural Resources Officer, Assistant City Engineer, Project Development Officer, and one office personnel from the City Information Management Team. This team shall be equipped with the knowledge and skills in conducting the HRVA and shall be responsible too in the conduct of the HRVA in their respective cities and the development of the guidebook based on the process they went through.

Insert scanned document – City Work and Financial Plan

Having this in mind, the team immediately prepared the Work and Financial Plan and other pertinent documents to substantiate their request to the City Council to authorize the City Mayor to enter into a Memorandum of Agreement with the UN Habitat.

- Secure SP resolution authority

support to this endeavor through an SP Resolution... “title”

- MOA signing between LCE and UN Habitat

Backed up with abling legislation, the City Government went on with the signing of a Memorandum of Agreement with the United Nations Human Settlements Programme for the implementation of the mitigating effects of external threats to MDGs through rights-based reforms in governance for greater equity, transparency and sustainability project or “MEET MDG TARGETS”.

In the MOA, it states that the City Government of Sorsogon as the implementing party is responsible for the activation of the project within the context of rights and reform approach particularly the mainstreaming of human rights, gender and the Right-Based Approach for the Realization of the Millennium Declaration/Millennium Development Goals in development, implementation, monitoring and evaluation of the project. It shall also closely coordinate with the responsible party, the UN Habitat, all related actions and activities carried out in the entire course of the project. The UN Habitat shall, above all, provide guidance, supervision, and oversight on the implementing party’s performance of its responsibilities.

Cite highlights of responsibilities of the LGU and UN HABITAT

- Formalize the Core team and TWG

Since this five-man team is composed of department heads, all of whom are key players in the daily operations of the LGU and each has varied concerns within their respective departments, it was decided by the team to create a Technical Working Group to assist them in the conduct of HRVA.

By virtue of Executive Order No. 011-2006 entitled “An Order Creating the MEET MDG Targets Core Team and Technical Working Group”; a technical working group was created, chaired by Engr. Orlando F. Huenda, the City Planning and Development Officer, and composed of nine members. Seven of these members come from the LGU, one from the department of education, and barangay captain of the target barangay ---Poblacion.

These seven members were convened by Engr. Orlando Huenda and were briefed on HRVA and how to go about this program. As to the other two, the Chair together with the TWG members visited barangay Bacon and conducted a separate briefing on how this program will initiate.

- Preliminary design and consultation

With the commitment given by all of the members of the TWG, a deliberation on what will be the preliminary design of the program took place. This was held at the Office of the City Planning and Development. Several suggestions were raised such as survey questionnaire, focus group discussion, and interviews among others. ___ out of ___ opted for a Focus Group Discussion as the method to be used in HRVA.

- Objectives

Having settled with FGD as the viable method, the TWG again deliberated as to what would be the objective/s of the study. They were able to come up with the following objectives:

1)

2)

3)

...

- Scope of study/assessment

Following the objective setting, the group then chose from among _____ barangays which among those is the most suited for HRVA. Apart from the main objectives of the program, they also have the following considerations in choosing their target barangay---

Bringing all these together, barangay Poblacion of Bacon District stood out as the most feasible area where they can hold the FGD.

- Program and questions for the FGD

The next day, the group meets once again with the following agenda: 1) to conceptualize the Program and 2) to formulate questions to be used in the FGD. This time the meeting was held at the City Information Management Office and facilitated by Engr. Honore Jordan. At this point, the group realized that this indeed was not an easy task. It took them two days to come up with a detailed Program.

It was decided by the group that as it is a focus group discussion, it must be participatory and a learning process for everyone. It must create an atmosphere where participants/respondents would feel assured that their insights and opinions are valued and respected. With this in mind, the group

considered several tools to be used in the entire duration of the FGD, such that these would encourage more inputs and participation from the participants. It must be designed in a way that it will not only allow participants to do the analysis themselves but also to provide a venue for them to discuss community concerns.

- Key informants, invitees to the FGD

Having Barangay Poblacion Bacon as target area for the conduct of the Focus group Discussion, the TWG members identified possible key informants for this activity. They have included in the list Barangay Council members, representative from the Department of Education, representative from the City Health Office assigned in the barangay, member of the media, representative from the barangay pastoral council, the LGU-Gender and Development Officer, and the City Agriculturist.

A courtesy call to the barangay chairperson was done by the TWG members, followed by a consultation to the barangay council members and the DepEd representative. This is to clearly explain the objectives, the activities to be conducted, and the role that the community and the local officials will play in the FGD.

They agreed to hold the FGD at Barangay Poblacion _____ on _____, 8:00am – 5:00pm.

Communications were prepared and sent to the invitees in the FGD; with it is a simple framework of the project and the specified materials/data needed from each of the participants particularly in the education, health, and livelihood. This is to provide participants with the basic knowledge on the subject, and to at least give them an idea of what will transpire in the FGD.

Having secured a receiving copy indicating almost a 100% attendance in the upcoming activity, the group became even more mindful and meticulous of the actions and preparations that they are about to undertake in the coming days. So as to minimize mistakes and careless actions, the group decided to make a matrix to serve as reference in the actual execution of the FGD. This matrix itemizes all possible actions expected from each member of the group.

Insert scanned document of the matrix

- Methodology

The group resolved to using mediums such as break-out groups, reporting, Q & A, matrix ranking/scoring, and plenary to capture the knowledge of each of the participants. The use of materials such as pen and paper, manila papers, meta cards, checklists, and power point technology are believed by the group to be effective tools in participation.

Identifying resources and materials needed is one thing. How to go about the actual process is another thing. As to whether this methods and tools would work... they are about to find out.

- Assessment
 - Refinement of the WFP
 - Research of relevant secondary data
 - Letter to DepEd on education indicators needed – city and barangay
 - Health indicators – City and barangay
 - Sending letter/courtesy call to barangay chairperson
 - Consultation with barangay council
 - Pre-orientation and introduction of project
 - Conduct of FGD/Workshop
 - MDG orientation – goals and targets
 - MEET the MDGs orientation
 - Project as a whole, Sorsogon city-gender
 - Functions of the TWG and expected outputs
 - Disaster management concepts

Participants were also provided with the basic concepts of disaster and disaster management by one of the members of the TWG through a short power point presentation. This presentation includes (incorporate main topics from Boboi’s presentation)

Activity 1

In activity 1, three break-out groups were formed and were given separate tasks. Group 1 was assigned to do a profiling by providing basic facts and data about their community. They were given a template to serve as their guide in the discussion. Group 2 was asked to identify natural hazards that are most likely to strike in their community and to enumerate the strengths and capabilities that they possess to withstand these hazards. Group 3 were made to think about human-made hazards which they think exist in their present-day community. The City GAD Officer assisted the group in this undertaking. It must be noted that in the original design of the FGD, participants would be asked to form (only) two groups, however, in the middle of the program proper, during the MDG briefing and orientation, the concept of human-made hazard emerged. The group has seen the logic behind this concept and has agreed that human-made hazards indeed have adverse effects in the community; and therefore must be included and addresses in the FGD.

Participants were provided with manila papers and pentel pens were given the following instructions:

- 1) discuss the given topic in within 15 minutes
- 2) write down their outputs in the manila paper
- 3) assign one member to do the reporting

Demography	
Area	174.513 Ha
Soil Type	clay loam
Geologic Map	quaternary volcanics
Slope	0.3 % above
Population	
No. of Households	1,190
No. of Families	
No. of Registered Voters	
Distance from Poblacion	9 km
Barangay Fiesta	May 21
IRA	Php 1.3 M
Barangay Officials	
Punong Barangay	Onofre Dioneda
Barangay Kagawad	7 (female – 4)
Barangay Secretary	Ma. Yoly Detera
Barangay Treasurer	Nimfa Barrameda
SK Chairman	Ara Dino
Barangay Tanod	15 (female –1)
Lupon Members	10
Enrolment	
Elementary	1119
Secondary	200+
	Immaculate Heart of Mary
Pre-school	300+
City Scholars	5
Purok	10
Lighting	Power Supply
Means of Transportation	tricycle, pedicab
Fuel	firewood 10% Gas 90%
Health Services	
Barangay Health Station	
Rural Health Unit	
St. Therese Hospital	

Available Health Service Representatives	
BNS	1
BHW	15
Barangay Midwives	1
Barangay Day Care Worker	3
Protective Services	
Barangay Tanod	
Fire District Station	
PNP	
Bantay Familia Members	
Purok Leaders	
Livelihood	
Labor and Employment	fishing, farming, employment 20%
Agricultural Product	vegetables, rice
Home Industries	mat baskets
No. of Business Establishments	ice plant, barber shop, gift shop, rice mills Videoke bars, pharmacy
Communication	Smart Communications, Globe Telecom
Organization	senior citizen, parish pastoral council, BATODA, BADIMA, BARMANCO, PALFSI, PYA, Youth Ministry vendors association - BOVEASS women Organizations – CWL, Komaneg
Infrastructures	water (water system), Power (SORECO), Cell site, cable, port, market, seawall, river control
Environment	MRF, Garbage Collection System
Tourism	Beach resort, baluarte, bacon church, pili nuts
Religious Activities	procession, SantaCruzan

Natural Hazards

Natural Hazard

Black Bug – mga insekto na kumakain ng palay
Tsunami
Landslide
Flood
Contamination
Fire
Earthquake

Capabilities

Sea wall
River control
Evacuation center/s – SP building, church, Barangay hall
Training on Disaster Management (c/o Kgd. Josephine Diaz)

Orientation on Disaster Management

Fire station
Health center
Hospital
Operation center

City Agriculture Extension – conducts lecture on black bugs

Organization

Barangay Disaster Coordinating Council, Purok Leaders
City Government Representative (Engr. Raden Dimaano)
BFP, PNP Bacon, Red Cross Youth, St. Therese Hospital, RHU,
Bantay Pamilya, Commission on Service, KPC, BATODA,
BADIMA, BAPOTODA, JOPABI

Communication

(Two) Cell site, Kabalikat, radio reporter, mega phone

Transportation

(Two) garbage truck, fire trucks, PNP mobile car, Barangay multi-cab

Human/Man-Made Disaster

Man-made disaster

Teen Age Pregnancy
Rape Cases
Pornography
Prostitution

Agencies

Balay Bukas Palad
PNP – women and children’s desk
Barangay Social Action Center – gender desk c/o Kgd.
Amado Manduriao

- **Barangay profile**

Activity 1, particularly barangay profiling, served as a situationer. It determined how much the people know about the community. It assessed the physical characteristics of the community that makes it more vulnerable to disaster. It also identifies which from among the these physical characteristics can actually be utilized for mitigation, preparedness, and recovery. It analyzes the strengths and weaknesses that this community (Brgy. Poblacion) has.

- **Listing of hazards** – where people could analyze their disaster experiences

Activity 2

Activity 2 aims to draw out from the participants the community's experiences and perceptions of disaster. From this exercise, the group hopes to learn how people assess disaster impacts, what factors do they consider in naming an event a disaster. Participants were made to recall strong typhoons that hit Sorsogon in the past 50 years. Its purpose is for the participants to analyze both their personal and the community's disaster experiences.

Participants were given meta cards and pentel pens to be used during the activity. They were given 10 minutes to recall strong typhoons, to the best of their memory, have somewhat deeply affected or altered their life conditions.. Surprisingly, they finished ahead of time and were very eager to share their answers. This exercise seemed to fire up the participants.

After which, participants handed over their meta cards to be posted on the board for everyone to see.

Here is the product of the activity:

Year	Strong Typhoons
1933	typhoon Osang
1951	typhoon Trix
1968	typhoon Wilming
1984	typhoon Bibing
1986	typhoon Rosing
1987	typhoon Sisang
	typhoon Roping
1988	typhoon Herming
2006	typhoon Milenyo
	typhoon Reming

In this activity, participants included those which they have not actually experienced but are relayed to them by their elders through storytelling or oral histories.

Similar to the first exercise, participants were given 15 minutes to identify the effects of these typhoons in their way of life and write it down on the meta cards provided. This exercise aims to explore people's experience and perceptions of disaster and to be able to draw from this a picture of local vulnerabilities.

Here is the result of the exercise:

- Destruction of communication facilities
- Disruption of classes
- Loss of lives, properties, etc
- Destruction of buildings, houses, etc.
- Loss of electric power and communication, Economic crisis
- Destruction of seawall, river control
- Damage of rangas bridge/rangas river control
- Physical injuries
- Diseases
- Epidemics
- Sickness
- Shortage of agricultural products
- Enhance extreme poverty & environmental damage
- Depression and malnutrition

To fully understand the wide-ranging effects of typhoons on each individual and the community, participants were asked to arrange these damages/effects into clusters, specifying the lifelines at risk, the areas most affected, populations most at risk, and so on. This exercise aims to have a clearer picture of how the community assess disaster impacts and their criteria in assessing these impacts.

The methodology used in this exercise is a discussion, facilitated by one of the TWG members. Participants were either called randomly or voluntarily to fill in the pre-designed matrix.

Here is the output for the said exercise:

Loss of Lives	Structures	Infrastructures	Economic/Livelihood	Psycho-Social
Physical Injuries	Tidal surge	No electricity	Sale of properties	Depression
Diseases	Wind/rain	Loss of electric power, communication	Coconut trees and farm crops are washed out	Malnutrition
Epidemics	Destruction of communication facilities	Destruction of seawall, river control	Hoarding of commodities	Increase in school drop-outs
Loss of lives, properties, etc	Destruction of buildings, houses, etc	Damage of rangas bridge/rangas river control	Shortage of agri-products	
Sickness	Displaced and homeless person	Flooded the whole poblacion	(Enhanced) extreme poverty	
		Houses washed out		
		Environmental damage		

With the purpose of relating gender to the effects of typhoons, a TWG member raised specific concerns for the participants to ponder on.

Method of Conduct: Question and Answer.

A TWG member, with the purpose of relating gender to the effects of typhoons, raised certain concerns. A freewheeling discussion took place.

Output :

Q: During disasters, which population has the most cases of injuries?

A: Male & Female. Males are usually involved in rescue operations, thereby increasing their chances of having physical injuries. Also females because they were the ones left at home during disaster and tasked to take care of the children.

Q: Who are more prone to diseases and epidemics?

A: Women & children because of their weaker body resistance especially those who are eating less nutritious foods.

Q: Who has the most cases of death? Is it the well off or is it the poor?

A: The poor. More often, the rich have sturdy, two-storey houses, which shelter them from strong winds.

Q: Who has the most number of loss properties?

A: Both. In different aspects. The poor usually in livelihood, agricultural products. The rich in terms of furniture, appliances, etc.

Q: Who are the most affected during disruption of classes? Who has the most number of drop-outs?

A: In disruption of classes, Both. In drop-outs, most are male students. Probably because they were asked by their parents to help in reconstruction, rehabilitation, and livelihood.

Q: On Nutrition, who are mostly affected?

A: The children

Q: Who gets emotional?

A: The women give in to depression easily as compared to men.

Q: On livelihood, who are most affected?

A: Usually, it is the men. They were the wage earners.

Assessment:

Generally, in most areas, women and children are the most vulnerable during disasters. With the loss of sources of livelihood, children are prone to child labor, and women, sometimes having no other immediate recourse, engage in prostitution. Several fly to Manila and are employed as house helps, sacrificing education for menial jobs. Because of these, cases of dropouts increase. This is without prejudice to young men who are also forced to do hard labor to gain extra income for the family.

Bottom line, both sexes are affected in one way or another in times of calamities. It is with this condition that gender related issues must be addressed to provide venue to address the gaps and identify the strengths and weaknesses of each.

Focus Group Discussion

The Technical Working Group also conducted a Focus Group Discussion in Brgy. Poblacion. Invited participants were different sectors and individuals present in the community.

Run Down of Focus Group Discussion

1. Preliminaries
2. Overview: MDG, MEET the MDG, Gender anchored in MDG
3. Overview : Natural Disasters
4. Workshop 1 –
Barangay Profiling
Natural Hazards
Human/Man-Made Disaster
5. Workshop 2 – Hazard Analysis
Exercise – Typhoons that hit Sorsogon
Effects of typhoons (general perspective)
Effects of Typhoons (categorized)
Assessment – gender in relation to effects of typhoons
6. Workshop 3 – measures that may be implemented/adopted in addressing man-made disaster
7. Workshop4 – checklist of gender indicators in relation to natural disasters
8. Agreements
9. Closing

FGD Workshop

Workshop 1

Barangay Profile

Participants were grouped into three, group one was tasked to do a profiling of Barangay Poblacion. Significant facts about the Barangay are shown below:

Demography

A. Area	174.513 Ha
Soil Type	clay loam
Geologic Map	quanternary volcanics
Slope	0.3 % above
Population	
No. of Households	1,190
No. of Families	
No. of Registered Voters	
Distance from Poblacion	9 km
Barangay Fiesta	May 21
IRA	Php 1.3 M
B. Barangay Officials	
Punong Barangay	Onofre Dioneda
Barangay Kagawad	7 (female – 4)
Barangay Secretary	Ma. Yoly Detera
Barangay Treasurer	Nimfa Barrameda
SK Chairman	Ara Dino
Barangay Tanod	15 (female –1)
Lupon Members	10

C. Enrolment	
Elementary	1119
Secondary	200+
	Immaculate Heart of Mary
Pre-school	300+
City Scholars	5
D. Purok	10
Lighting	Power Supply
Means of Transportation	tricycle, pedicab
Fuel	firewood 10%
	Gas 90%
E. Health Services	
Barangay Health Station	
Rural Health Unit	
St. Therese Hospital	
Available Health Service Representatives	
BNS	1
BHW	15
Barangay Midwives	1
Barangay Day Care Worker	3

F. Protective Services	
Barangay Tanod	
Fire District Station	
PNP	
Bantay Familia Members	
Purok Leaders	
G. Livelihood	
Labor and Employment	fishing, farming, employment 20%
Agricultural Product	vegetables, rice
Home Industries	mat baskets
H. No. of Business Establishments	ice plant, barber shop, gift shop, rice mills, Videoke bars, pharmacy
I. Communication	Smart Communications, Globe Telecom
J. Organization	senior citizen, parish pastoral council, BATODA, BADIMA, BARMANCO, PALFSI, PYA, Youth Ministry vendors association - BOVEASS, women Organizations – CWL, Komaneg
K. Infrastructures	water (water system), Power (SORECO), Cell site, cable, port, market, seawall, river Control
L. Environment	MRF, Garbage Collection System
M. Tourism	Beach resort, baluarte, bacon church, pili nuts
	N. Religious Activities

Natural Hazards

Group 2 were asked to identify natural hazards that frequent or that are likely to strike Barangay Poblacion. They have also identified the strengths and capabilities of the Barangay that would help withstand these natural hazards and disasters.

Natural Hazard

- Black Bug – mga insekto na kumakain ng palay
- Tsunami
- Landslide
- Flood
- Contamination
- Fire
- Earthquake

Capabilities

- Sea wall
- River control
- Evacuation center/s – SP building, church, Barangay hall
- Training on Disaster Management (c/o Kgd. Josephine Diaz)

Orientation on Disaster Management

- Fire station
- Health center
- Hospital
- Operation center

City Agriculture Extension – conducts lecture on black bugs

Organization

- Barangay Disaster Coordinating Council, Purok Leaders
- City Government Representative (Engr. Raden Dimaano)
- BFP, PNP Bacon, Red Cross Youth, St. Therese Hospital, RHU, Bantay Pamilya, Commission on Service, KPC, BATODA, BADIMA, BAPOTODA, JOPABI

Communication

(Two) Cell site, Kabalikat, radio reporter, mega phone

Transportation

(Two) garbage truck, fire trucks, PNP mobile car, Barangay multi-cab

Human/Man-Made Disaster

Group 3 were asked to identify human/man-made disaster under the assistance of Ms. Rosy Abay, the City Gender and Development (GAD) Officer.

Man-made disaster

- Teen Age Pregnancy
- Rape Cases
- Pornography
- Prostitution

Agencies

- Balay Bukas Palad
- PNP – women and children’s desk
- Barangay Social Action Center – gender desk c/o Kgd. Amado Manduriao

Workshop 2 – Hazard Analysis

Strong Typhoons that hit Sorsogon

Method of Conduct: participants were given cue cards to write on.

Based on their experience, participants were made to recall strong typhoons that struck Sorsogon and how these typhoons have somewhat affected their life conditions.

Output :

1933	typhoon Osang
1951	typhoon Trix
1968	typhoon Wilming
1984	typhoon Bibing
1986	typhoon Rosing
1987	typhoon Sisang
	typhoon Roping
1988	typhoon Herming
2006	typhoon Milenyo
	typhoon Reming

Effects of Typhoons (general perspective)

Method of Conduct : participants were given cue cards to write on.

Following the first exercise, participants were made to identify the short and long term effects of these typhoons in their families and communities.

Output :

- Destruction of communication facilities
- Disruption of classes
- No electricity
- Physical injuries
- Diseases
- Epidemics
- Loss of lives, properties, etc
- Destruction of buildings, houses, etc.
- Loss of electric power, communication, and economic crisis

- Destruction of seawall, river control
- Depression and malnutrition
- Sickness
- Damage of rangas bridge/rangas river control
- Enhance extreme poverty & environmental damage
- Shortage of agricultural products

Effects of Typhoons (categorized)

Method of Conduct : free-wheeling exercise assisted by one of the TWG member

To fully understand the wide-ranging effects of typhoons on each individual and the community, participants were asked to arrange these damages/effects into clusters. This exercise aims to have a clearer picture or a more comprehensive approach by specifying the lifelines at risk, the areas most affected, populations most at risk, and so on.

Output :

Loss of Lives	Structures	Infrastructures	Economic/Livelihood	Psycho-Social
Physical Injuries	Tidal surge	No electricity	Sale of properties	Depression
Diseases	Wind/rain	Loss of electric power, communication	Coconut trees and farm crops are washed out	Malnutrition
Epidemics	Destruction of communication facilities	Destruction of seawall, river control	Hoarding of commodities	Increase in school drop-outs
Loss of lives, properties, etc	Destruction of buildings, houses, etc	Damage of rangas bridge/rangas river control	Shortage of agri-products	
Sickness	Displaced and homeless person	Flooded the whole poblacion	(Enhanced) extreme poverty	
		Houses washed out		
		Environmental damage		

Assessment – gender in relation to effects of typhoons

Method of Conduct: Question and Answer.

A TWG member, with the purpose of relating gender to the effects of typhoons, raised certain concerns. A freewheeling discussion took place.

Output :

Q: During disasters, which population has the most cases of injuries?

A: Male & Female. Males are usually involved in rescue operations, thereby increasing their chances of having physical injuries. Also females because they were the ones left at home during disaster and tasked to take care of the children.

Q: Who are more prone to diseases and epidemics?

A: Women & children because of their weaker body resistance especially those who are eating less nutritious foods.

Q: Who has the most cases of death? Is it the well off or is it the poor?

A: The poor. More often, the rich have sturdy, two-storey houses, which shelter them from strong winds.

Q: Who has the most number of loss properties?

A: Both. In different aspects. The poor usually in livelihood, agricultural products. The rich in terms of furniture, appliances, etc.

Q: Who are the most affected during disruption of classes? Who has the most number of drop-outs?

A: In disruption of classes, Both. In drop-outs, most are male students. Probably because they were asked by their parents to help in reconstruction, rehabilitation, and livelihood.

Q: On Nutrition, who are mostly affected?

A: The children

Q: Who gets emotional?

A: The women give in to depression easily as compared to men.

Q: On livelihood, who are most affected?

A: Usually, it is the men. They were the wage earners.

Assessment:

Generally, in most areas, women and children are the most vulnerable during disasters. With the loss of sources of livelihood, children are prone to child labor, and women, sometimes having no other immediate recourse, engage in prostitution. Several fly to Manila and are employed as house helps, sacrificing education for menial jobs. Because of these, cases of dropouts increase. This is without prejudice to young men who are also forced to do hard labor to gain extra income for the family.

Bottom line, both sexes are affected in one way or another in times of calamities. It is with this condition that gender related issues must be addressed to provide venue to address the gaps and identify the strengths and weaknesses of each.

Workshop 3 – Measures that may be implemented/adopted in addressing man-made disaster

With the able assistance of Ms. Rosy Abay as co-facilitator, participants were able to identify measures to be adopted in addressing man-made disasters as shown in the table below.

Man-Made Disaster	Vulnerability	Actions Required	Responsible Person	Beneficiaries
Child Labor	Extreme Poverty	Develop/strengthen livelihood opportunities, livelihood training	City, Barangay, LGU, DOLE, lending institutions, national support fund	Parents
	Lack of Sense of responsibility of parents	Education, parenting seminars	DepEd, Religious groups, LGU-CSWDO, NGO-PALFSI, Brgy. Council, SAC	
	No organization (NGO/ PO) focusing on child labor	Encourage child friendly NGOs to operate in Poblacion	Barangay Council	
Child Abuse	Lack of Local Org	Strengthen BCPC	Brgy. Council	
	Effect of Culture	Awareness of Child Laws Education Inclusion of Child Laws, etc in PMC	LGU, Brgy. Council	
	LGU not ready/ responsive	IEC	LGU, GAD focal person	
	Presence of pornographic materials	Campaign against porno materials	PNP, NGOs/religious orgs, LGU, parents, DepEd, SK	
	Lack of Spirituality	Strict implementation of Laws Conduct Seminars, bible studies, recollections, retreats	Religious orgs, KPC, PPC	

Rape	Poverty			
	Slow (Law enforcement), judicial process	Support to victims, Advocacy for additional judges, community involvement	NGOs Family court	
	Unaware of Organizations to attend to rape cases	IEC	GAD focal person BGAD	
Battered housewives	Ignorance of the Law	IEC	GAD focal person BGAD	
	Passivity/attitude on the part of the women	IEC	GAD focal person BGAD	
	Unaware of existing organizations	IEC	GAD focal person BGAD	
Teenage pregnancy	Influence of media			
	Poverty	Parental guidance on TV, internet, porno	GAD focal person BGAD	
	Lack of parental guidance	Family values training		
	Unaware of existing organizations	IEC		
	Drugs and alcohol	Strict implementation of RA 9165	CADAC	
	Human interest on sexual desires	Organize wholesome activities for the youth sexual education	SK, LGU, DepEd, Teen Center	

Workshop 4 – Checklist of gender indicators in relation to natural disasters

Education

Checklist	yes	no	remarks
Are the data (enrolment rate, attendance rate, and drop out rate) coming from schools disaggregated by sex and age?	/		Each school maintains these data by sex, by level, and by age
Are the data on Learning Achievements (achievement test, NSAT, etc.) being disaggregated by sex and age?		/	Achievement result is given by school and by level
Are school materials being included in relief goods? If yes, pls. enumerate the kinds of materials being distributed			Only for pre-schools, day care heavily/totally damaged by the calamity
			Other materials include : chairs, tables, fork, spoon, cups, weighing scale, books, assorted, and educational posters, medicine kit, water jugs from UNICEF
Are school materials equally distributed by gender?	/		
Is there suspension of classes after calamity? How long does it take for classes to resume?	/		It depends upon the gravity of damage in schools; decision is school based
Are school buildings used as evacuation centers?	/		Elementary NO High School YES
Is there an increase in drop out rate after disaster?	/		
Is there a significant gender disparity?	/		More boys dropped out than girls

Are the damaged school buildings immediately repaired after disaster? How long does it take to finish repair of damaged school buildings?		/	3 months and more
Does the community play a big role in resuming normalcy of school activities after disaster?			
Are disaster management responses such as swimming lessons, earthquake drill, fire drill, etc being undertaken by schools or being integrated in school curricula?	/		Quarterly drill are undertaken, reports of the drill are submitted to higher offices

Health

Checklist	yes	no	remarks
Are the data coming from health organizations and health care providers disaggregated by sex and age?	/		
Is there a separate comfort room for male and for female in evacuation centers?		/	Comfort rooms closed
Is cleanliness strictly observed in the evacuation centers?		/	Nobody to facilitate the evacuees
Is there privacy or space provided for women in evacuation centers?		/	none
Do women have easy access to health services in evacuation centers and /or immediately after the disaster?		/	No health services, no evacuation centers except the church which is near the hospital
Are there gender differences in the incidence of particular diseases?		/	none

Are there gender related differences in the incidence of psychological effects on victims?		/	none
Are the damaged health centers immediately repaired after disaster? How long does it take to finish repair of these buildings?		/	Depends on the availability of fund

Livelihood

Checklist	yes	no	remarks
Have women and men been affected differently in relations to livelihoods and loss of employment	/		Farmers and fisherfolks
Women – fish vendor, processing			
Do women have equal access to resources, lands and financial assistance, and skills training in rebuilding livelihood?		/	
If yes, are there hindrances/ constraints why women could not enjoy equal access to these resources? What are these barriers?			Superiority among men
Are there programs developed by NGAs and NGOs to promote livelihood in affected communities?	/		Seed subsidy, distribution of vegetable seeds
Are there programs that address women and children's vulnerability to prostitution and possibility of being exploited for menial jobs due to the effects of calamity?	/		BSRP for women

Hazard analysis – typhoon

- Areas affected
 - Populations most at risk
 - Children
 - Lifelines at risk
 - Structures most likely affected
 - Schools
 - Sources of livelihood most likely affected
 - Coconut (3 years to recover)
 - Fishing (as experienced in Lafayette issue)
 - Infrastructures most likely affected
 - Impact consequences on the community
 - Highlight on education
 - DepEd indicators for the past 3 school years
 - Health indicators for the past 3 years
 - Synthesis
 - Vulnerability statement
 - Post-Assessment
 - Local Government Reform Agenda
 - Policy, programs, programming/resource allocation, social infrastructure
 - Statement of direction/purpose
 - Community vision? – where you want and how you’ll go
 - Strategies
 - Description of possible activities
 - Projected output/beneficiaries
 - HRVA Toolkit and LGRA finalization
 - Submission to SP/CDC for adoption
 - Draft layout
 - Printing c/o UN Habitat
-
- Decrease in enrolment/drop outs/other educ indicators due to the effects of calamities
 - Fish scare in Bacon
 - Effects of typhoon on agriculture
 - Others





MDG 4: Child Mortality

MEET @ CHILD
Mitigating the Effects of External Threats
in Reducing Child Mortality in Iloilo City

MESSAGE



FOREWORD

ACKNOWLEDGMENTS



INTRODUCTION

LGU PROFILE: ILOILO CITY

Iloilo City lies in graceful repose between the mouth of Iloilo and Salog (JARO) Rivers. The strip of land so cut by the two rivers, look like a nose, hence, the name “Irong – Irong” and later Iloilo which means nose-like. The city’s land feature is flat and low level mass. 90 % of land mass has an elevation of 2.637 meters above the main water level while 10% of land mass has an elevation of 5.19 meters. It has three major rivers: 1) Jaro River, 2) Batiano River, and 3) Iloilo River. It is one of the most accessible cities in the Philippines. It is the Regional Center and the major port of entry in western Visayas.

The city covers a land area of 7,023 hectares distributed into six (6) political districts and composed of 180 barangays. The population as of 2000 Census is 366,391. Population density is 5,217 person/sq. km. (52.17 person/ha.) in 2000. The floating Population of the City is estimated at more than 100,000 mostly students. The projected number of households for 2004 is 79,237. Average household size is 5.00 in 2004. 40.02% of the Population are below 20 years old in 2004. Potential labor force is 65.82% (ages 15-64) in 2004. Male to Female ratio is 94:100.

The development vision for Iloilo City presents a forward looking and challenging development direction that ensures for the citizens a city that is vibrant, competitive and prosperous. “Iloilo City: a premier city by 2015.” The vision is defined further by the city’s charter statement that calls for the city to be:

1. a leader in the practice of participatory governance that will speed up and sustain growth and development, in order to open up more and better opportunities for all;
2. constantly upgrading standards of education, ethics and transparency in government;
3. significantly expanding and improving infrastructure, thereby securing a dynamic, safe, peaceful and healthy environment conducive to learning, sports and eco-cultural tourism; and
4. moving forward while being fully dedicated to the preservation and further enrichment of the city’s cultural heritage.

POPULATION

- The population of the City as of 2000 Census is 366,391.
 - Children aged 0 – 14 comprise 113,101 or 31% of the population.
 - Population density is 5,217 person/sq. km. (52.17 person/ha.) in 2000.
 - The floating Population of the City is estimated at more than 100,000 mostly students.
 - The projected number of households for 2004 is 79,237.
 - Average household size is 5.00 in 2004.
 - 40.02% of the Population are below 20 years old in 2004***
 - Potential labor force is 65.82% (ages 15-64) in 2004***
 - Male to Female ratio is 94:100
- ***Projected

Crude Birth Rate	17.58/1,000 population
Crude Death Rate	6.11/1,000 population
Infant Death Rate	17.60/1,000 live births
Early Neonatal Death Rate (0-28days)	10.30/1,000 live births
Still Birth	4.72/1,000 live births
Expanded Program of Immunization	77.5% (fully immunized)
Maternal Death Rate	0.86/1,000 live births

- Malnutrition Rehabilitation Program, Operation Timbang (OPT) result showed:

	0-83 MOS (under 7 yrs)	0-71 MOS (under 6 yrs)
Estimated Pre Schoolers Population	63,606	69,567
Actual No. Of Children Weighed	52,725	45,487
Percent (%) Coverage	83%	65%
Severely Underweight (Very low/below normal)	560	478
% Very/Low/below normal	1.06%	10.5%
Moderately Underweight (Below normal)	4,262	3,849
% Below Normal	8.08%	8.46%
Normal	45,912	39,557
% Normal	87%	87%
Overweight (Above Normal)	1,991	1,603
% Above Normal	3.78%	3.052%
Combined Very Low & Below Normal	4,822	4,327
Prevalence rate	9.14%	9.51%

- Nutritional status of Elementary School Children weighted in SY 2004-2005 showed 5,651 or 12.76% Below Normal; 36,428 or 82.28% Normal and 2,195 or 4.96% Above Normal of the total 44,274. (Source: DECS, Div. of Iloilo City)
- Nutritional status of Secondary Students weighted in SY 2004-2005 showed 2,412 or 11.66% Below Normal; 17,135 or 82.82% Normal and 1,140 or 5.51% Above Normal of the total 20,687 (Source: DepEd, Div. of Iloilo City)
- There are five (5) hospitals operating in the City with a total bed capacity of 1,443. This is supplemented by more than 152 private medical clinics, 85 specialized clinics and 126 dental clinics.
- There are 1,850 estimated nurses registered at the Philippine Nursing Association (PNA-Iloilo Chapter) in 2003. This includes new professional nurses and staff nurses on duty in different hospitals in the City.
- A total of 650 physicians registered at Iloilo Medical Society (IMS) in Iloilo City.

HEALTH STATISTICS 2005

	NUMBER	RATE
Live Births	6,663	16.42%
Deaths	2,754	6.79%
Stillbirths	29	4.35%
Infant Deaths	118	17.71%
Early Neo-natal Deaths	59	8.85%
Maternal Deaths	2	0.30%
Teenage Pregnancy	409	6.00%
Home Deliveries	1,755	26.00%
Total WRA	44,326	23.23%
CPR	24,113	54.40%
Total FP Users	24,102	54.40%

* Rate per 1,000 population

TEN LEADING CAUSES OF NEONATAL DEATHS (0 – 28 DAYS) CY 2005

Rate per 1,000 Live Births

DISEASES	No. of Deaths		Rates	
	Male	Female	Male	Female
1. Sepsis Neonatorum	14	3	2.10%	0.45%
2. Prematurity	9	7	1.35%	1.05%
3. Sudden Infant Death Syndrome	6	4	0.90%	0.60%
4. Congenital Anomaly	3	1	0.45%	0.15%
5. Asphyxia Neonatorum	1	2	0.15%	0.30%
6. Pneumonia	2	1	0.30%	0.15%
7. Congenital Hearth Disease	1	1	0.15%	0.15%
8. Metabolic Acidosis	1	0	0.15%	0.00%
9. Gastroenteritis	1	0	0.15%	0.00%
10. Tetanus Neonatorum	1	0	0.15%	0.00%

TEN LEADING CAUSES OF INFANT MORBIDITY

CY 2005

Rate per 1,000 Live Births

DISEASES	NO. OF CASES		RATES	
	MALE	FEMALE	MALE	FEMALE
1. Pneumonia	225	192	33.77%	28.82%
2. URTI	154	161	23.11%	24.16%
3. Diarrhea	107	75	16.06%	11.26%
4. Viral Meningitis	18	27	2.70%	4.05%
5. PTB	4	10	0.60%	1.50%
6. Parasitism	4	5	0.60%	0.75%
7. Bronchitis	4	3	0.60%	0.45%
8. Diseases of the Heart	2	4	0.30%	0.60%
9. Injuries (All Types)	2	1	0.30%	0.15%
10. Leukemia	0	1	0.00%	0.15%

TEN LEADING CAUSES OF INFANT MORTALITY**CY 2005****Rate per 1,000 Live Births**

DISEASES	NO. OF DEATHS		RATES	
	MALE	FEMALE	MALE	FEMALE
1. Septicemia	20	14	3.00%	2.10%
2. Pneumonia	12	4	1.80%	0.60%
3. Prematurity	9	7	1.35%	1.05%
4. Diarrhea	8	3	1.20%	0.45%
5. Sudden Infant Death Syndrome	6	4	0.90%	0.60%
6. Congenital Heart Disease	3	3	0.45%	0.45%
7. Congenital Anomaly	3	3	0.45%	0.45%
8. Asphyxia Neonatorum	1	2	0.15%	0.30%
9. Liver Disease	1	1	0.15%	0.15%
10. Metabolic Acidosis	2	0	0.30%	0.00%

6 YEARS COMPARATIVE REPORT OF INFANT AND UNDER FIVE MORTALITY**CY 2000 TO 2005**

INDICATORS	2000	2001	2002	2003	2004	2005
1. Infant Mortality Rate per 1,000 live births	126 19.98%	116 16.14%	95 13.36%	143 20.44%	113 16.15%	118 17.71%
2 Under 5 Mortality Rate per 10,000 live birth	188 3.59%	162 3.04%	139 2.57%	179 2.55%	140 2.00%	175 2.61%

ILOILO CITY'S FOCUS: MDG 4 - REDUCE CHILD MORTALITY

The national record shows that for the ten-year period from 1993 to 2003, the under-five child mortality rate fell from 54 per 1,000 live births to 40 per 1,000 live births, as did infant deaths which fell from 34 per 1,000 live births to 29 per 1,000 live births. The national target is to reduce the mortality rate among children under five years old by two-thirds by 2015.

Based on data from the Technical Working Group on Maternal and Child Mortality, the national under-five mortality rate (U5MR) declined from 80 deaths per 1,000 live births for 1990 to 32 in 2006 (Family Planning Survey of NSO). The national target is 26.7 by 2015. Infant mortality rate has also decreased from 57 deaths per 1,000 live births in 1990 to 24 in 2006. The national target is 19 by 2015.

The Iloilo City targets for MDG 6 are much lower than the national targets, as follows:

- Local Target 1: reduce the infant mortality rate of 12 per 1,000 livebirths in 2005 to 4 per 1,000 livebirths by 2015
- Local Target 2: reduce the mortality rate among children under five years old from 30 per 1,000 livebirths in 2005 to 10 per 1,000 livebirths by 2015

DISASTER MANAGEMENT AND HRVA IN ILOILO CITY

Child mortality is high in slums and congested areas, more particularly in families with income below poverty line. Should the Local and National Government have respective and specific programs for Child Health Care, the Child Mortality situation could easily be mitigated if not totally eradicated.

The City of Iloilo was prone to several natural and man-made hazards that were occasionally experienced by its residents. These hazards had greatly affected the economic and social development, more particularly on the health aspects of vulnerable populace. Highly vulnerable residents were infants, as well as children aging five-years and below.

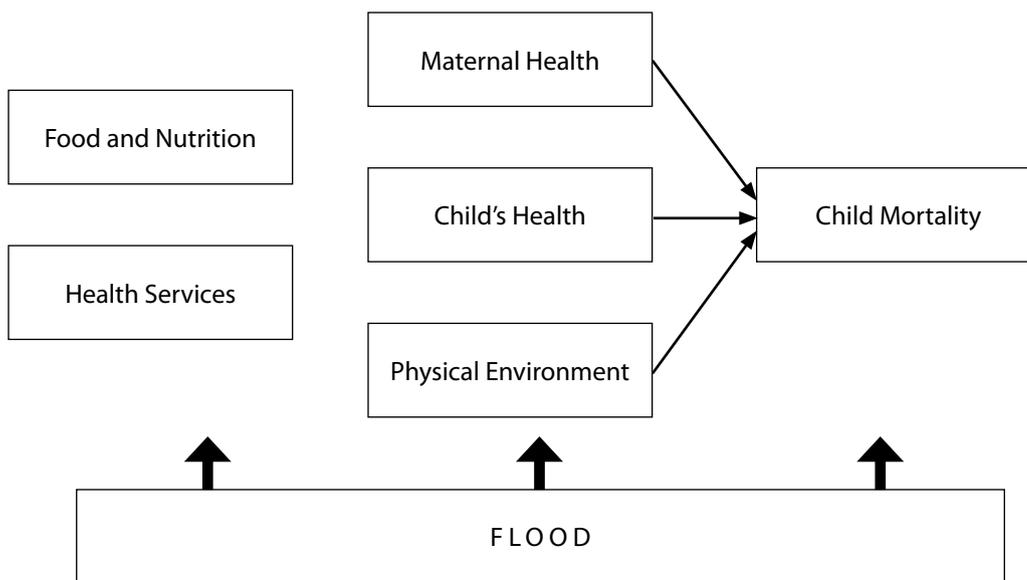
The top-five natural and man-made hazards that have greatly affected the city and its residents include flood, typhoon, storm surges, fire and earthquake.

Out of the 180 barangays in the city, there are 75 barangays that were identified as flood prone area. In 2003, the Iloilo City Flooding Hazard Map was established for Early Warning and Communication System.

(There is an existing Iloilo City Disaster Preparedness Plan (ICDPP) where the Iloilo City Disaster Coordinating Council plays a leading role. The HRVA process introduced by the MEET project served to enhance the HRV assessment by looking at all aspects and dimensions of HRV to include development hazards. See Attached ICDPP.)

PROJECT FRAMEWORK FOR HRVA of CHILD MORTALITY

(Define child mortality and how the city analyzed the HRV in relation to it.)



(The above diagram is a proposed draft to illustrate the elements considered in conducting the HRVA for child mortality. How does the selected hazard like flood affect the factors that contribute to child mortality?)

THE HRVA PROCESS

(This was done to complement the existing Disaster Management Plans of the City. See attached DMP)

HAZARD RISK AND VULNERABILITY ASSESSMENT (HRVA) PROCESS

I. DEFINITION OF PROJECT

Hazard Risk and Vulnerability Assessment (HRVA) is a comprehensive study conducted in a particular community and processed locally that requires a series of planned activities, strategies and techniques involving key players' commitment and the community's support in terms of providing concrete and reliable data with the financial and technical assistance from LGU, UN-HABITAT and other concerned agencies to be able to develop an HRVA Guidebook/Toolkit which will serve as future reference for Disaster Management Planning and other related studies of other LGUs and communities.

II. PROGRAM ORIENTATION

Objectives:

1. To be able to discuss briefly the Millennium Development Goals (MDGs) and its relation to Disaster Management.
2. To be able to provide basic understanding of the different types of hazards, risks and vulnerability assessments of the same in a particular community.
3. To be able to explain the purpose why HRVA has to be conducted.

PREPARATORY ACTIVITY:

1. Members of the group that attended the MEET- the-MDG Seminar at the Grand Hotel, Iloilo City, made an update to Mayor Jerry P. Treñas about the HRVA project and the city’s task thereto. At once, the Mayor ordered for the Iloilo City Disaster Coordinating Council (ICDCC) to reconvene.

III. PLANNING / HRVA GROUP FORMATION

- a. Identification of core group composition from the members of the ICDCC
- b. HRVA Core Group Members

IV. ORIENTATION OF HRVA PROJECT

OBJECTIVE: To give the members of the HRVA Core group a thorough knowledge of the steps that has to be done in order to come up with the HRVA Guidebook.

PREPARATORY ACTIVITIES:

- Set the date for the orientation, and inform each members of the schedule.
- Preparation of materials for the orientation
- Meeting with the core group and setting up the instruction flow of the orientation

DURING THE MEETING:

- Distribute copies of the materials on HRVA strategies and techniques
- Discussion and open forum
- Affirm HRVA Core group’s dedication to the project at hand

V. HAZARD AND COMMUNITY IDENTIFICATION

Step 1 Based on experience and common knowledge, the HRVA Core group was able to identify the natural and man-made hazards and its effects on the city and the MDG Goals.

Step 2 Of the identified hazards, the core group had to decide on a particular hazard which has the biggest effect on the city, its economy, and the city’s MDG Goal.

Step 3 Criteria in selecting a particular hazard.

1. Frequency of occurrence
2. Impact on the city, its people and economy
3. Impact on the city’s MDG Goal

OUTPUT:

The HRVA Core group would produce an output, the guidebook. This is after it has conducted an HRVA in the whole city, and identified the hazard as flood.

The ICDC has also all the needed data that needs validation and could be compiled into a guidebook.

VI. WORK AND FINANCIAL PLANNING

Step 1 Assign task of different activities.

- HRVA Core group members were given specific tasks to perform in relation to vulnerability assessment and analysis.
- Identified the city's characteristics that need to be taken into account or considered for assessment and evaluation.
 - a. Demography
 - Population
 - Hazard awareness
 - Vulnerable groups
 - Health Status
 - Educational level
 - b. Culture
 - Traditions
 - Ethnicity
 - Social Values
 - Religion
 - c. Economy
 - Trade
 - Agriculture
 - Livestock
 - Investment
 - d. Infrastructure
 - Communication and Transportation networks
 - Essential services
 - Community
 - Resource base

- e. Environment
 - Landforms
 - Geology
 - Waterways
 - Flora and fauna
- Assigned HRVA Core group members who will act as the secretariat and will conduct the documentation process for the HRVA.

Step 2 Formulate and agree on the format of the HRVA work and financial plan.

Step 3 Determine activities and sub-activities to be conducted, and assign specific personnel to each task.

Step 4 Determine the required materials, supplies, equipment, and other logistical requirements in the implementation of the HRVA.

Step 5 Schedule activities and determine the financial requirements for the cost of supplies, materials, traveling and other incidental expenses.

Step 6 Finalization of the work and financial plan for submission to the UNDP and the LGU finance department for funding allocation.

VII. DATA GATHERING

OBJECTIVE:

To come up with the CITY PROFILE containing the necessary information to serve as the basis for analyzing the situation of the city, and to be able to determine its capacities and vulnerabilities to identified hazards.

A. Formulation of the HRVA Data Validation Questionnaire.

The core group to formulate the questions needed to verify the data at hand, namely demographic, social condition, education, social services, manpower and facilities, cultural practices, and the economic status of the city.

Step 1 Preparation of copies of the HRVA questionnaire and distributing it to assigned interviewers.

Step 2 Preparation of tabulation forms to be used in summarizing the result of the verification.

B. Orientation of HRVA to the interviewers regarding the conduct of the validation survey.

C. Planning the flow of the interview with specific district point persons for the validation.

D. Preparation and Organization

Step 1 The head of office of each of the city's seven district health centers were informed through telephone that there would be a data verification interview to be conducted in their area of responsibility; they were also informed if they could convene their respective Barangay Health Workers, and Barangay Service Point Officers for the verification.

Step 2 A week before the scheduled interview, the core group chairman contacted the district health centers to follow-up the scheduled interview, and to set each districts specific schedules.

Step 3 Verification assembly

Duration: 1 hour 30 minutes

- Preparation of venue, materials, A/V system, whiteboard, and other logistical effects.
- BSPO's and BHW's of the barangays under each identified districts attended the verification assembly.
- The team leader of the verification group explained to the assembly the purpose, need, and importance of the HRVA, and there is a need to verify the data present at hand.
- Open Forum, the BSPO's and BHW's together with the staff of the district health centers were asked to give comments, reactions, critique and recommendations about the data presented to them.

E. Conduct of HRVA Data validation.

Duration: 14 hours

- An interview was conducted by 10 interviewers and lasted for 3 hours for each district health center. (Interview questions?)
- In every district health center, 20 BSPO's and BHW's were randomly selected as sample size for each district; while in some district, specific barangays were taken into consideration due to its population complexity and other factors.
- The interview was conducted simultaneously with each interviewer handling two people. With each interview lasting around 15 minutes at the average.
- After the interview, all the gathered data were collated, summarized and analyzed.
- A panel discussion with those present including the staff of the district health center were conducted in order to further verify the data collected and to correct any errors that may have been committed. (Guide questions?)

VIII. CONSOLIDATION OF DATA

- Step 1 After the validation assembly, the interviewers together with the core group members, met to discuss the data collected in the assembly and verification.
Duration: 4 hours
- Step 2 Consolidation of data per district was conducted with 5 persons worked on the data:
Duration: 9 days
- Step 3 Preparation in tabular or graphical form of the data collated from the assembly and interview. Task was handled by 3 persons.
Duration: 5 days

IX. INSPECTION AND MAPPING OF CRITICAL SITES

OBJECTIVES:

To be able to identify the location of critical sites, and to determine the city's capability in responding to a disaster once it happens, taking into account its level of exposure, vulnerability of key infrastructure networks, vulnerability of government and private buildings, and its major lifelines.

Duration: 3 days

Members of Inspection Team:

Representatives from:

- City Engineers Office
- City Assessor's Office
- CENRO
- IC C/DMO – ACC

- Step 1 Inventory of existing government and private structures, and infrastructure networks.
 - A. Listing of identified structures that has the potential to be utilized as a shelter for evacuation center.
 - 1. School buildings (elementary and high school)
 - 2. Covered Gyms in public parks, sports complex
 - 3. Barangay covered Gym
 - 4. Barangay halls
 - 5. Day Care Centers
 - 6. Churches, Brgy. Chapels
 - 7. Health Centers, barangay and district
 - 8. Protective services, Police stations, Army HQ's, etc.

- B. Infrastructure Networks
 - 1. Roads and Bridges
 - 2. Water Facilities
 - 3. Electrical Grid
 - 4. Communications Facilities
- C. Environmental Elements
 - 1. Landforms
 - 2. Waterways
 - 3. Flora and Fauna

Step 2 Site Inspection

- Assessment and inspection of identified structure to determine its existing condition, whether it is serviceable or not. (assessment was conducted through ocular inspection by the representatives from the CEO)
- Discussion with barangay officials, teachers, school officials, and other concerned authorities to listen to their concerns, comments and suggestions. (the most common concern of these people were the present dilapidated structures of the identified buildings)

Step 3 Reference Mapping

- Reference mapping was conducted to determine the location of critical areas and their proximity to identified shelters and evacuation centers.
- Reproduction of reference maps:
 - a. Flood Hazard Map
 - b. Capability Map
 - c. City Land Use Map

X. WRITE-UPS

OBJECTIVES:

To be able to give full account and description of the city current hazards, risks, vulnerabilities, and ability to cope with it based on the gathered data. This is done thru compilation of available the data, verification, ocular inspection, and interviews with key authorities in the following areas:

- a. Identified Hazards

In the process of identifying the hazards, several members of the HRVA core group did not at first agree with the choice of using flood as a benchmark hazard for the city, the reason that they give is that flood comes only a few times each year. Several members suggested that the core group would focus on Fire hazard as it happens more often than flood.

However, after a long deliberation on the extent of effect, impact, and duration of hazard it was agreed upon that flood should be the benchmark hazard that the city would focus.

Another reason why fire hazard was finally ruled out is the fact that when a fire or even a conflagration occur, it usually involves only a few or maybe dozens of households, or worst, a whole barangay or city block. While when flood occurs, it usually affects eighty (80%) percent of the city's residents, and hampers the economy by the inundation of major road networks for days if not weeks.

b. Community Characteristics

1. Demography
2. Culture
3. Economy
4. Infrastructure
5. Environment

c. Draft of the HRVA Process

During the conduct of the HRVA process, certain problems were encountered, one of the problems encountered is the determination of the readily available information, the members of the core group had a hard time deciding on what data is relevant to the MDG Goal of the city and which data are not. Another problem encountered is the difficulty in assessing properly the status of the various identified building utilized for shelter and evacuation centers.

(See attached HRVA worksheets)

FLOODING HAZARD MAP OF ILOILO CITY

Every time Typhoon, Tropical Depression, or even only heavy downpour during rainy days brought about by Southwest Monsoon, vast area of Iloilo City are always beset by flood waters. This is due to the overflowing of Jaro River.

There are seventy five (75) flood prone barangays in the City of Iloilo, most of which are in Jaro Districts which is 34 barangays, 14 barangays in La Paz District , 10 barangays in Mandurriao District, 9 barangays in Arevalo District, 4 barangays in Molo District, and 4 barangays in City Proper District.

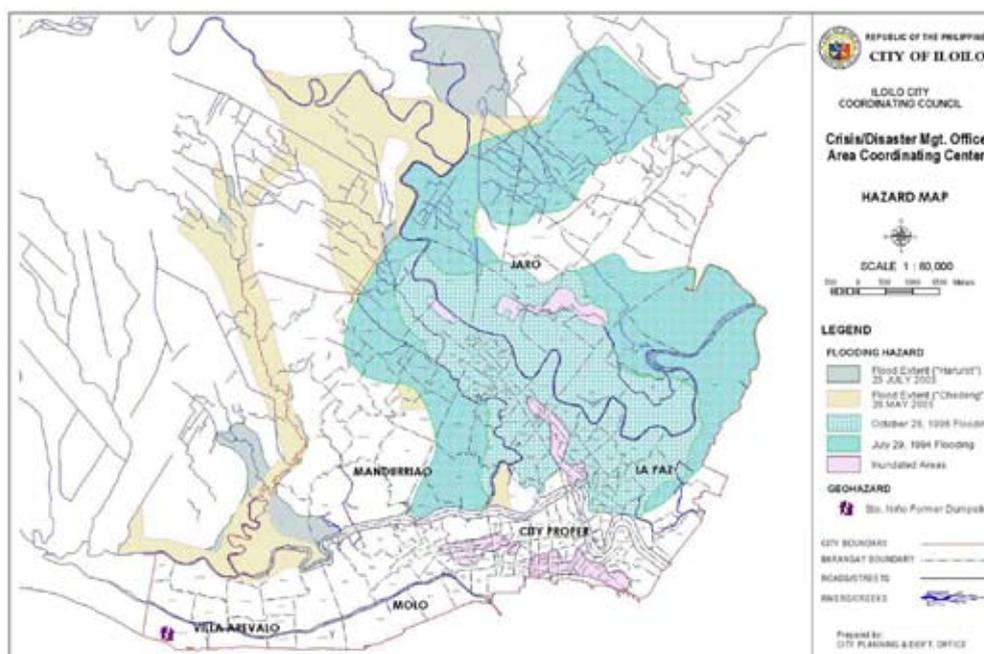
To efficiently implement a proper warning system, Flooding Hazard Map of Iloilo City was conceived after it was thoroughly discussed by the council on its regular monthly meeting on June 2, 2003, few days after a vast area of Iloilo City were lambasted by flash flood due to Typhoon Cheding.

Iloilo City Hazard Map was prepared by the City Planning and Development Office Staffs upon instruction from the late City Planning and Development Coordinator, Atty. Saturnino B. Gonzales. The data that have been used are based on the severe flooding records experienced by the city residents; the May 27, 2003 Flooding due to Typhoon Cheding and on July 17, 2003 Flooding due to Typhoon Harurot.

LIST OF FLOODS IN ILOILO CITY

V. AREVALO DISTRICT – 9 Barangays

BARANGAY	POPULATION	NO. OF HHS.	VULNERABLE RESIDENTS				% VULNERABILITY TO TOTAL BRGY POP.
			CHILDREN UNDER 1 TO 9 YRS	ELDERLY 60 YRS & ABOVE	DISABLED	TOTAL	
1. BONIFACIO	1,777	358	366	132	12	510	28.70%
2. CALAPARAN	7,127	1,417	1,466	530	125	2,121	29.76%
3. DOLUNAN	4,120	818	847	307	62	1,216	29.51%
4. MOHON	1,318	255	271	98	26	395	29.97%
5. SOOC	1,649	304	339	123	32	494	29.96%
6. STA. CRUZ	2,585	501	532	192	21	745	28.82%
7. STO. DOMINGO	1,775	348	365	132	24	521	29.35%
8. STO. NIÑO SUR	5,361	1,057	1,103	399	102	1,604	29.92%
9. YULO DRIVE	2,188	460	450	163	36	649	29.66%
TOTAL	27,900	5,518	5,739	2,076	440	8,255	29.59%



LOCAL GOVERNMENT REFORM AGENDA FORMULATION

(Results of the HRVA were incorporated into the existing DMP. What were these new additions to the plans as a result of the HRVA?)

Projects and Activities

PROJECT/ACTIVITY IMPLEMENTORS FUNDING PARTNERS

Expanded Program on Immunization (EPI)

- Sustained implementation of EPI
- IEC, Advocacies and Behaviour Change Management activities
- Purchase of small refrigerators for vaccines

CHO WHO, UNICEF

Sentrong Sigla and Phil Health Insurance

- Improvement of district and barangay health facilities through repair, rehabilitation or expansion
- Purchase of materials, supplies and equipment

CHO, Phil Health Insurance

Functional Health Board and Inter-Local Health Zone

- advocacies, consultations for the formation and activation of the City's Local Health Board and Inter-Local Health Zones

CHO, MIDC Health Board

Rehabilitation of CHO Facilities

- Construction of the new City Health Office
- Improvement of the Lapaz Maternity Clinic
- Improvement of the lying-in/birthing center at Calumpang

CHO

Acquisition of Health Equipment and Supplies

IMPLEMENTATION

Given the existing integrated programs to address concerns on child mortality, the LGU worked on integrating the findings of the HRVA into the existing programs. The following are the programs that the city has been undertaking in the areas of child health and nutrition.

A. Expanded Program on Immunization (EPI)

The Philippine Expanded Program on Immunization (EPI) was launched in 1976 and has successfully vaccinated and protected millions of children from preventable diseases. The Department of Health considered EPI as a priority public health program. The previous years of EPI was focused in achieving high immunization coverage. The current thrust now is to sustain this high coverage and focus in the control, elimination and eradication of childhood diseases.

The EPI of Iloilo City Health Office is designated to provide basic health services to pregnant mothers and 0 – 5 years old children who are considered to be in the vulnerable age group.

Vaccines given are the following:

- BCG – given at birth
- DPT vaccine
- Polio vaccine – given at 6 weeks
- Hepa B vaccine
- Measles – given at 9 months
- Tetanus Toxoid – given CBAW

Diseases such as Pertussis, Diphtheria, Tetanus, Poliomyelitis, Hepatitis B, Tuberculosis and Measles are preventable through immunization, thus decreasing the mortality rate against these diseases.

B. Maternal and Child Health Program

Maternal and Child Health Program is designed to provide basic health services to uplift mother's health, well-being and child's development. Mothers and children deserve the best care in the world, and MCH has a wide scope of activity for that purpose. This includes prenatal, tetanus toxoid immunization to pregnant women, deliveries, post-partum follow-up and initiation of mothers to breastfeeding.

C. Integrated Management of Childhood Illness (IMCI)

Pneumonia, diarrhea, dengue, hemorrhagic fever, malaria and measles with malnutrition cause more than 70% of the deaths in children under five years of age. There are feasible and effective ways that health workers in centers can care for children with these illnesses and prevent most of these deaths. WHO and UNICEF used updated technical findings to describe management of these illnesses in a set of integrated guidelines instead of separate, disease-specific guidelines for these illnesses.

IMCI is a more comprehensive and efficient process for management of a sick child. It incorporated existing WHO and national guidelines in managing diarrhea disease, acute respiratory infection, malaria, measles, dengue hemorrhagic fever, nutrition and for immunization. The guidelines take an evidence-based, syndromic approach to case management that supports the rational, effective and affordable use of drugs and diagnostic tools.

A health worker can follow these integrated case management process to quickly consider all of a child's symptoms and not overlook any problems. The health worker can determine if a child is severely ill and needs urgent referral. If not, the health worker can follow the guidelines to treat the child's illness. The guidelines also include counseling for mothers and other caretakers.

**INTEGRATED MANAGEMENT OF CHILDHOOD ILLNESS (IMCI)
2005 Accomplishment**

IMCI CLASSIFICATION	No. of Sick Children with Specific IMCI Classification			No. of Sick Children given appropriate drugs			%
	Male	Female	Total	Male	Female	Total	
1. Pneumonia	211	214	425	211	214	425	100%
2. Some Dehydration	-	1	1	-	1	1	100%
3. Diarrhea with no Dehydration	81	97	178	79	91	170	96%
4. Severe persistent Diarrhea	2	1	3	2	1	3	100%
5. Persistent Diarrhea	3	5	8	3	5	8	100%
6. Fever: Malaria unlikely	-	3	3	-	3	3	100%
7. Fever: No malaria	13	10	23	13	10	23	100%
8. Acute Ear Infection	8	8	16	8	8	16	100%
9. Severe Malnutrition	14	22	36	14	22	36	100%
10. Anemia	1	5	6	1	5	6	100%

D. Control of Diarrheal Diseases

Diarrheal disease continues to be a major public health problem in developing countries. The number of children affected has been on the rise, despite the worldwide campaign for the prevention of the disease. The Philippines as a developing country is not spared from this diarrheal syndrome.

Despite many medical studies, diarrheal disease and the resulting dehydration are responsible for many children’s untimely death every year.

A virus, bacteria, parasite or a combination of these may cause food-borne and water-borne diseases. These diseases are transmitted from person to person via soiled hands and via food and water contaminated by human waste, that is, through the faecal-oral route. The incidence of food-borne and water-borne diseases peaks during the rainy seasons and is usually high in areas where sanitation and hygienic practices are poor.

Diarrhea remains the no. 1 cause of illness in all age groups in the country. It is also one of the most frequent causes of childhood illness and a major contributor to malnutrition.

The main danger of diarrhea, especially among infants and children, is death due to malnutrition and dehydration. Large amount of water and salt are lost from the body during episodes of diarrhea. For this reason, the best treatment for diarrhea is Oral Rehydration Therapy and continued feeding. Around 90% or more of diarrhea cases can be successfully treated with this alone.

E. Nutrition Program

Nutrition plays a vital role in the physical and mental functions of an individual, influencing the potential of the country to have economically productive human resources for development. The urgency of fulfilling the country's commitment to achieve the UN Millennium Development Goal of halving the proportion of underweight children by the year 2015, the CHO plans to exert extra effort to meet this goal by tapping the NGOs and encourage the participation of the Barangay Officials and the civil society. The country's nutritional problems can be significantly addressed through improved nutrition program management.

The objective of this program is to reduce mortality and morbidity due to avitaminosis and other nutritional deficiencies among infants, preschoolers, pregnant and lactating mothers by improving the health and nutrition status of mothers and children.

The nutrition program includes Operation Timbang, Garantisadong Pambata, Micronutrient supplementation of Vit. A, Iron, Food Fortification and Salt Iodization.

OPERATION TIMBANG 2005

Total No. of Barangays:	180
Total No. of Barangays with OPT Results:	178
Percent OPT Coverage:	99%
Estimated No. of Preschoolers 0 – 71 mos.:	71,026
Actual No. of 71 mos. Old Preschoolers weighed:	52,549



IMPLEMENTATION

MONITORING AND EVALUATION



DIRECTIONS

GLOSSARY OF MEDICAL TERMS

ABO Incompatibility – a state of not being able to exist in harmony, as when transfused blood produces adverse effects because the donor and recipient blood are in conflict with each other.

Donor – a human or other organism that gives living tissue to be used to another body, e.g., blood for transfusion or kidney for transplant.

Recipient – the person who received the blood transfusion or tissue graft.

Amebiasis – an infection of the intestine or liver by species of pathogenic ameaba, particularly, entamoeba histolitica, acquired by ingesting food or water contaminated with infected feces.

Asphyxia – severe hypoxia leading to hypoxemia and hypercapnia, loss of consciousness and, if not corrected, will cause death. Some of the more common causes of asphyxia are drowning, electric shock, aspiration of vomitus, lodging of foreign bodies in the respiratory tract, inhalation of toxic gas or smoke.

Hypoxia – inadequate oxygen at the cellular level.

Hypoxemia – abnormal oxygen in the arterial blood.

Hypercapnia – greater than normal amounts of Carbon Dioxide in the blood.

Biliary Atresia – congenital absence or underdevelopment of one or more of the biliary structures causing jaundice and early liver damage.

Chicken Pox – a highly contagious disease caused by a herpes virus, vanicella-zoster virus occurs primarily in young children characterized by crops of pruritic vesicular erception of the skin, transmitted by direct contact with skin lesion or droplet infection from respiratory tract of infected person.

Congenital Anomaly or Birth Defect – any abnormality present at birth, particularly a structural one, which may be inherited genetically, acquired during gestation or inflicted during parturition.

Dengue H-Fever or Dengue Hemorrhagic Fever – an acute infection transmitted to human by Aedes mosquito and occurring in tropic and subtropic region. Produces a triad of symptoms: fever, rash, severe head and back (muscle) pain. It can also lead to a deadly complication as hemorrhage in the brain and abdominal cavity.

Diarrhea – frequent passage of loose watery stool.

Diseases of the Heart – hereditary, lifestyle and environmental influences that increases one’s chances of developing heart disease, e.g., cigarette smoking, hypertension, obesity, fatty foods, and other hereditary factors.

Gonorrhea – a common sexually transmitted disease most often affecting the genitor-urinary track and occasionally the pharynx, conjunctiva (eyes), or rectum. Infection results from contact with an infected person or by contact by secretion containing the causative organism Neisseria Gonorrhea.

Hydrocephalus – a pathologic condition characterized by an abnormal accumulation of cerebrospinal fluid, usually under increase pressure within the cranial vault and subsequent dilation of the ventricles.

Cerebrospinal Fluid – a fluid that flows through and protects the four (4) ventricles of the brain.

Ventricles – a small cavity, such as one of the cavities filled with cerebrospinal fluid of the brain, or the right and left ventricles of the hearth.

Hypertension – a common, often asymptomatic disorder characterized by elevated blood pressure persistently exceeding 140/90 mm Hg.

Hypoxia – inadequate oxygen at the cellular level, characterized by cyanosis, tachycardia, hypertension, peripheral vasoconstriction, dizziness, mental confusion.

Cyanosis – bluish discoloration of the skin secondary to lack of oxygen.

Tachycardia – increase heart rate/beat.

Vasoconstriction – narrowing of the lumen of blood vessels.

Injury – any defect of the body caused by external or internal circumstances in the environment.

Meconium Aspiration – the inhalation of meconium by the fetus or newborn which can block the air passages and result to the failure of the lungs to expand or cause other pulmonary expansion such as pneumonia or emphysema.

Meningo–Encephalocele – a sac-like cyst containing brain tissue, cerebrospinal fluid and meninges (covering of the brain) that protrudes through a congenital defect in the skull.

Meningitis – any infection or inflammation of the membranes covering the brain and spinal cord.

Metabolic Acidosis – in which excess acid is added to the body fluid or bicarbonate is lost by them. Acidosis is indicated by a pH of blood below 7.4.

Milk Aspiration – same as meconium aspiration but only inhalation of milk by the fetus or newborn which can block the air passage.

Pneumonia – an acute inflammation of the lungs usually caused by inhaled pneumococci of species Streptococci pneumonias. The alveoli and bronchioles of the lungs become plugged with fibrous exudates.

Prematurity – pertaining to a happening before the usual or expected time such as premature birth.

Pulmonary Tuberculosis (PTB) – a chronic granulomatous infection caused by an acid fast bacillus, mycobacterium tuberculosis, generally transmitted by the inhalation or ingestion of infected droplets and usually affecting the lungs, although infection of multiple organ systems occurs.

Respiratory Distress Syndrome – an acute lung disease of the newborn, characterized by airless alveoli in elastic lung more than 60 cycles per minute, positive for nasal flaring, intercostals and subcostal retraction, grunting on respiration.

Sepsis – infection, contamination particularly in the blood.

Severe Dehydration – excessive loss of water from the body tissue accompanied by disturbances in the balance of essential electrolytes particularly sodium, potassium and chloride.

Sudden Infant Death Syndrome – the unexpected and sudden death of an apparently normal and healthy infant that occurs during sleep and no physical or autopsic evidence of disease common cause of death between two (2) weeks and one (1) year of age.

Thalasemia – a hemolytic anemia characterized by microlytic, hypochromic, and short-lived red blood cells caused by deficient hemoglobin synthesis.

Hemoglobin – a complex protein iron compound, iron that complex with the blood that carries oxygen.

Hemolytic – chronic premature destruction of red blood cell.

Hypochromic - pertaining to less than normal color.

Microcytic – pertaining to smaller than normal cell.

Typhoid Fever – a bacterial infection usually caused by salmonella typhus transmitted by contaminated milk, water or food and characterized by headache, delirium, cough, watery diarrhea, rash and high fever.

Tetanus Neonatorum – an acute potentially fatal infection of the central nervous system caused by exotoxin, tetenospasmin elaborated an anaerobic bacillus Clostridium Tetani commonly affecting infected umbiliaes.

Viral Meningitis – the same as meningitis but only caused by virus.

ANNEX A: HRVA Worksheets





MDG 5: Maternal Health

MEETing Mother's Health

Mitigating the Effects of External Threats
in Improving Maternal Health
in Calbayog City

Target 7 – Reduce Maternal Mortality

WELCOME ...
CONSULTATION WORKSHOP ON QUALITY HEALTH CARE
DECEMBER 14, 2005
HONOLULU, HAWAII



MESSAGE



FOREWORD

ACKNOWLEDGMENTS

INTRODUCTION

The MEET-HRVA is in itself innovative. Whereas, before disaster was seen in a limited context, MEET-HRVA has widened the perspectives in understanding and responding to disasters. Several dimensions on human settlements have been strengthened arising from the discoveries brought about by the project.

From the executive level, the bulky City Development Council which has a membership of more two hundred has been trimmed down and substituted with a People's Council. The 157 barangays have been clustered into six with each cluster appropriately represented. What used to be a council of more than two hundred now only has 55 with every sector to include church-based organizations, NGOs and the basic sectors properly represented.

The different councils mandated by DILG have been modified for more functionality. The department heads and the sanggunian have been clustered into five with the following groups: Governance, Finance, Infrastructure, Social Services and Economics & Livelihood. Each group meets once a week in a morning for feedbacking according to plans / scorecard. In the afternoon, the chairmen meet with the city mayor to provide updates and to present issues and concerns gathered during the feedbacking which require immediate action of the Mayor.

All these are for purposes of functionality and for organizational integration.

In terms of learnings . . . :

1. The need for the department heads and the sanggunian to close ranks for effective and efficient programs and service delivery;
2. Resources are always limited, there is a need to maximize whatever is available, be it human, financial or other physical resources;
3. Even with a limited staff compliment, much can be done if there is commitment and dedication to deliver the service to the constituents;
4. Regular feedbacking schedules to follow-up status of implementation, identify problems and issues and setting up of common strategy to address priorities;
4. The scorecard system introduced by the city mayor through the PGS is a big help to concretize performance level of the different departments;

5. Allows functional transparency at the department level;

and gaps. . . .:

1. The procedures is new, more time is needed for some to appropriately immerse into the system, given the score card and the concept of organizational integration;
2. Department planning should be more participatory so that all staff become aware of the position of the department / office for adequate performance appreciation;
3. More inputs are needed to concretize organizational integration and scorecard system;
4. A good brush up on civil service rules and regulations especially in the attitude towards work is necessary for active participation in the implementation of programs and services.
5. Calbayog has the highest immigration rate in the region. It is growing by 2.8% a year. This something to address and anticipate if the city has to maintain its present status in terms of a substantially effective performance in improving maternal health and the reduction of maternal mortality rate.

The costs relative to the benefits of the project

Financially, the toll from the local government unit is minimal given the financial assistance provided by the project. While there were some realignment of responsibilities from the participating agencies ./ sectors, it did not cost so much burden to the financial resources of the city.

Perhaps, what needs to be considered in terms of “cost” is in terms of restructuring existing or “traditional” organizational set-up in order to cater to the needs of the project or the program. It may have caused some disturbance in the process -- the adjustment that needs to be accommodated in the routine of the different offices. But in the end, it resulted in a more organized, more concrete approach towards analyzing a situation that require appropriate attention from the management of the local government unit.

Impact on stakeholders and groups

Stakeholders:

The result of the project has provided stakeholders with a clear presentation of the effects of what they are doing for the target beneficiaries. Given the detailed analysis of the data acquired from the project, it provided the stakeholders with assurance that their efforts are well managed and that the beneficiaries are provided with the kind of attention that they deserve. If there are those whom they could not reach out, again they are not longer a problem per se since so much opportunities are being provided for these supposed beneficiaries to take advantaged with. Nonetheless, they need to be addressed.

In terms of pre-natal check – up, out of 365 sample size in the survey conducted as required by the project, 295 or 81% had themselves checked-up at the center. 70 or 19% did not submit or did not bother going to the

center. The 81% performance is, indeed, something. Furthermore, the 13 areas of concern on reproductive health all posted positive average in terms of compliance. Although, admittedly, the 19% who posted negative record at the center is still a figure to reckon with. It is a gap that has yet to be addressed.

Components that can be replicated to other LGUs and institutions

First the process of analysis is innovative as it considers also other dimensions of human settlements. It presents a wholistic approach to addressing disaster issues and problems. Precisely, because of its nature, the members of the Sanggunian Panlungsod of Calbayog made the observation if the other goals could also be analyzed using the HRVA framework. If given the opportunity to be implemented in other situation, the HRVA instrument could boast a wide development framework.

The system and procedures being undertaken in the city in terms of addressing the welfare of married women of reproductive age may also be unique. A maternal mortality rate of .6% is exemplary in an area like Calbayog. In spite of a personnel compliment that is weak in terms of number, the LGU through the city health office is still able to perform well. This of course, is due to the credit of the BHWs who are well-organized and provided regularly with inputs for them to be able to address not only emergency needs in the barangay but even other forms of attention due to health conditions. Then, there is that growing strengthening of organizational integration process, where related departments / agencies plan and work together to maximize utilization of resources. This allows more reaching out and accommodation of beneficiaries.

OVERVIEW

Objectives:

1. Determine the extent and strength of interventions the local health office is providing to married women of reproductive age.
2. Increase the level of awareness of medical health workers, specially, the barangay health workers (BHW) on the hazards, risks and vulnerability to the lives of MWRA, their families and community;
3. Identify related issues and concern for an effective MDGs Localization implementation;
4. Document practices that are being undertaken by the local government unit for sharing with other local government units;
5. Prepare a toolkit as a general reference to others who may be interested in pursuing a program on maternal health.

The project revealed several dimensions surrounding maternal health and maternal mortality rate which must be appreciated and addressed to by the local government unit. Among these are:

For appreciation

1. A well organized program / service package to cater to the health needs of the constituents
2. The establishment of medical health centers and health stations that respond to emergency health needs of the constituents at the community level
3. The commitment of the staff to provide the service inspite of inadequate facilities and / or absence of mobility aids;

Those to be given special concerns:

1. Inadequate number of medical officers
2. Infrastructure facilities: roads, clinics and hospitals
3. Poor organizational integration

Accomplishment per objective

Objective 1. Determine the extent and strength of interventions the local health office in providing to married women of reproductive age.

a. Extent of Services

- b) About two-thirds of the barangays are reached out with programs and services. There are six main health centers and twenty-five health stations spread in strategic centers for easy accessibility of constituents;
- c) There are organized medical missions throughout the year on top of the services being provided by the city health office
- d) The city has an established PPMD Unit
- e) It maintains a blood bank which regularly seeks donors from the different sectors and organizations to sustain blood availability

b. Strength of Services

- a) CHO is well-organized with every staff knowledgeable of his/her responsibility
- b) Staff very much committed to their work
- c) LGU supportive to the programs and services of the office
- d) After several years of advocacy and with the help of the BHWs a good majority of residents have developed a deep awareness on the value of health and health services that they now look for and demand from the services of the office.

Objective 2: Increase the level of awareness of medical health workers, specially, the barangay health workers (BHW) on the hazards, risks and vulnerability to the lives of MWRA, their families and the communities.

In general, the HRVA has provided new insights into the different components / dimensions on health management for MWRA. The BHWs through their respective supervisors have been provided with deeper awareness on the risks to life and the consequences these may bring to their respective families and communities. They are now oriented to vulnerability analysis.

Objective 3: Identify related issues and concern for an effective MDGs Localization implementation;

The process has opened up a wider and deeper awareness on issues and concerns for an effective MDGs localization implementation. When the result was presented to the Sanggunian Panlungsod, an observation was made for MDGs Localization Process to undertake the same analysis with the other goals and targets.

Objective 4: Document practices that are being undertaken by the local government unit for sharing with other local government units;

With the HRVA, several practices or dimensions of the programs and services that before were not given so much attention, stood out to claim, somehow, for recognition. Among these, are the role of the community leaders, the importance of the hilots, the BHWs in promoting health consciousness and maximizing the services of the health centers and stations. The extra efforts being undertaken by the medical staff to reach out to their respective stations on appointed times to address issues and concerns of the constituency.

Objective 5: Prepare a toolkit as a general reference to others who may be interested in pursuing a program on maternal health.

A toolkit is now being prepared and is on its final stage to serve a general reference for those who may wish to pursue a maternal health program.

BRIEF LGU PROFILE RELEVANT TO THE MDG FOCUS

Calbayog City is one of the four cities in Region Eight and is the only city in the Island of Samar. Chartered in July 15, 1948 by virtue of R.A. 328, it is one of the nineteen oldest cities in the Philippines. The city used to be three municipalities -- Calbayog, Oquendo and Tinambacan-- which were integrated into one, Calbayog being the seat of government. Considered to be one of the largest, the city occupies a total land area of 90,300. In terms of population, as of 2005 estimate, it has 169,000 dispersed in 157 barangays.

The city lies at the Northwestern coastal region of the Island of Samar. To the regional center, Tacloban City, Calbayog is 4.5 hours travel by public transportation.

Undergirding the efforts of Mayor Mel Senen Sarmiento for development, is the inclusion of Calbayog as one of the TWELVE (12) MILLENIUM DEVELOPMENT GOALS (MDG) LOCALIZATION PILOT CITIES. The challenge is on mainstreaming the city's programs and services consistent with the 189-nation declaration to address poverty and other basic human requirements.

Demography (2006 estimates)

Total Population	169,804	
Rural population	97,732	58%
Urban population	64,633	38%
Sub-urban	7,439	.04%
Women population	96,788	57%
Men population	73,016	43%
Male - Female ratio	1:1.32	
Population below 15 years old	71,317	42%
Birth rate	3.81%	
Death rate	.46%	
In-migration rate	2.8%	

Health Indicators

Malnutrition rate	9.9%
Mortality rate	.43%
Maternal mortality rate	.42%

Health Facilities and Personnel

Health Facilities	Public	Private
Health Centers	16	---
Medical Centers	---	---
Hospitals	1	2
Medical Clinics	---	13
Dental Clinics	---	7
Preschool Learning Centers	118	3
Centers for the Elderly	2	1

Health Personnel	Gov't Employees	Private Practitioners
Doctors	6	13
Nurses	13	---
Dentists	7	7
Midwives	24	---
Sanitary Inspector	3	---
Brgy. Health Workers	406	---

THE LGUs MDG FOCUS

For this undertaking, Calbayog City focuses on Goal No. 5, Improve Maternal Health, Target No. 7, Reduce Maternal Mortality Rate. For the purpose of determining the extent and strength of interventions the local health office is providing to married women of reproductive age, this survey has been undertaken.

PROJECT DESCRIPTION

After the Sangguniang Panlungsod vested the Mayor with the authority to enter into a Memorandum of Agreement with UN-Habitat, the team took to task the identification of the barangays that shall be the respondents of this survey. Ten barangays were strategically identified. In the identification of the barangays the team was guided by the following criteria: a) the barangay must be located at the periphery of the poblacion b) must have a population of not more than 4,500, c) economically and educationally typical, meaning, the residents represent the middle income group and with average educational preparation. This is to make the ten identified barangays typically representative of the majority.

The following table shows the profile of the respondents barangays.

Name of Barangay	Total Population	MWRA	Sample Size
Carayman	4,364	632	62
Bagacay	2,345	340	33
Balud	3,730	541	51
Rawis	4,426	642	62
Rizal I	695	101	7
Aguit-itan	2,358	342	33
Hamorawon	3,179	461	44
West Awang	2,461	357	33
Nijaga	1,992	289	29
Guin-on	863	125	11
Total	26,413	3,830	365

Profile of the Respondents

A. Civil Status	Number	% to sample size
Single	43	12%
Married	322	88%
Total	365	100%

B. Educational Attainment	Number	% to sample size
Elementary level	56	15%
Elementary graduate	100	27%
High school level	84	24%
High school graduate	29	8%
College level	37	10%
College graduate	44	13%
Post graduate	15	4%
Total	365	100%

C. Source of Income	Number	% to sample size
Housekeeper	208	57%
Pedicab driving	72	19%
Fishing	21	6%
Buy & sell	11	3%
Food vending	11	3%
Motorized tricycle driving	7	2%
Bus conductor	7	2%
Farmer	7	2%
Sales clerk	7	2%
Laundry	7	2%
Sari-sari store	7	2%
Total	365	100%

D. Average Monthly Income	Number	% to Population
Below Php 1,000	80	22%
1,001 — 5,000	171	67%
5,001 — 10,000	73	20%
10,001 — 15,000	36	10%
15,000 up	5	1%
Total	365	100%

E. Number of years married	Number	% to Population
Below one year	7	2%
1 — 3	76	21%
4 — 6	95	26%
7 — 10	87	24%
11 — 13	78	2%
14 — 16	73	20%
17 — up	20	5%
Total	365	100%

F. Number of Children	Number	% to Population
None	1	.3%
1 — 2	156	42.7%
3 — 4	99	27.0%
5 — 6	62	17.0%
7 — 8	24	7.0%
9 — up	23	23.0%
Total	365	100 %

THE HAZARDS, RISKS AND VULNERABILITY ASSESSMENT (HRVA) PROCESS

Maternal Health Care Profile Survey Questions

1. Do you go to a health center for pre-natal check up?	Yes	%	No	%
	295	81%	70	19%
Main Health Center	129	44%		
Brgy Health Center	153	51%		
Hospital	14	5%		
Start of pre-natal check				
1st to 3rd month	250	85%		
1st to 6th month	30	10%		
7th to 9th month	15	5%		

2. During the pre-natal visits, did the staff	Yes	%	No	%	No Answer	%
ask about your medical history	56	19%	2	2%	237	9%
take blood samples	150	51%	68	23%	77	26%
take urine samples	289	98%	6	2%	—	—
provided iron supplements	280	95%	15	5%	—	—
advised you on diet and nutrition	292	99%	3	1%	—	—
discussed about the place of delivery	295	100%	—	—	—	—
discussed the birth and health facility	295	100%	—	—	—	—
discussed problems during pregnancy	280	95%	3	1%	12	4%
provided medicines for malaria	218	74%	77	26%	—	—
discussed child spacing & family planning	295	100%	—	—	—	—

discussed on STD / HIV / AIDS	295	100%	—	—	—	—
discussed on care of baby	295	100%	—	—	—	—
how to get to the health facility in care of emergency	295	100%	—	—	—	—

3. Caesarian operation	Yes	%	No	%	No Answer	%
	77	26%	218	74%	—	—
Still birth	24	8%	271	92%	—	—
Abortion	3	1%	292	99%	—	—

4. Last delivery took place in a health facility?	Yes	%	No	%	No Answer	%
	253	86%	21	7%	21	7%

5. Who assisted during delivery	Yes	%	No	%	No Answer	%
Nurse / midwife	145	49%				
Doctor / Clinical Officer	30	10%				
Traditional Hilot	86	29%				
Did not reveal any assistance	34	12%				

6. Check-up after last delivery	268	91%	27	9%	—	—
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7. Problems with pregnancy	59	20%	201	68%	35	12%
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8. Danger or warning signs of a problem with Pregnancy	Yes	%	No	%	No Answer	%
a. Previous bad obstetric history	0					
b. Previous stillbirth /abortion	9	3%				
c. Anemia / pallor / fatigue	12	4%				
d. Abnormal fetal position	77	26%				
e. Spotting / light bleeding	86	19%				
f. Multiple pregnancy	0					
g. Abnormal scars	6	2%				
h. Hypertension / headache / swelling	18	6%				

i. Baby does not move	9	3%				
j. Sepsis / foul smelling discharge	0					
k. Hemorrhage / heavy bleeding	6	2%				
l. Obstructed / prolonged labor	91	31%				
	314					

9. Are you currently doing anything to prevent or postpone your next pregnancy ?	Yes	%	No	%	No Answer	%
	257	87%	12	4%	26	9%

10. Methods employed to prevent pregnancy	Yes	%	No	%	No Answer	%
No sex	0					
Pill	133	45%				
IUD	3	1%				
Norplant	0					
Condom	3	1%				
Breastfeeding	24	8%				
Diaphragm	0					
Traditional / Rhythm / Calendar	0					
Withdrawal	32	11%				
Modern natural family planning (BBT / OM Symptoms Thermometer	6	2%				
Injection / Depo—Provera	0					
Sterilization	0					
Others	0					
	201	68%				
No response	94	32%				

11. When you started using the method	Yes	%	No	%	No answer	%
a. Did you get a clear explanation	266	90%	3	1%	26	9%
b. Were the effects explained well	266	90%	3	1%	26	9%
c. In case of problem were you told on what to do?	266	90%	3	1%	26	9%

	Yes	%	No	%	No answer	%
12. Did you experience having vaginal or Anal discharge?	177	60%	89	30%	29	10%

	Yes	%	No	%	No answer	%
13. Have you noticed any painless / mass / Ulcers in your mouth / external vulva/ anus lately?	30	10%	207	70%	58	20%

	Yes	%	No	%	No answer	%
14. Have you noticed any small formation from your genetalia lately?	158	57%	115	39%	12	4%

Findings

A. On the respondent barangays

It must be noted that the 157 barangays of the city is divided into five medical clusters. Each cluster has a Main Health Center which is composed of catchments. Each catchment is provided with a Barangay Health Station. A medical staff mans the main health center, while the barangay health center is managed by a barangay health worker.

All the ten respondent barangays belong to the same cluster. However, as has been stated earlier, they are expressive of the economic status and educational preparation of the majority.

In terms of population the 26, 415 population of the ten barangays represents 16% of the total population of the city at 69,804; while 3,830 married women of reproductive age (MWRA) also represents 16% of the total population of MWRA.

B. The Women Respondents

Of the 365 respondents, 43 or 12% are solo parents while 322 or 88% are married. Educationally, the mothers are dominated by those of the elementary level to high school graduates. This comprises 269 or 73%. Only 96 or 27% are of the college level to post graduate education.

On the source of income, 208 or 57% of the mothers claim housekeepers. This means they are generally dependent on their husbands for family sustenance. While the others registered specific income generating activities, they are economic undertakings typical of the working class, and characteristically, sustenance. Only 41 or 11% registered income from Php10,000 up. The average family income is at Php 5,875.00 monthly for five members, which a little bit higher by Php 288.00 than the regional average which is at Php 887.00 per capita.

In terms of the number of years married, majority of the respondents have been married within the bracket of one to ten years, which comprise 265 or 73% of the total population. One hundred seventy-one (171) or 27% are married for 11–17 years.

Among the younger population, there appears to be a preference for a smaller number of children.

IX. On Maternal Health Care

Of the three hundred sixty-five (365) respondents 295 or 81 % claimed to have submitted themselves to pre-natal check-up. Of those who submitted for pre-natal check-up, two hundred eighty-two or 95% had their check-up at the main health center or at the barangay health station. Fourteen (14)or 5% went to the hospital.

Majority, 250 or 85% submitted for pre-natal check-up on the 1st to the 3rd month of pregnancy; 30 or 10% on the 1st to the 6th month and 15 or 5% on the 7th to the 9th month.

Thirteen areas of concern were identified during the pre-natal visits. Three posted significant figures, namely: medical history with only 56 or 19% positive responses, 2 or 2% negative response and 237 or 89% posted no answer at all. On taking blood samples 150 or 51% answered, yes, 69 or 23% answered no, 77 or 26% no answer. On the provision of malaria medicines 218 or 74 answered, yes, 77 or 26%, answered no. How important are these information is a matter of medical concern.

On caesarian operation, still birth and abortion, 77 or 26% has caesarian operation. For still birth and abortion, the figures appear negligible.

Two hundred fifty-three (253) or 86% of deliveries were in a health facility. This indicates an encouraging figure.

Of course, a very important element in the matter of material health and concern is the assistance of a technically prepared personnel at birth. Of the two hundred ninety-five who positively answered to have submitted for pre-natal check-up, barely fifty (50%) percent claimed to have been assisted by a nurse or a midwife, 30 or 10% by a doctor, eighty-six or 29% by traditional hilot and 34 or 12% did not reveal any assistance.

Check-up after delivery is assured by 268 or 91% of the 295 who submitted for pre-natal check-up, Only 27 or 9% did not submit for a check-up after delivery.

Problems with pregnancy is associated by many factors. Of the twelve problems, the top three are obstructed / prolonged labor, spotting / light bleeding / and abnormal fetal position.

On family planning, 257 or 87% claim they are doing something to prevent or at least postpone the next pregnancy, 12 or 4% say no and 26 or 9% gave no answer. The pill appear to be number one acceptable pregnancy prevention method with 133 or 45% registering its use, followed by withdrawal, 32 or 11% and breastfeeding with 24 or 8% actively initiating its use. Significantly, though, while there is a claim for a practice of family planning or birth prevention, there are several who did not indicate which method they are employing. Ninety-four of the 295 or 32% did not indicate method used.

However, of those who practiced family planning 266 or 90% claim that they received clear explanation from the health worker on the proper use of the method, the effects as well as what to do in case they experience some problems.

Some anal or vaginal discharge 177 or 60% of the respondents, while 89 or 30% claim they have not experience any. Twenty-nine or 10% did not register response.

On any painless / mass / ulcers development in the mouth, external vulva and anus, 30 or 10% revealed some kind of signs, 207 or 70% experienced none, while 58 or 20% gave no answer.

Finally, some small formation at the genitalia has been experienced by 168 or 57% of the respondents, 115 or 39% answered no, 12 or 4% gave no answer.

It is encouraging to note that 175 or 59% of the 295 showed preference for professional assistance during delivery. Although, the traditional hilot is still favored by 86 or 29% of the mothers during their last delivery. The 12% comprising of 34 respondents did not reveal any assistance. This makes them more vulnerable and at risk.

Nintety-one percent or 268 of those who availed of the services of the health centers had their check-up after delivery. Twenty-seven or 9% did not return for post-partum routines.

Problems associated with pregnancy appear limited with only 59 or 20% registering positive responses. Two hundred one or 68% claimed they had not had serious experience with their pregnancies. However, there are thirty-five or 12% who gave no answer to this concern. Again, they are lives not to be taken for granted with. Among the dangers or warning signs of pregnancy with high incidence are obstructed or prolonged labor, spotting or light bleeding, and abnormal fetal position. They registered incidences of 31%, 29% and 26% respectively.

In terms of preventing or postponing pregnancy, 87% or 295 samples are positive with response. Thirty-eight or 13 registered either a No or no response at all. The pill appears to be the most acceptable method of control 45%, followed by withdrawal, 11% and breastfeeding 8%. Ninety-four or 32% did not reveal the method they are using. For those who are involved with some kind of family planning method, 90% claim the method has been explained to them clearly by the staff to include side effects and that they have been briefed on what to do in case of problems.

Experiencing some vaginal or anal discharge is revealed by 177 or 60%. Eighty-nine or 30% answered No while 29 or 10% gave no answer. For some painless mass / ulcers in the mouth, external vulva or anus 207 or 70% answered negatively, 30 or 10% said yes while 58 or 20% gave no answer.

For some formation at the genitalia, 168 or 57% answered positively, 115 or 39% said No, 12 or 4% gave no answer.

XI. Conclusions

Given the data, the local government unit has been solicitous with maternal health conditions of the married women of reproductive age. In spite of several constraints with facilities and personnel to attend to the needs of the mothers, programs and services are well in place and it is up to those concerned to take advantage of the whatever available services the Local government Unit can offer.

The clustering of the barangays into five main health centers and the setting up of barangay health stations are indicators of how the local government unit, through the city health office, is putting up structures to address the issue of health in the barangays.

On the other hand, the extent of hazard, risk and vulnerability to any situation—in this case, maternal health—is conditioned by both external and personal factors. The external factors refer to the conditions with which and with whom the subject moves around and interacts. The personal factors are those that are basic to the subject or individual. In so far as the local government unit is concerned, the City Health Office, City Social Welfare and Development Office and the City Population Office have organized programs and services supportive of maternal health. The City Nutrition Council, too, has its share in providing awareness to mothers on health related concerns. It is to the credit of these offices that the maternal mortality rate is at .42%. However, while the rating is very acceptable, the city does not rest on it. Efforts are underway to still lower it to 0% by 2015, the reckoning date of the MDGs.

Indeed, such a performance of .42 maternal mortality rate, in an area of 90,300 hectares with a dispersed population of 169,804 distributed in 157 small settlements, called the barangay, is of record. Of the 157 barangays, only 22 are considered urban, 3 sub-urban and the rest rural, majority of which can only be reached by foot trail. Still compounding the problem is the small number of professionally trained medical services providers to address the health needs of the constituency.

The following table will show the ratio of the medical service provider to population.

Based on the total population of 169,804.

Indicators	Ratio
a. On 6 government physician	1: 28,300 population
b. On 6 government physician and 13 private practitioners	1: 8,937
c. On 13 nurses employed by the LGU	1: 3,000
c. On 7 government dentists	1:24,257
e. On 7 government dentist and 7 private practitioners	1:12,128
f. On 24 midwives employed by the city	1: 7,075
g. On 3 sanitary inspectors	1: 56,601

h. On 406 barangay health workers 1: 418

Based on the total population of married women of reproductive age 25,000

- a. On 6 government physician 1:4,104 population
- b. On 6 government physician and 13 private practitioners 1:1,295
- c. On 13 nurses employed by the LGU 1:1,923
- d. On 7 government dentists 1:1,351
- e. On 7 government dentists and 7 private practitioners 1:1,785
- f. On 24 midwives employed by the city 1:1,042
- g. On 3 sanitary inspectors 1:8,333
- h. On 406 barangay health workers 1:62

The strength of the local government unit is on the midwives and the barangay health workers. With only six medical officers the main health centers and barangay health stations are generally left to the midwives and the barangay health workers. Although the medical health officers have their scheduled visits, to the health centers and stations so much toll is placed on the physical capability of the medical officers to reach to the constituents.

Wherever a focus is placed on the above, very clearly, there is a need for more medical services providers to address the needs of the constituency. It becomes now of little wonder why center areas of concerns during pre-natal visits could not be attended to by the staff.

Of course, another contributory factor to the hazard, risk and vulnerability of maternal health is the inadequate facilities to address the needs of maternal health. There are only three hospitals, one of which is the Calbayog District Hospital which runs out of doctors. Its facilities are outdated and supplies are nil. With the instructions from UNICEF that deliveries must be in medical facilities, all the more that the 19% could hardly be reached out. While there are thirteen (13) medical and seven (7) clinics to provide a back-up support, these are privately run and don't have delivery facilities.

From the point of view, therefore, of the external factors on maternal health, there is so much that need to be done to ensure more appropriate and adequate services to maternal health.

Going now to the personal factors, the sample size show that 70 or 19% of the 365 did not have the services of the health facilities. When it comes to health and health practices, personal values are of great importance. While the 19% may not be that pronounced for the sample size, the chances are that this sector can grow as movement is made to the cluster and to the entire city which could compound hazard, risk and vulnerability among a significant number of the MWRA population.

LOCAL GOVERNMENT REFORM AGENDA FORMULATION

On the basis of the findings the following recommendations may be in order.

1. On the wide area of the city
 - A. The present efforts initiated to link up the interior barangays with feeder roads be intensified and speed up to make it easily accessible for the constituents to visit the health centers / stations to avail of the medical health services. It will also facilitate the movement of the medical service providers and would make them less physically burdened.
 - B. Medical service providers be provided with easier mobility in their visits to the different health centers and stations.
2. On the inadequate number of medical health service providers

Health they say, is wealth. No amount of efforts to address poverty could be made effective if the constituents are not provided with back up on health services. Hence, it may be incumbent of the LGU to give the following some priority considerations:

- A. Hire, or invite more medical practitioners to come to Calbayog. There are several medical schools in the country. Could not the city petition medical school deans to assign some of their graduating students to Calbayog to address certain pressing needs. May be later they can fall in love with the city and continue with their services in the locality.
- B. Nurses and other staff of the city with medical preparations who are not with the city health office be recalled and assigned to specific responsibility basic to their profession
- C. Strengthen the organization of the barangay health workers which now provide a very big support to the health services at the barangay level, by providing them with better incentives so that they can provide more time to the health concerns of the barangay. Concommitantly, they be provided with more trainings

to equip them with more knowledge and technology to address not only emergency needs but other medical concerns in the absence of the professionally trained staff.

- D. Existing data show that there are only three sanitary inspectors at the city health office. May be there is a need to increase their number to be able to provide a good back-up support to health and sanitation.
- E. At least, once a month, a visit may be made by a physician to the main health center or health station.

3. On the inadequate health facilities in Calbayog

- A. Improve the management of the Calbayog District Hospital with corresponding staff, facilities and medicines to encourage the constituency to avail of the services of the city health office. The survey shows that only 5% of the sample size availed of the services of the hospitals at delivery.
- B. Maximize the utilization of the barangay health centers and stations. The survey shows that a substantially significant number prefer to avail of the services of the barangay-based health facilities.
- C. Expand the establishments of the main health centers and barangay health stations to make these easily accessible to the constituency.
- D. Facilitate immediate operationalization of the Porziuncula Hospital for the marginal sector to avail accommodation at the City Ward as provided in the Memorandum of Agreement with Christ the King College.
- E. Encourage private practitioners to set up medical clinics especially at district centers through provision of incentives and / or other available forms of support from the local government unit.

4. On the personal and value orientations of women / mothers

- A. Intensify advocacy programs and services provided by the City Health Office, City Social Welfare and Development Office and the City Population Office. It may be good for the three offices to sit down and program interventions coordinately with one another. This will save time and resources and maximize reaching out to the constituency.
- B. Involve the academe to include specific concerns on maternal health in their respective curricula at different levels so that students are oriented early with the appropriate concepts on maternal health. Students can also be effective advocates at home.
- C. Link up with the church, the NGOs, business and other concerned citizens in drawing up strategies to address the weakness in value formation of the women sector.

D. Maximize utilization of the tri-media to reach out to as many as possible of the vulnerable sector.

XIII. Summary of Findings

For mitigating the effects of external threats to Millennium Development Goals, Calbayog, a resource city was assigned to Goal 5, Improve Maternal Health, Target 7, Reduce Maternal Mortality Rate. The following sums up what has been undertaken.

1. Ten barangays were strategically identified to determine extent of intervention the local government unit is undertaking and to assess the hazard, risk and vulnerability situation to maternal health. The selection was based on established criteria to make the barangays representative of the total population of the city. The ten barangays has a population of 26,415, representing 16% of the total population. Of this population 3,830 are married women of reproductive age (MWRA) which also represents 16% of the total population of the MWRA. Economically, the samples have an average income of Php 5,875.00 which is a bit higher than the regional average by Php 288.00. Educationally, the concentration is within elementary level to high school.
2. In terms of the number of years married, majority of the respondents have been married within the bracket of one to ten years, which comprise 265 or 73% of the total population. One hundred seventy-one (171) or 27% are married for 11-17 years.

Among the younger population, there appears to be a preference for a smaller number of children.

3. Survey shows that of three hundred sixty-five (365) respondents 295 or 81% claimed to have submitted themselves to pre-natal check-up. Of those who submitted for pre-natal check-up, two hundred eighty-two or 95% had their check-up at the main health center or at the barangay health station. Fourteen (14) or 5% went to the hospital.
4. Pregnant mothers submitted themselves for pre-natal check-up as early as the 1st to 3rd month of pregnancy.
5. Of the thirteen areas of concern during the pre-natal visits, three posted significant figures, namely: medical history with only 56 or 19% positive responses, 2 or 2% negative responses and 237 or 89% posted no answer at all. On taking blood samples 150 or 51% answer, yes, 69 or 23% answered No, 77 or 26% had no answer. On the provision of malaria medicines 218 or 74% answered yes, 77 or 26% answered no. How important are these information is a matter of medical concern.
6. 77 or 26% had caesarian operation. For still birth and abortion, the figures appear negligible.
7. Two hundred fifty-three (253) or 86% had their deliveries at health facilities. Fifty per cent of those who submitted for pre-natal check-up were assisted by either a nurse or a midwife, 86 or 29% by traditional hilot, 30 or 10% by a doctor and 34 or 12% did not provide any information on assistance.

8. Problems with pregnancy are associated by many factors. Of the twelve problems, the top three are obstructed / prolonged labor, spotting / light bleeding and abnormal fetal position.
9. On family planning, 257 or 87% claim they are doing something to prevent or at least postpone the next pregnancy, 12 or 4% say no and 26 or 9% gave no answer. The pill appear to be number one acceptable pregnancy prevention method with 133 or 45% registering its use, followed by withdrawal, 32 or 11% and breastfeeding with 24 or 8% actively initiating its use.
10. Those who practiced family planning 266 or 90% claim that they received clear explanation from the health worker on the proper use of the method, the effects as well as what to do in case they experience some problems.
11. Some anal or vaginal discharge were experienced by 177 or 60% of the respondents, while 89 or 30% claim they have not experience any. Twenty-nine or 10% did not register response.
12. On any painless / mass / ulcers development in the mouth, external vulva and anus, 30 or 10% revealed some kind of signs, 207 or 70% experienced none, while 58 or 20% gave no answer
13. Finally, some small formation at the genetalia has been experienced by 168 or 57% of the respondents, 115 or 39% answered No, while 12 or 4% gave no answer.
14. In spite of several constraints with facilities and personnel to attend to the needs of the mothers, programs and services are well in place and it is up to those concerned to take advantage of the whatever available services the Local Government Unit can offer.
15. Exposure to hazard, risk and vulnerability of the 24,622 MWRA is controlled with 81% of the total population availing of medical services in some forms. On the other hand, the 19% remains a special concern and their exposure to hazard, risk and vulnerability is conditioned by both external and personal factors. Hence the recommendation to fill in the gaps in the external factors and to strengthen advocacy among the sector by those responsible to service delivery.
16. It is recommended that:
 - a. Whatever has been initiated to link up the interior barangays with road network be intensified and speed up to facilitate movements of both the constituents and medical service providers.
 - b. Medical service providers be provided with easier mobility in their visits to the different healthcenters / stations.
 - c. Hire, or invite more medical practitioners to come to Calbayog. There are several medical schools in the country. May be the city could petition the deans to assign some of their graduating students to Calbayog to respond to the immediate needs of the constituents;

- d. Nurses and other staff of the city with medical preparations who are not with the city health or are assigned to other offices not involved with medical service be recalled and assigned to responsibilities basic to their preparations;
- e. Strengthen the organization of the barangay health workers, provide them with better incentives for them to provide more time to barangay health concerns. Equip them with more knowledge and skills to address emergency and other medical needs in the absence of professionally trained staff;
- f. Increase the number of sanitary health inspectors;
- g. At least, once a month a physician should visit a health center / station.
- h. Improve the management and services of the Calbayog District Hospital
- i. Maximize utilization and expand the establishments of the main health centers and barangay health stations.
- j. Facilitate immediate operationalization of the Porziuncula Hospital for the marginal sector of the city to avail accommodation at the City Ward as provided in the memorandum of agreement with Christ the King College.
- k. Encourage private practitioners to set up medical clinics especially at district centers through provisions of incentives and / or other forms of support from the local government unit.
- l. Intensity programs and services on value formation now being provided by the City Health, Social Welfare and Development and Population Offices. May be the three offices could sit down to plan out an intervention for maximum utilization of time and resources.
- m. Link up with academic institutions, the church, NGOs, the business sector, the tri-media and the civil society to address weakness in value formation of the women sector and to reach out to as many as possible of the vulnerable sector.



IMPLEMENTATION

MONITORING AND EVALUATION

CRITICAL NEXT STEPS AND DIRECTIONS

GLOSSARY



ANNEX A

HRVA WORKSHEETS



MDG 6: HIV/AIDS

MEET @ Youth in Pasay

Mitigating the Effects of External Threats
on the Out-of-School Youth of Pasay City
in Combating HIV/AIDS (MDG 6)

A project of the Pasay City Government
in partnership with Intercessors for the
Philippines,
UNDP-DGTTF and UN-HABITAT



MESSAGE



Republic of the Philippines
LUNGSOD NG PASAY
KALAKHANG MAYNILA

OFFICE OF THE CITY MAYOR

MESSAGE



In localizing the Millennium Development Goals, it is vital that achievable targets are set and made to realize. Local Governments are considered to be the major partner and entrusted to be the implementer of programs that could respond accordingly to each goal. However, goals without actions are dead. There must be clear vision, plans and strategies and genuine concern for the citizenry that local government should undertake to enable the basic services reached and be felt by the people. Improving the quality of life of the constituents is the basic mandate of governance. Nonetheless, the government cannot do it alone collaborative efforts from private and the citizens are needed in order that true meaning of economic and social development took place and be seen.

However, in attaining the goals, there should be considerable extent of regard to the hazards and threats that are brought about by man-made and natural disasters that definitely affect our communities. Any program or service would be deliberately hampered if not stopped when calamity/disaster strikes. Every ounce of effort against poverty can obliterate if disaster comes in. It is in this context that we have enrolled our city on the Mitigating the Effects and External Threats to the MDG (MEET the MDG). It is through this program that risk and vulnerabilities of our communities are assessed. Furthermore, these assessments enable us to plan and exercise mitigating means to address the identified disaster, as in our case, HIV/AIDS. AIDS epidemic is a disaster, and the only cure as of this moment is education. The more people gained knowledge on how it is transferred and halted, more lives will be saved.

With this, I would like to thank the HRVA team for their time, relentless efforts, and support in accomplishing this task, to the UN-HABITAT for making us their partner in doing this Toolkit and making us instrumental in sharing the knowledge, experiences and lessons that other LGUs and communities can learn from. Also, I would like to extend my sincere gratitude to Intercessors for the Philippines (IFP), another major partner that helps us fulfill this endeavor and to Dr. Corazon Raymundo and her research team for their invaluable assistance by providing their expertise.



Moreover, congratulations to the Faith-Based NGOs for establishing the Pasay Disaster Intercession Network (PDIN), I am one with you in advocating that Prayer and Intercession is part of the solution in a disaster management plan. If disaster is considered an “act of God”, the role of churches and faith-based organizations is critical in preventing and mitigating its effect through prayer and intercessions.

Lastly, I myself experienced and surpassed political uncertainties, but I took up the challenge and went forth. Disaster maybe in physical, social or in political realm, but what is important is holding to our steadfast faith in God and rooted principles to gain our grounds and overcome.

Hon. Allan T. Panaligan
City Mayor

ACKNOWLEDGMENTS

The HRVA-Core Team would like to acknowledge the following individual/groups/agencies who were helpful and contributory in making this toolkit possible:

The Out-of-School Youths in the barangays/communities, barangay officials, parents, non-government organizations, city offices, Pasay City Department of Education, City Social Welfare Development, City Planning and Development Office especially Engineer Merlita Lagmay, and Pasay Police who participated and have given their valuable time, data, information, resources, insights, knowledge and experiences during the conduct of household survey and focus group discussions.

The Chairman and members of the HRVA-Core team for conceptualizing, writing, and imparting knowledge as well as giving their time, support and relentless effort in accomplishing this milestone.

The research team from Pamantasan ng Lungsod ng Pasig headed by Dr. Corazon Raymundo for sharing their expertise, time and support in conceptualizing, preparing and conducting the survey and FGDs.

The Intercessors for the Philippines for allowing their institution to become the major partner of this project and for their great cause for nation's social issues that affect families in the nation.

The city government of Pasay with the special mention of the Office of the City Mayor and Office of the City Administrator who are instrumental in institutionalizing the HRVA process and for welcoming this kind of project.

The UN-HABITAT who, as the main initiator of this project, provided technical and financial assistance.

Finally, gratitude is extended to those who may have one way or another have helped the HRVA-Core Team in the formulation of MEET @ Youth Guidebook.

INTRODUCTION

Pasay City is one of the oldest cities in Metro Manila. It serves as the gateway of the country where domestic and international airports are located; where major means of transportations such as LRT and MRT converge; where bus terminals and jeepney stations make the city one of most accessible cities in the metropolis, and its population very mobile and transient..

In 2005, the city was chosen as one of the UN-HABITAT resource cities in the Localization of Millennium Development Goals (L-MDGs) program. In the same year, it also implemented the Community Based Monitoring System (CBMS). With this system, Pasay becomes the only city in Metro Manila that completely surveyed and monitored all the household members in its 201 barangays.

Pasay, together with nine other cities, enrolled in the Mitigating the Effects of External Threats to the Millennium Development Goals (MEET the MDGs) project of UN-HABITAT in 2006. From among the eight MDGs, Pasay chose to focus on MDG 6 (Combat HIV/AIDS) Target 7 (halt and reverse the spread of HIV/AIDS by 2015).

This Guidebook illustrates how the leadership of the City of Pasay, its communities, its partner non-government organizations and concerned citizens, were able to cope with issues regarding HIV/AIDS in their communities. The HRVA process clarified understanding and promoted appreciation of the HIV/AIDS situation in Pasay City. The knowledge gained in the project became the foundation for proposed interventions to address the needs of OSYs, the most vulnerable group in the city, and help achieve its vision of an “AIDS-free Pasay City.” This toolkit hopes to provide insights, experiences and lessons that can be used for replication in their own locality especially in their program on HIV/AIDS for the youth.

ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome	MEE	Men Employed in Entertainment Establishments
AIP	Annual Investment Plan	MEET the MDGs	Mitigating the Effects of External Threats to the MDGs
ALS	Alternative Learning System	MRT	Mass Rapid Transit
ARH	Adolescent Reproductive Health (?)	MSM	Men having Sex with Men
BBP	Bayanihan Banking Program	MWSS	Metropolitan Water and Sewerage System
BCPC	Barangay Council for the Protection for Children	NCR	National Capital Region
BDP	Barangay Development Plan	NGO	Non-Government Organization
BSS	Behavioral Sentinel Surveillance		
CASAPAS		NHSS	National HIV/AIDS Sentinel Surveillance System
CBMS	Community Based Monitoring System	NSO	National Statistics Office
CFSW		OFW	Overseas Filipino Worker
CHO	City Health Office	OSY	Out-of- School Youth
CPDO	City Planning and Development Office	PET	Peer Education Training
DILG	Department of Interior and Local Government	PHIV	People Living with HIV
DIN	Disaster Intercession Network	PIP	People In Prostitution
FBO	Faith-Based Organization	PMG	Project Management Group
FGD	Focus Group Discussion	PMS	Pre-Marital Sex
FLSW	Freelance Female Sex Workers	PNR	Philippine National Railways
HIV	Human Immunodeficiency Virus	RAFMAS	Rapid Family MDG Assessment
HRVA	Hazard and Risk Vulnerability Assessment	RB	Risky Behavior
HSS	HIV Serologic Surveillance	R-CFROAS	Rapid Child Friendly Organization Assessment
IDU	Injecting Drug User	RFWS	Registered Female Sex Workers
KSA	Knowledge, Skills and Attitude	SHC	Social Hygiene Clinic
LGU	Local Government Unit	STI	Sexually Transmitted Infection
LRT	Light Rail Transit	TRDR	
LST	Life Skills Training/Trainer	VCCT	Voluntary Confidential Counseling Testing
MDGs	Millennium Development Goals	YAFS3	

OVERVIEW

Pasay City considers HIV/AIDS as a disaster waiting to happen, as an unfolding epidemic. This disaster threatens the city's most vulnerable group - the Out-of-School Youth (OSY). Data from the city's CBMS and other researches pointed to the OSYs to be at high risk and significantly numerous to require immediate intervention.

The MEET @ Youth project was initiated by Pasay City through a partnership with UN-HABITAT and Intercessors for the Philippines. Its main partner is the OSYs of Pasay. Other main players included people that influence OSYs, the government and private sector groups that provide interventions.

The analysis of the state of knowledge and practices on HIV/AIDS was based on a survey with OSYs, as well as from researches, focus group discussions, and other sources of information. Meetings to validate the survey and FGD results and analysis served as the venue for consultation on possible interventions covering HIV/AIDS prevention.

The researches, survey and FGDs revealed the following major findings:

1. Pasay, along with Quezon City, Angeles City, Cebu, Iloilo, Davao, General Santos and Zamboanga City, is identified as a high-risk city for HIV/AIDS. The 2005 Annual Report of the City's Social and Hygiene Clinic reported 4 HIV positive cases from entertainment establishment-based workers, all in their early 20s.
3. There are 56,197 persons with ages 15-24 living in the city comprising 21% of the total population. Of this population, 18,118 are out-of-school youth.
4. In the survey conducted on OSYs of Pasay City, it was found out that a) 95% have heard or have knowledge about HIV/AIDS, b) 34% of single OSYs have engaged in sex, c) of the sexually active OSYs including married and live-ins, 60% have had sex with the same sex, 25% have more than 1 sex partner in recent sex experience, 10% of first single dates ended up in sexual intercourse, d) only 18% used condoms during first sex encounter and 13% use condoms regularly. If this trend continues, there is a high probability of a rapid spread of HIV/AIDS.

The project team reached the conclusion that young people and the out-of-school youth are most vulnerable to HIV/AIDS due to lack of adequate information and knowledge about HIV/AIDS, practice of risky behaviors, weak family guidance and values, great peer influence, absence of education, weak decision making ability and lack of alternative income to support themselves. The OSYs have specific problems and needs related to their reproductive health and they require special attention.

Based on the findings and recommendations, the MEET @ Youth Program was developed as the framework for the city's reform agenda on HIV/AIDS. Programs and projects that specifically address needs identified in the HRV Analysis but are not yet included in current HIV/AIDS programs of the city were developed and incorporated into the development plans of the city for implementation.

Among the most urgent actions required are a) strong advocacy campaign on HIV/AIDS, b) comprehensive scholarship program for out-of-school youth, provision of alternative livelihood by giving skills training on skills needed by industry, c) improving the coordination and participation of various service delivery units, d) massive information on disaster preparedness and mitigation on HIV/AIDS, e) strengthening the counseling programs, f) enhancing the capability of youth organizations such as the Sangguniang Kabataan on reaching OSYs through programs for youth development, and g) enforcement of strict implementation of the following laws and other related laws/ordinances about HIV/AIDS.

PASAY CITY PROFILE

Pasay is one of the highly urbanized cities in the National Capital Region (NCR). It is the third smallest city in terms of land area yet one of the biggest in terms of the number of barangays with 201 barangays. It covers 18.5 sq. kilometers in land area with a population of 408,000 (2000 NSO survey). A large part of its population (41%) are considered poor. There are 33,433 households considered informal settlers living in 92 depressed barangays.

Pasay is considered the transportation hub of the country. Located in the city are the country's main domestic and international airports as well as 15 terminals for provincial buses plying to almost all parts of the country. Commercial areas such as Baclaran (shared by both Pasay City and Paranaque City) host the highest volume of daytime pedestrian concentration within Metro Manila on a per square meter basis.

Pasay is also known for its entertainment industries. Restaurants, hotels, motels, coffee shops, and clubs, particularly those located along Roxas Boulevard, comprise the "tourist belt" area. Lack of alternative work makes sexual workers unwilling to leave their jobs. About 410 registered female sex workers are being monitored by the City Health Office in addition to free lance sex workers.

Pasay has a net migration rate of 3.14 persons for every 1,000 population during the 1985-1990 period with in-migrants averaging 141 per 1,000 and out-migrants averaging 138. Most of the in-migrants were females.

LGU's MDG FOCUS : MDG 6 - Combat HIV/AIDS

MDG 6 is to “combat HIV/AIDS” and Target 7 is to “halt and reverse the spread of HIV/AIDS by 2015.” Although the HIV prevalence rate in the Philippines remains below one percent of the country’s population, the “preconditions for a full-blown epidemic” are present and the epidemic appears to be “hidden and growing.”

Pasay, along with Quezon City, Angeles City, Cebu, Iloilo, Davao, General Santos and Zamboanga City, is identified as a high-risk city for HIV/AIDS. The transient nature of Pasay City’s population with easy access to all modes of transportations, the continuous influx of people from rural areas resulting in high population density and squatting as well as the inadequate growth of businesses providing employment to its populace are some factors that make the city vulnerable to spread of HIV/AIDS.

The 2005 Annual Report of the City’s Social and Hygiene Clinic reported HIV/AIDS/STI cases as follows: Syphilis = 3, Gonorrhoea = 60, Genital Warts = 6, Non-Gonococcal Infection = 148, Bacterial Vaginosis = 86, Trichomoniasis = 11. Based on blood surveillance conducted from 1997-2002, 4 HIV positive cases were reported from entertainment establishment-based workers, all in their early 20s,.

THE OUT-OF-SCHOOL YOUTH OF PASAY CITY

Recent baseline studies using the CBMS show that there are 56,197 persons with ages 15-24 living in the city comprising 21% of the total population. Of this population, 18,118 are out-of-school youth. Based on preliminary results of 2005 Pasay City CBMS, the population of OSY in the city totaled 35,215 with female OSYs at 18,922 and male OSYs at 16,293.

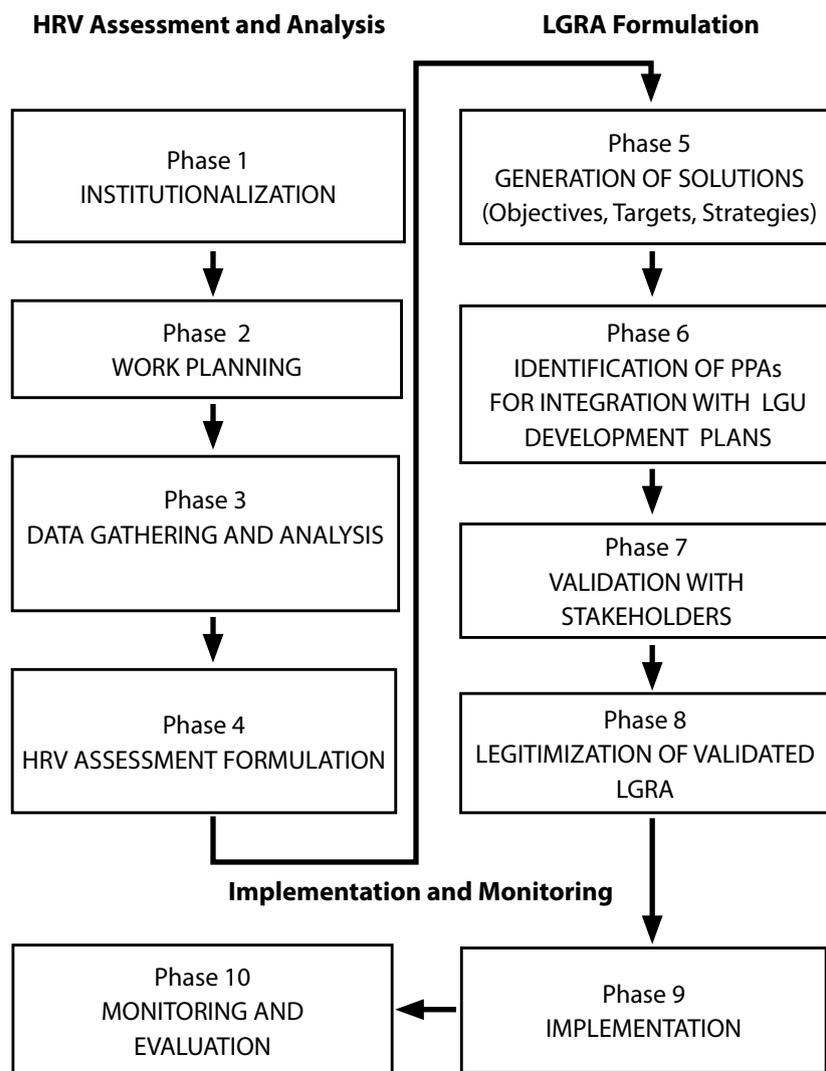
There are 19 public and 17 private elementary schools in Pasay City; 4 public secondary schools and 1 annex in the city with a combined total of 16,600 enrollees; 15 schools offering private secondary education. On the tertiary level, the city has only 1 state college that caters to about 5,000 students. Due to limited space and facilities, the accepted standard ratio of 1:40 is not followed. Even with the proximity of schools in the communities, the high percentage of OSY cases still persist.

Unemployment rate is high in the 15-24 age bracket. Most OSYs respondents are practically dependent on others for their living. Having no permanent employment, they mostly do odd jobs. Based on YAFS3 (2002), "idle youth are more associated with risk behavior". Sexual activity generally begins during this age. OSYs are more vulnerable than those who are in-school because they lack education, guidance, positive values, decision making ability, knowledge and information on matters like HIV/AIDS and life in general.

DISASTER MANAGEMENT AND HAZARDS, RISKS AND VULNERABILITIES ASSESSMENT (HRVA) PROJECT

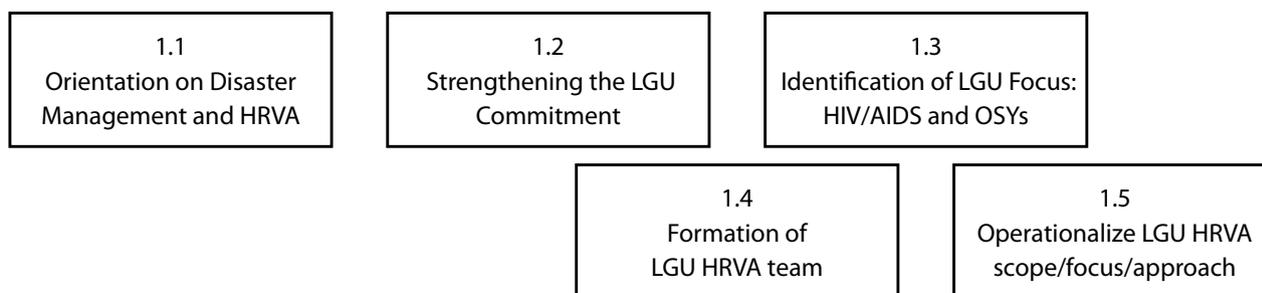
AIDS is a disaster, but it does not just happen. It unfolds. And its unfolding will depend in large part on how quickly the constituents, individuals and families in the community are guaranteed the right of HIV/AIDS information and education. A gram of education is better than a kilo of medical care. Education vaccine remains the only available and the most powerful tool for halting the spread of HIV/AIDS in the foreseeable future. It is important, therefore, for all sectors – family, government, private sector and civil society – to be well-informed about the threat and their vulnerability to the disease and diligently work together to halt the effects of what might be a disastrous HIV/AIDS spread in the community. Hence, this project.

DISASTER MITIGATION FRAMEWORK



HAZARDS, RISKS AND VULNERABILITY ASSESSMENT (HRVA) PROCESS

PHASE 1: INSTITUTIONALIZATION



This phase starts the project process and provides the context of the project. It aims to a) discuss briefly the MDGs and its relation to Disaster Management, b) provide basic understanding of the different types of hazards, risks and vulnerabilities and their assessment in a particular community and c) contextualize the purpose of a specific HRVA on HIV/AIDS for Pasay City.

1.1 Program Orientation

Pasay City had previously enrolled in the project in a business meeting with UN-HABITAT resource cities. The following activities follow through this agreement.

- 1.1.1 LGU representatives attended the “MEET the MDGs” training which included an orientation and workshop on disaster management. In the workshop, participants accomplished the HRVA worksheets (see General Framework) which functioned as guide in doing a preliminary assessment of hazards, risks and vulnerabilities in the city.
- 1.1.2 After the training, the representatives discussed the MEET the MDGs project with the Mayor. Possible partners and additional team members to support the implementation of the project were identified.

(HOW WAS THE ASSESSMENT OF PARTNERS/ STAKEHOLDERS DONE?)

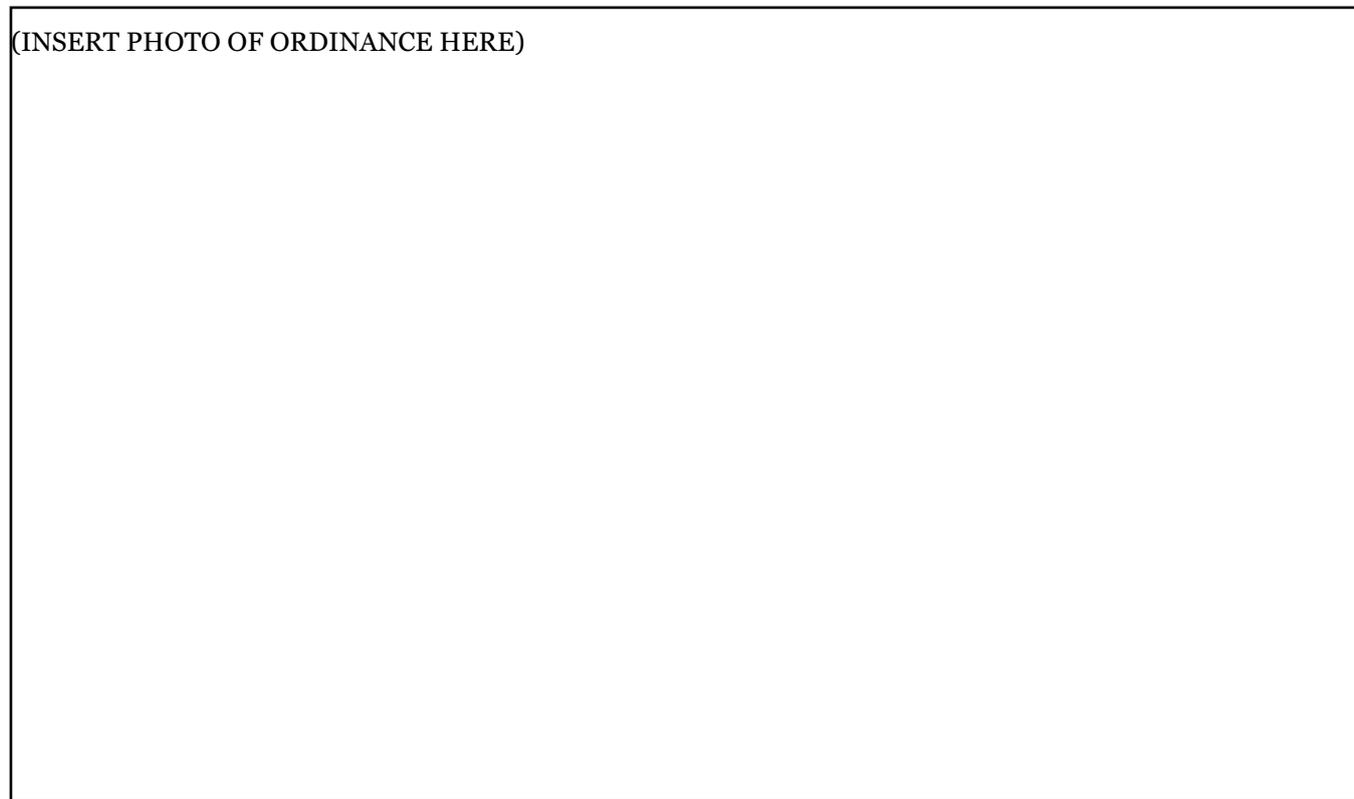
1.2 Strengthening the LGU Commitment (Executive and Legislative)

This process establishes the legal mandate of the Team to undertake the project.

1.2.1 Review of existing of laws, ordinances, and executive orders that the city had already formulated that supports the HRVA project.

Among the identified laws are:

- a. RA 8504 – otherwise known as the Philippine AIDS Prevention and Control Act of 1988, which clearly establishes the role of the national and local government in HIV/AIDS prevention activities.
- b. RA 7160 – The Local Government Code of 1991 which specifies that the local government units should exercise their powers to promote the health and safety of the inhabitants, engage the participation of NGOs and POs as active partners in the delivery of certain basic services; and
- c. DILG Memorandum Circular 99-233 which enjoins all Provincial Governors, City Mayors, Municipal Mayors, DILG Regional Directors to develop and implement programs and projects in response to RA 8504, and cause the enactment of ordinance where there is none or review existing ordinances to ensure the relevance, in support of overall HIV/AIDS prevention and control efforts.
- d. PASAY CITY ORDINANCE 2341 - Pasay AIDS Prevention and Control Ordinance of 2002. (Describe briefly)



1.2.2 Instruction from the Mayor to proceed with the project and form the HRVA Team.

Identification of LGU Sectoral Focus

Among the possible sectors that the project could cover, the team has to concentrate its efforts on a particular group for effective focus. To guide this decision, the following activities were done:

- 1.3.1 Assessment of a) existing business establishments particularly entertainment industries, clubs, hotels, motels, inns, restaurants, spas etc., b) the city's geographical make-up, c) the existence of maritime schools, d) baselines studies of the city using the Community Based Monitoring System (CBMS), e) the physiological and psychological preparedness of OSYs and f) existing efforts of the city to address the HIV/AIDS prevention and its usual beneficiaries or sectors.

Summarized results of this review are cited in the brief LGU profile at the beginning of this guidebook.

In addition, the following information were gathered:

- a) The city's HIV/AIDS-related services went mostly to those who belong to vulnerable groups such as the registered female sex workers, freelance female sex workers, men having sex with men, injecting drug users, partners of female sex workers, OFWs (particularly seafarers), domestic helpers, employees, entertainers, health workers and young people. Existing measures are in place for the prevention and control of the spread of HIV/AIDS but these cater mostly to traditionally-identified high risk groups. There is no program yet that caters to the youth sector particularly the OSYs.
- b) Families that lack income to sustain the educational needs of their children are forced to allow their children to forego going to school.
- c) Although there is an existing Sangguniang Kabataan (youth council), OSYs do not show community involvement especially in the issue of HIV/AIDS or life-skills training. There is also little knowledge on government programs and services that address the issues.
- d) Pasay City's Social Welfare Department has 13 unit offices, 97 accredited day care centers and 11 special service units. The bulk of their services went to distressed families (disasters, typhoons, etc). Analysis of the performance of the past two years showed that the city reduced its number of family-related clients by 26% and increased its youth-related services ten fold.
- e) In response to HIV/AIDS, the city enacted Pasay City AIDS Ordinance of 2002 and its Implementing Rules and Regulations. The ordinance sees to it that the following local institutions are in place and critical activities are implemented:
 1. Presence of Social Hygiene Clinic for regular STI examinations (per 2 weeks)
 2. All operators/managers, entertainers and other employees of entertainment establishments are required to undergo HIV/AIDS/STI education conducted by SHC every year
 3. Presence of functional Pasay City AIDS Council that coordinates, plans, monitors and evaluates STI/HIV/AIDS-related policies, plans, programs and activities.
 4. Presence of hospital-based services through HIV/AIDS Core Team (HACT) in Pasay City General Hospital

5. Presence of Community-based services through BCPC on ABCD Education Vaccine and Disaster Plan
 - a. HIV/AIDS/STD Education and Information Campaign
 - b. Counseling
 - c. Home-based Care
 - d. Organized Community-based HIV/AIDS Support Group including PLWHIAs
 - e. Networking of HIV/AIDS Support Groups
 - f. HIV/AIDS Referral System
 6. Enrolment of Persons with HIVs (PHIVs) and families to Philhealth Indigency Program.
 7. Presence of a functional IEC Committee
 8. Implementation of the city's STD/AIDS prevention initiatives as follows:
 - a. Regular pre-consultation lectures on HIV/AIDS in all health centers and social hygiene clinic (SHC)
 - b. Distribution of IEC materials in health centers, schools, recreational establishments and other strategic areas
 - c. Conduct of STD/HIV/AIDS Awareness Seminar every Tuesday for all applicants securing health permits
 - d. Conduct STD case findings and treatment (gonorrhea, syphilis, minor STDs) thru contact tracing or partner notification
 - e. Perform health information/education to employees of entertainment establishments, hotels and motels
 - f. Distribute free condoms to hotels, motels and entertainment establishments
 - g. Network with NGOs on HIV/AIDS prevention
 - h. Conduct regular updates and training/equipping on HIV/AIDS for all health workers, especially SHC staff
 - i. Perform regular monitoring and quarterly evaluation of activities
 - j. Actively participate during World AIDS Day (December 1) thru giving of seminars/lectures for public high school students, distribution of IEC materials in health centers, schools and entertainment establishments, displaying posters in strategic areas, provision of red ribbons and pins to all city hall employees, health workers, teachers and students and distribution of free condoms to sex workers
 - k. Conduct HSS on registered and freelance female sex workers
 - l. Conduct HIV Behavioral Surveillance (BSS) (1st round was done in 1997)
 - m. Perform Voluntary Confidential Counselling Testing (VCCT)
 - n. Thru DOH, conducted rapid assessment to determine the common sexual partners of commercial sex workers which revealed that bus and jeepney drivers were the most common partners
 - o. Recently conducted FGDs for OSYs on Life Skills Seminar or training on negotiation skills
- 1.3.2 Decision to focus on young people particularly OSY as target group. While studies on some high-risk groups have been conducted in Pasay, there has not been an established or institutionalized health program and monitoring scheme for the OSYs.

1.4 Formation of LGU HRVA team

- 1.4.1 Members to the team were chosen from among those who can be of help and are committed to do the project. Selection was not limited to LGU personnel but included faith-based organizations, non-government organizations, foundations, business sector, etc.

The composition of the HRVA Core Team is as follows:

City Team Leader : Engr. Rolando A. Londonio
 Team Members : Bishop Dan Balais
 : Rowena Tabuso
 : Maria Alvarado
 : Joselyn Carasig
 : Pstr. Alvin Carag
 : Julio Alejandro Vitug

(WHY WERE THEY SELECTED AS MEMBERS? DID THEY VOLUNTEER? NOMINATED?)

1.5 Operationalize LGU HRVA scope/focus/approach

- 1.5.1 Review and use current available data/information with regards to OSY.
 The CBMS shows that there are 56,197 persons with ages 15-24 living in the city comprising 21% of the total population. Of this population, 18,118 are out-of- school youth. Based on preliminary results of 2005 Pasay City CBMS, the population of OSY in the city, including those outside of the 15-24 age range, totaled 35,215 with female OSYs at 18,922 and male OSYs at 16,293.
- 1.5.2 Use of existing studies and researches to further enhance team's knowledge and information about HIV/AIDS. The following information on HIV/AIDS was relevant to the project:
- a) Health experts describe the HIV/AIDS situation in the country as "hidden and growing". The Philippines is sitting on the tip of an iceberg that could blow up into huge epidemic proportions if no concerned effort shall be effected. Preventing HIV infection must begin with basic education. The 4S allies that make the virus so prevalent are silence, shame, stigma and superstition. They thrive in a climate of ignorance and illiteracy. Education is vital in defeating this deadly alliance.
 - b) The only way to know if one is infected with the HIV virus is to be tested. One cannot rely on symptoms because they are similar to those of many other diseases. Many people infected with HIV do not have any symptoms at all for years and may unknowingly spread the disease to others.
 - c) HIV is easily transmitted from one HIV-infected person to another through vaginal, anal or oral sex. Other ways of transmission are from sharing needles with HIV-infected carriers, or from HIV-infected women to their babies before or during birth or through breast-feeding after birth. HIV can also be transmitted by receiving infected blood. However, it takes years before HIV can evolve into full-blown AIDS. Once a person acquires HIV, he/she will carry the virus in his/her lifetime. He/she can prolong his/her life but there is no cure, vaccine, or medicine to kill the virus.

- d) AIDS is the final stage of a chronic infection with the HIV. The virus carries a protein structure that recognizes and binds only with a specific structure found on the outer surface of certain cells. HIV attacks any cell that has this binding structure. However, white blood cells of the immune system known as T cells, which orchestrate a wide variety of disease-fighting mechanisms, are especially vulnerable to HIV attack. No existing medical treatment can completely eradicate HIV from the body once it has integrated into human cells.
- e) HIV/AIDS in the Philippines started its registry in 1987. The HIV/AIDS registry as of May 2006 reports that Philippines had new HIV cases. From January 1984 to May 2006, there were 2,533 cases of HIV and 727 cases of AIDS. Current data indicate that young adults, MSMs, PIPs, IDUs, and OFWs and their partners are particularly vulnerable to HIV infection. Today, more than seven million Filipinos are working abroad. Of the 2,533 HIV cases, 873 (35%) were OFWs.

All the known routes of HIV transmission have already been recorded in the country. An already large commercial sex industry is observed to be growing even more. Condom use remains low even among high-risk groups.

Young people are particularly vulnerable. In the Philippines, the youth number about 15 Million (approximately 20% of population) as of 2000 and would increase to 30 million by year 2030. It is at this age that young people experience self-discovery and experimentation in sexual matters. However, they often unaware of risks involved when engaging in high-risk activities. In Pasay, the 4 reported HIV positives were in their early 20s.

In the Philippines, there is a high rate of sexually-transmitted infection in both high-risk groups and the general population, coupled with inadequate access to STI treatment and poor health seeking behavior. There is also an increase in sexual risk behaviors among 15-24 years old compared to levels observed 8 years ago, including earlier sexual initiation, unprotected sex, having multiple sexual partners, and paying and/or engaging in paid sex. There is also the threat of continuous deterioration in moral values, peer pressure, influence of media, lack of role model and acceptance of society on issue of pre-marital sex and early marriages among youth. (Source?)

- f) Based on the study of YAF93 (2002), 95% of young people aged 15-24 have heard of AIDS. However, there is low perception that they are vulnerable in acquiring the virus or around 73% thought that there was no chance of getting AIDS. Study also shows that there are about 23% of young people in the Philippines practicing pre-marital sex and more than 2/3 of young women did not use any contraceptive method during their first sex experience and even fewer in their last sex experience. Moreover, there are about 49% of sexually active young males who had multiple partners. It is in this stage where period of self-discovery and experimentation are its peak. This includes sexual

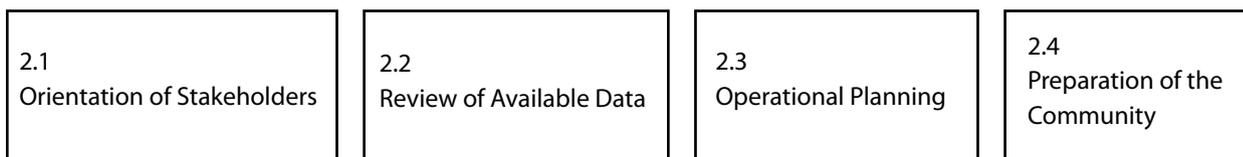
development, alcohol consumption, drug use but they are also often unaware of the risks embedded in such behaviors. This shows the changes in the culture among Filipino youth, it now tends to be skewed towards more liberal thought and attitude towards sex behavior and practices. However, liberal may it seem, Filipino youth are still in denial regarding the possibility of getting HIV/AIDS.

- g. Nearly 12 million young people, aged 15-24 are living with HIV or AIDS today. About half of all new infections now occur in young people. Everyday, nearly 6,000 young people become infected with HIV. While infection rates among 10- to 14-year-olds are not generally known, studies indicate that a significant proportion of younger adolescents are sexually active and therefore at risk.
- Ignorance about HIV/AIDS is one of the fundamental reasons why young people are vulnerable to HIV infection. Despite the fact that sexual activity begins in adolescence for most people, surveys among young people in more than 60 countries showed that the vast majority could not accurately say how HIV is transmitted. Because of their biology, girls and women are more easily infected by HIV during heterosexual intercourse than men. Older men, who are likely to have had many sexual partners, are having sexual relations with younger women and girls and putting them at risk. The lifelong disadvantages that girls and women face because of discrimination against them – including inadequate education, poor pay and employment prospects, and violence, abuse and exploitation by men – make them particularly vulnerable to unwanted or unsafe sex, both within and outside of marriage.
- Disadvantaged and ostracized young people are in greatest danger. Young people who inject drugs, suffer sexual exploitation, are trafficked, are orphans, or who live on the streets or in institutions have even less access to information, skills, services and support than other young people. Boys and young men who have sexual relations with men are very vulnerable because of the multiple disadvantages they face.
- k) Based on the study made by TRIDEV (an NGO that provides study on HIV/AIDS), 70% of adolescents had tried drinking alcohol beverage and it increases with age, 46% tried smoking, 11% used drugs, and 23% have engaged in premarital sex. Sexual Intercourse is the leading mode of transmission. There are about 766 HIV seropositive children & youth in the country, and about 90% (678) are in 20-29 age group 6% (44) in 10-19 age group. The following conclusions were also derived:
 - 1) There is substantial and increasing levels of problem behaviors among the Filipino adolescents that can imperil their health and well-being
 - 2) Both male and female adolescents are engaging in substance abuse and premarital sex with clear gender differentials
 - 3) While males are more inclined to engage in risky behaviors (RBs), the rate of increase among females is faster
 - 4) Age acts as a strong exposure variable to engagement in RBs; there is also a clear trend in younger ages at initiation of RBs

- 5) It can be said that there is a trend towards ‘younging’ and feminization in RBs
 - 6) Risk behaviors examined are clearly interconnected.
 - 7) There is a pattern in the timing of initiation of RBs
 - 8) Engagement in PMS is highly probable among those who are smoking or drinking or using drugs
 - 9) There are protective as well as risk factors in the environment of the adolescents represented by type of family, education, location of residence that encourage or discourage the engagement in risky behavior (PMS).
3. Identify experts that can help in the formulation of survey questionnaires and/or technical know-how with regard to HIV/AIDS

(HOW WAS DR. RAYMUNDO’S TEAM IDENTIFIED AND CHOSEN?)

PHASE 2. WORK PLANNING



This phase firms up the project team structure and plans. It aims to a) outline the strategies involved in doing the project, b) orient the various stakeholders particularly the FBOs to solicit support for the project, c) define roles of the team members, and d) identify on-going HRVA-related projects among stakeholders.

2.1 Orientation of Stakeholders

- 2.1.1. Consultation meeting among relevant stakeholders (City Health Office, CPDO, Pasay City AIDS Council, Business Sector, etc.) regarding disaster management planning and HRVA that would focus on MDG 6: HIV/AIDS.
- 2.1.2 Consultation meeting with identified research experts regarding the HRVA project of the LGU target group.
- 2.1.3 Based on the consultations, agreement on commitments between the research experts and the LGU on the collaboration on the project. The conduct of survey and analysis was handled by Dr. Corazon Raymundo and her team while community preparation and project coordination was handled by the HRVA team.

2.2 Review of Available Data

2.2.1 Review and analyze studies currently done in Pasay regarding HIV/AIDS. Among the HIV/AIDS studies and researches conducted in Pasay are the following:

- a) In 1994, NHSSS selected Pasay City to be one of the sentinel sites for the HIV Serologic Surveillance (HSS) in Luzon as it is identified as a high-risk city. The Pasay City HSS Team implemented one HSS round in 1994, twice a year rounds from 1995 to 1996 then annual serologic surveillance rounds from 1997 to 2002. The HSS was used to monitor RFSW, FLSW, MSM, IDU.
- b) The Behavioral Sentinel Surveillance (BSS) was established in the ten HSS sentinel sites to monitor the level of risk behaviors among High-Risk Groups (HRGs). In 2001, BSS was implemented in view of its planned institutionalization in the eight LGUs including Pasay. In 2002, ten LGUs institutionalized the HIV BSS.

The same HGRs as in the HSS were monitored. However, the research teams were given leeway to include special groups that they considered at risk for acquiring HIV in their respective sites. The key indicators monitored were:

1. Knowledge on HIV Prevention: The three correct ways to prevent HIV transmission were a) being faithful to one faithful partners, b) consistent and correct condom used and c) non-sharing of injecting equipment.
2. Median Number of sex partners in the past week/month prior to interview for each HRG.
3. Consistent condom used: Use of condoms during sex in the last three months prior to interview.
4. Condom use during last sex with a non-regular partner: Use of condoms during the last time they had sex with a non-regular partner.
5. Condom use during last sex with a regular paying partner:
6. Sharing of injecting equipment: Reported sharing injecting equipment in the past six months.

From 1997 to 2001, the TRI-DEV Specialists Foundation Incorporated conducted the BSS for Pasay City. Aside from the FSWs and MSM, they likewise monitored other men at risk for HIV transmission --- the CFSWs in 1997, the Men Employed in Entertainment Establishments (MEE) in 1998, the TRDRs in 1999 and male members of the Philippine National Police in 2000. Because the MEE revealed riskier practices for HIV transmission compared to the other men at risk, the group was selected for continuous monitoring and again included in 2001 BSS. In 2002, the Pasay City government institutionalized HIV BSS and continued to monitor the FSWs and MSM.

From the 1997 to the 2002 BSS, most of the FSWs and the MSM subjects were in their early 20s. Majority of the FSWs reached or finished high school while most of the MSM reached or finished college. Most of the study participants were single. For knowledge of the three correct ways of preventing HIV, the 2001-2002 proportions among FSWs showed a decreasing trend while for the same period, an increasing trend was apparent for the MSM. Most FSWs and MSM cited the health workers as the most credible sources of HIV information.

c) Special Survey: Vulnerabilities of Male Seafarers to HIV/STI

This study was undertaken to determine the prevalence of HIV, syphilis and Hepatitis B among returning male seafarers and the prevalence of risk behaviors for HIV transmission. To satisfy the objectives of the study, a two-stage cluster survey design was employed using probability proportionate to size with the number of deployed seafarers in the year two thousand per manning agency as sampling frame. The different manning agencies in Metro Manila were considered as the primary sampling units or clusters.

The study participants were overseas Filipino male seafarers who returned to the country in 2002 whether for vacation, termination from service or renewal of job contracts after at least three months tour of duty abroad. Data gathering was through self-administered questionnaires and blood specimens were collected for HIV, syphilis and Hepatitis B testing.

1. Review results of Community Base Monitoring System (CBMS) to get household information, demography, population and location of OSYs.

2.3. Operational Planning

2.3.1 The following processes were identified: formulation of strategies, development of processes and development of tools.

a) Formulation of strategies includes the following:

1) Criteria setting. Pasay selected barangays for survey implementation using these criteria:

- 1.1 Must have high incidence of poverty
- 1.2 Informal settlers are present in the area
- 1.3 Presence of Out-of-School Youth
- 1.4. Had undergone implementation of mass-based community savings program called Bayanihan Banking Program (BBP). The rationale is that if the barangay has installed BBP in the area, it is considered friendly, cooperative, and accommodating.
- 2) Determining target barangay. Of the 201 barangays in the city, 91 are depressed barangays. Out of 68 barangays that implemented the BBP, only 50 barangays were considered for survey implementation. Fish bowl method was used to select the 50.
- 3) Determining target population and sample size. Of the 18,118 OSYs in Pasay, a sample size of 1,207 respondents was decided on.

(How computed?)

b) Development of processes includes the following:

1. Formalizing the research work and communicating the same to concerned department heads (ex. City Planning and Development Office, Cooperative Development Office, etc.). The communication letter contains the purpose of the research study, request for pertinent data (number of OSYs per barangay, house and location, barangay spot maps, etc.) and solicitation of support for the project.
2. Conceptualizing and preparing the survey questionnaire
3. Training of interviewers as to the manner in conducting the survey as well as to familiarize them with the questionnaire.
4. Conduct of pre-test of survey questionnaire on selected respondents to check clarity of questions and ease in answering.
5. Refinement of survey questionnaire if respondents find question/s vague or if needs explanation from the interviewer

c) Development of Survey Tools

The survey questionnaires covered the following information:

1. General Information – Gender, age, birthday, highest level of education, occupation, etc.
2. Substance Use – This measures if the respondents are involved in risky behaviors such as smoking, drinking alcohol, taking prohibited drugs. Frequency of use, reason for engagement in such activities, the people who influenced them to use the substance, etc., are also asked.
3. Attitudes and perceptions related to substance use – This determines whether respondents agree or not on the common attitudes or perception of a person towards substance use. (ex. Smoking makes you cool. Drinking is a good way of dealing with problems, etc.). Also, it is important to know if their friends are also engaged in such behaviors.
4. Sexual behavior – This measures if the respondents had sexual experiences, who are their sexual partners, frequency of engaging in sex acts, etc.
5. Attitude and perceptions related to sex and condom use
6. Knowledge and experience on HIV/AIDS – This measures the respondents' knowledge about HIV/AIDS, where they about HIV/AIDS, how it is transmitted, etc.

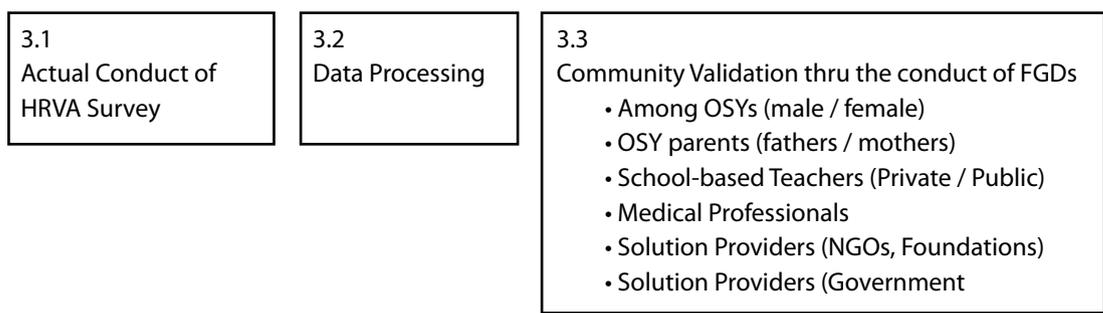
(INSERT SAMPLE QUESTIONNAIRE)

2.4 Preparation of the Community

In preparing the community, the following steps were undertaken:

- 2.4.1 Request endorsement letter from the City Mayor to be given to barangay officials.
- 2.4.2 Coordinate with City Planning and Development Office for the addresses and contact numbers of barangay captains.
- 2.4.3 Coordinate with target barangays thru the barangay chairman or officials for survey schedules and communicating the scheduled survey to target respondents.
- 2.4.4 Present the endorsement letter to barangay captains by the research group and asking for support in identifying and locating target respondents based on CBMS data.

PHASE 3. DATA GATHERING AND ANALYSIS



This phase aims to gather information from the ground on the situation of the OSYs group in order to determine its vulnerability to identified hazard.

3.1 Actual Conduct of HRVA Survey

The following activities were done::

- 3.1.1 Scheduling survey based on schedules given by the barangay chairmen
- 3.1.2 Assigning of interviewers/enumerators and lead enumerator per barangay
- 3.1.3 Securing the list of respondents, their information, and household location per barangays
- 3.1.4 Securing proper identification of enumerators, letter of endorsement, and sufficient numbers of questionnaire forms
- 3.1.5 Escorting of enumerators by the barangay officials to the respondents
- 3.1.6 One-on-one survey of the individual respondents

(IS THERE A SPECIAL TECHNIQUE OR APPROACH IN DOING THE SURVEY CONSIDERING THE SENSITIVE TOPIC AND AGE OF THE OSYs?)

- 3.1.7 Collecting the filled-up survey questionnaires by lead enumerator
- 3.1.8 Checking and numbering of filled-up questionnaires with unique household numbers
- 3.1.9 Developing the coding system for survey answers

(INSERT PHOTOS OF FIELD SURVEY. ALSO INCLUDE STORIES FROM THE FIELD.)

3.2 Data Processing

After the survey, collected data were processed. This involved:

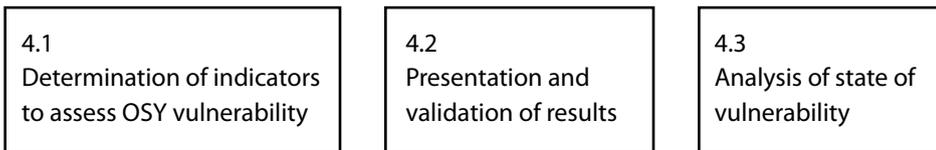
- 3.2.1 Identification and training of encoders and editors
- 3.2.2 Coding and encoding of survey answers
- 3.2.3 Data tabulation, analysis and summarization
- 3.2.4 Analysis of results
- 3.2.5 Writing of the findings of the survey

3.3 Community Validation thru the conduct of Focus Group Discussion (FGDs)

- 3.3.1 Among OSYs (male / female)
- 3.3.2 OSY parents (fathers / mothers)
- 3.3.3 School-based Teachers (Private / Public)
- 3.3.4 Medical Professionals
- 3.3.5 Solution Providers (NGOs, Foundations)
- 3.3.6 Solution Providers (Government)

(DESCRIPTION OF THIS PROCESS. WHY IS THIS IMPORTANT? WHAT ARE THE RESULTS OF THE FGD? DID THE OSYs AGREE WITH THE RESULTS? WERE THEY SHOCKED? ENLIGHTENED? WERE NEW INSIGHTS ADDED? ACTIONS PROPOSED?)

PHASE 4: HRV ASSESSMENT FORMULATION



This phase analyzes the results of the data gathering phase and formulates vulnerability statements regarding the OSYs.

4.1 Determination of indicators to assess the vulnerability of OSYs to be used for evidence-based decision making.

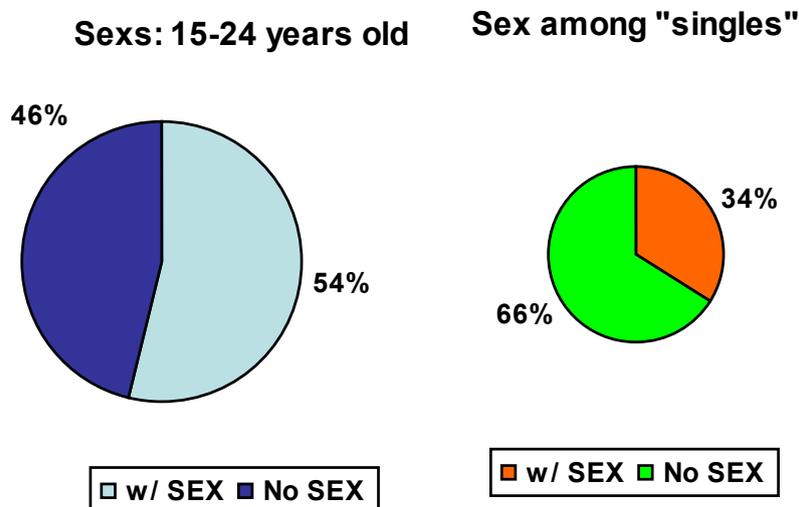
The following indicators were used:

- 4.1.1 Incidence of risky sexual and non-sexual behaviors
- 4.1.2 Use of condoms during sex
- 4.1.3 Attitudes towards premarital sex
- 4.1.4 Influence such as friends and common sex practices
- 4.1.5 Knowledge on HIV and STIs
- 4.1.6 Socio-economic situation, marital status, and family or household situation
- 4.1.7 Access to and availment of health services

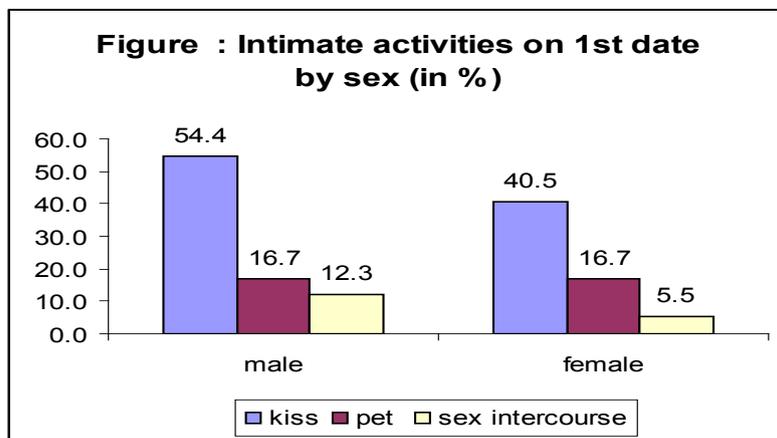
4.2 Results Presentation/Dissemination

The research team headed by the research expert in collaboration with the HRVA team gathered, analyzed, write and presented the research results. Among the important points are:

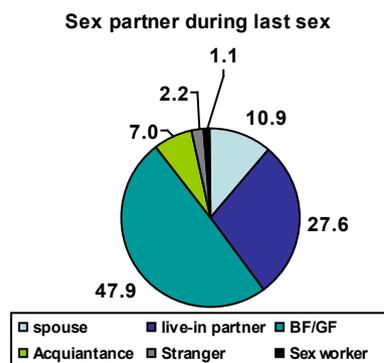
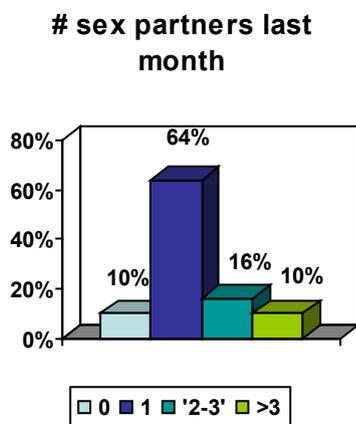
- 4.2.1 Knowledge about HIV/AIDS has been promoted in various communication media but most people don't feel threatened about the disease primarily because they have not seen a person afflicted by it or encountered a young person suffering from this illness.
- 4.2.2 The survey results show the following important information about sexual and reproductive health situation of the OSYs of Pasay City:
 - a) A significant proportion of the OSYs are engaging in risky sexual and non-sexual behaviors. The statistics generated on these behaviors are generally higher than the national figures but quite typical of young people in Metro Manila. Some of the important ones that are related to their reproductive health are:
 - 1) Half (54%) of the respondents aged 15-24 have engaged in sex, and a third (34%) of the single respondents are already engaged in sex.



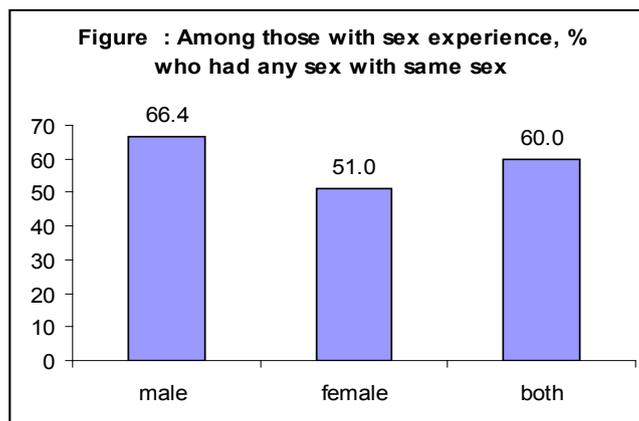
- 2) Of first single dates, 10% of ended up in sexual intercourse. On friends and sex practices, 85% of the total respondents among OSYs reported to have friends who have sex experience while 65% have reported having friends who have multiple sex partners. On attitudes toward premarital sex, 28% approve of having multiple partners, however, 82% disagreed that it is a sign of popularity and success.



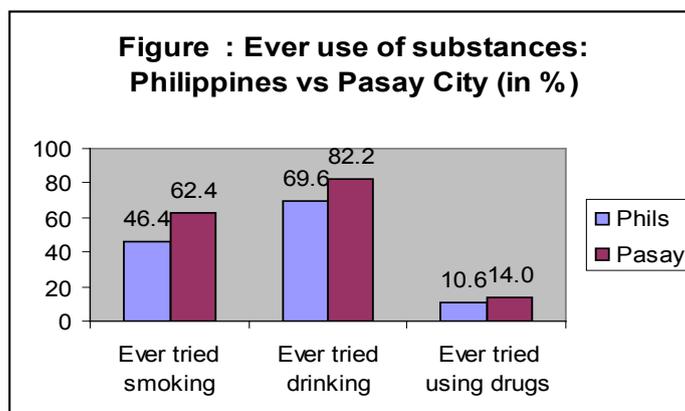
- 3) Nine out of ten OSYs are involved with a number of sex partners in a month. Majority at 64% have 1 sex partner in a month but 16% have 2-3 partners and 10% are involved with more than 3 partners. Also, almost half of the respondents engaged in sex, 48% are saying that they have sex with their girlfriend/boyfriend as their sexual partner, 28% are with live-in partner, 11% are with husband/wife, 7% are with acquaintance, 2% are with strangers and 1% are with sex workers.



- 4) Around 60% of those with sex experience had sex with same sex.

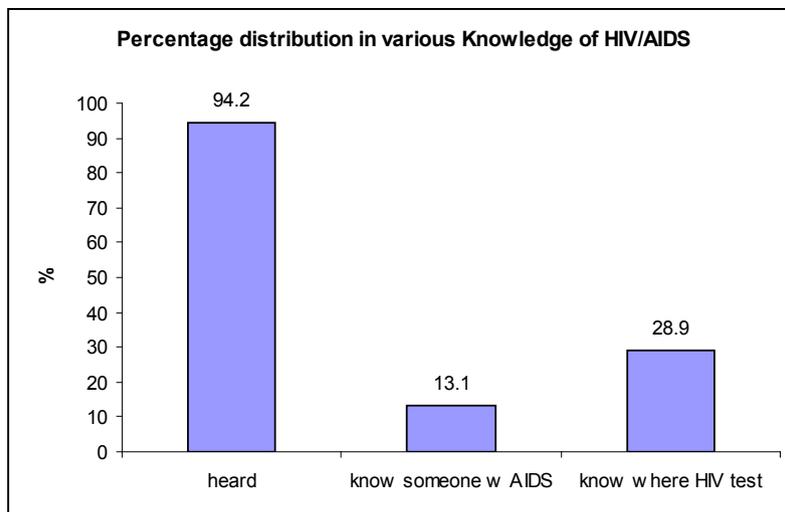


- b) Non-sexual health risk behaviors were displayed by the respondents.** These are 1) substance abuse which includes smoking, alcohol drinking and drug use and 2) engaging in pre-marital sex. These risk behaviors are problem behaviors that have health consequences and are strongly interconnected. Those that are drinking alcohol have high probability that they are also smoking, and those that are into drug abuse have also high probability that there are into smoking, drinking alcohol and engaging in sex. Pasay OSYs displayed much higher levels of smoking, drinking alcohol and drug use than the average Filipino youth.



In smoking, men tend to have higher risk than women and they start to display such behavior early - 25% who tried it when they were 10-14 years of age. Reasons why they engage in smoking are: to feel relaxed (45%), to socialize (17%), and to be “in” with the group (17%). In drinking alcohol, 17% started at age 10-14. The reasons for engaging in such behavior are: for socializing among friends (60%) and for relaxation (24%). The most common drug substance used by the respondents is shabu with 34% among the respondents reporting their daily use of the drug.

c) Knowledge of HIV. The national program on increasing awareness about the illness is reflected by the high percentage (94%) of respondents who have heard about HIV/AIDS. The awareness level is bolstered by the thirteen per cent who personally know of someone who has HIV/AIDS and almost 1/3 know a place where HIV testing is done.



d) Sources of knowledge. Most of those who claim having heard about AIDS report that they got their information from the different public media: TV (88%), newspapers and magazines (40%) and radio (31%). Information on HIV/AIDS is also integrated in health education in schools. This could be the reason why 41% pointed to their teachers as their source of knowledge. Family members, community health workers and their promotional materials were hardly mentioned as sources.

e) Knowledge on means of transmission of the HIV virus. The level of knowledge ranges from low to high depending on the statements regarding the disease. Lowest levels of correct knowledge are found in the following:

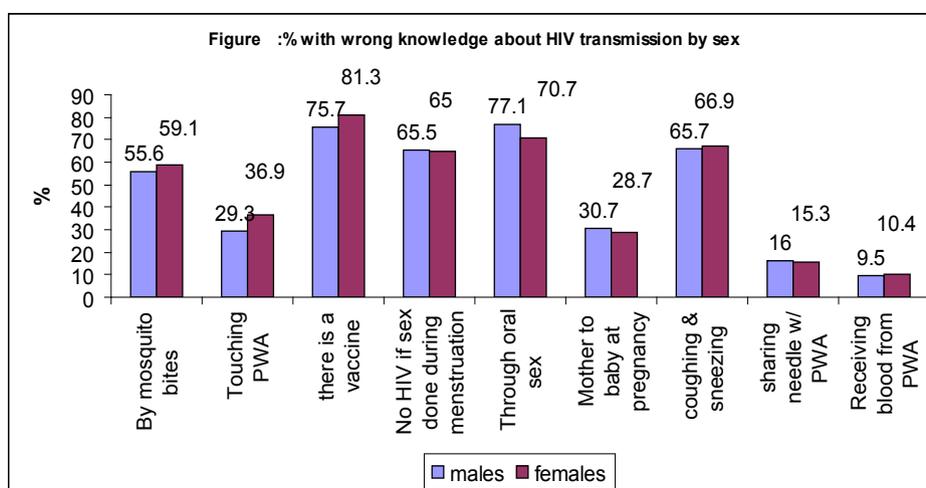
1. Sharing the same utensils used by an HIV-infected person, (20%)
2. There is a vaccine that can stop adults from getting HIV, (20%)
3. People who have been infected with HIV quickly show serious signs of being infected, (32%)
4. Coughing and sneezing do not spread HIV (31%)

However, there are still misconceptions among the respondents on how HIV is transmitted; 59% believed it can be transmitted thru mosquito bite, 70% thru oral sex and 76% believed that there is vaccine for HIV virus. It is to be noted that 65% among OSYs believed that HIV virus cannot be transmitted if the sex partner is having menstruation.

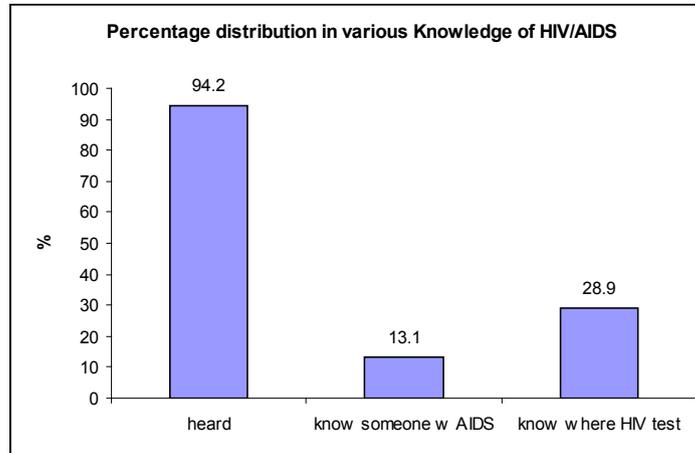
On the other hand, respondents have high levels of correct knowledge on the following:

1. Receiving blood from an HIV-infected person, (89%)
2. Sharing the same needle or syringe with an HIV-infected person, (84%)
3. Sexual intercourse without using condom, (83%)
4. From HIV-infected mother to her baby during pregnancy, delivery or through breast feeding, (69%)
5. Touching people infected with HIV, (66%).

f) Gender Differentials. There is not much variation between the level of knowledge by males and females in specific items related primarily to the transmission of the HIV virus. In general, knowledge is poor.

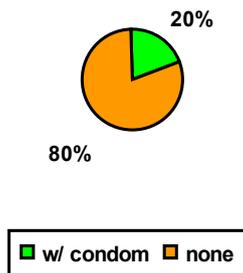


- g) Research data also revealed that those who are tested HIV positives are basically young (17 and 19 years old), singles, not working and are dependent on parents and relatives for their daily subsistence. They can come from the low educated group (Grade 6 as highest educational attainment) as well as from a respectable education level (first year college).



- h) There is a high percentage of unsafe sex practice among the respondents. Only 20% used condom during their last sex experience and 80% did not. Moreover, 87% do not use condom during sex and only 13% used condom during sex.

C o n d o m u s e l a s t s



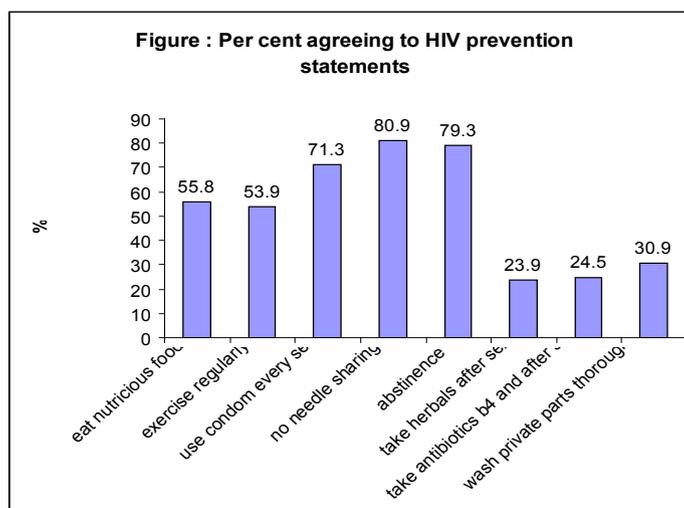
On use of condoms during sex:

- 18% used condoms during first sex encounter;
- 13% use condoms regularly;
- condoms are used to prevent pregnancy (76%) rather than to prevent STIs (18%).

Used of Condom during sex



- Respondents are unsure about the value of good nutrition, physical exercise, herbals, antibiotics and personal hygiene in the prevention of HIV/AIDS. Good health practice like eating nutritious food, cleanliness, value of medicines and herbs are seen as positive health matters but not as direct measures to prevent contracting HIV.



- j) On assessment of self-efficacy in dealing with situations related to relationship and sex, majority feel that they can express their own opinion, start conversation with strangers, ask for favor, etc. However, 42% expressed lack of confidence in suggesting and forcing the issue of safe sex (using condom) to partner;
- k) From a sea of poor knowledge, a few observations are encouraging for a subsequent campaign on HIV. It will be noted that for messages that have been carried by previous information campaigns, the level of knowledge is highest, e.g. that HIV virus can be contracted by receiving blood from a person with HIV, sharing needles with person with HIV and transmission in vivo – from mother to baby during pregnancy. Therefore, information campaign messages can actually be delivered, received and remembered

4.3 Analysis of State of Vulnerability

- 4.3.1 After a presentation of survey results and analysis, the HRVA team determined the vulnerability of OSYs to HIV/AIDS considering the following:
 - a. High incidence of substance use compared to national figure (smoking of cigarettes, dinking alcohol, and illegal drugs)
 - b. High incidence of involvement of OSY in risky behaviors (substance use and premarital sex)
 - c. High incidence of unstable relationships (live-ins, broken families, boyfriend/girlfriend relationships)
 - d. High involvement in unsafe sexual behavior
 - e. Low accurate knowledge on HIV/AIDS
 - f. Experience of HIV/AIDS testing
- 4.3.2 The HRVA Team and expert (Dr. Raymundo) reached the conclusion that, based on the data, OSYs are of high risk and vulnerable to HIV/AIDS. If there is one clear message from the findings of the study, it is that young out of school people of Pasay City have specific problems and needs related to their reproductive health and other related matters and that they require special attention.

LOCAL GOVERNMENT REFORM AGENDA FORMULATION

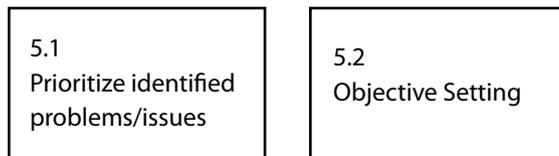
Local Government Reform Agenda (LGRA) is a statement of purpose and direction of planned activities and projected output based on the HRV Assessment encompassing economic upliftment, enhancement of social and general public services and preserving the environment with the objective of increasing the capacity of the community both tangible and intangible aspects.

LGRA defines the vision and goals for development of the city. It is the articulation of images, values, strategies, directions and goals that will serve as guide in disaster management and increase the city's capabilities and become a resilient community in the future.

Focusing on MDG 6, Pasay envisioned an "Aids-Free Community". Recommended interventions are discussed and validated by the current partners and stakeholders to ensure successful implementation of the interventions. The LGRA consists of LGU partnering with the business community and the families. The households-at risk and vulnerable families are treated not as beneficiaries but as partners in development. The LGRA includes the participation of the FBOs in achieving MDG 6 and the "AIDS-Free Community" vision.

For MDG 6, Education Vaccine is a primary solution. As more people are informed about the transmission and prevention HIV/AIDS, more lives will be saved. The LGRA on HIV/AIDS for Pasay City is the MEET @ Youth Program.

Phase 5: GENERATION OF SOLUTIONS (Objectives, Targets, Strategies)



This phase aims to identify effective interventions to improve OSY’s sexual and reproductive health. There is a need to be strategic in the identification which should look at the issues in wider planes but at the same time focused. An important framework here is knowing the behaviors of concern and their risk and protective factors or the structural factors that affect their sexual practices and the spread of STIs.

5.1 Prioritize identified problems/issues

5.1.1 Identify problems/issues/concerns based on the HRVA

5.1.2 Indicate the rank of each problem/issues identified

(HOW IS RANKING DONE? WHO RANKS? WHAT IS THE PROCESS OF COMING UP WITH A TEAM/GROUP RANKING?)

Ranking	Issues, Concerns, Problems
First	Out-Of-School is not an endpoint condition for young people rather is a dynamic one, i.e. young people can get in and out of the OSY state a few times in their lives. This is an important observation especially if they are being targeted as beneficiaries of a long-term program
Second	There are indications of instability of relationships among the OSYs themselves as gleaned from the high proportion who are in living-in arrangements and a low but perceptible percentage who are already separated at young ages.
Third	They are mostly dependent on other people for daily subsistence as most of them are unemployed and, if employed, they are doing odd jobs. Even the married youth are still living with their parents or relatives.
Fourth	Young people grow, learn and respond in various types of contexts, e.g. urban – rural, subdivisions vs slum areas, etc).
Fifth	They have low involvement in community programs and efforts as well as in training programs because initially because they do not know about existing programs.
Sixth	Their family or household situations depict a changing configuration of their home arrangements, typical in congested urban areas like Metro Manila.
Seventh	Creating a favorable environment for intervention (political, religious, environment). Considering the fact that 92% of Pasayenos are active church goers (CBMS data) would significantly affect the RH interventions in a predominantly Roman Catholic country.

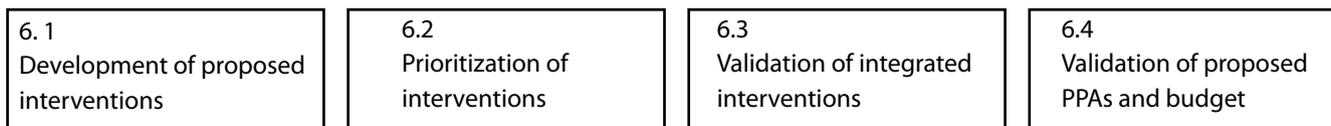
5.2 Objective Setting

- 5.2.1 Make a goal that addresses the overall problem situation and achieves the desired outcome
- 5.2.2 Make an objective which is a more specific statement that respond to specific problem situations
- 5.2.3 Make a target. It should be a very specific, measurable, attainable, realistic and time-bounded statement of a desired outcome
- 5.2.4 Make a policy/strategy that responds to the problem situation and achieve the stated sustainable goals, objectives and targets. It should also address the determinants of the problem.

Given the above factors, the framework for design and possible basis for reproductive health interventions is developed as follows:

Goals, Desired Results/ Outcome	Improved quality of sexual relationships for young people, both as young people today and also in their future life as adults
Objectives	<ol style="list-style-type: none"> 1. To reduce adverse consequences of sexual behavior 2. To improve overall health status 3. To encourage health-seeking behavior at an early age (Note: In identifying programs that will have high success rate, knowledge of what has worked in other areas is important.)
Target	70% OSY reached
Policy/Strategy	<ol style="list-style-type: none"> 1. Promotion of preventive rather than curative interventions 2. Introduce behavioral intervention that seeks to change the knowledge, skills and attitudes of the adolescents which will directly address the prevention of increasing HIV prevalence 3. Apply structural intervention which addresses broader societal issues that serve as either risk or protective factors of reproductive health – this will be towards decreasing vulnerability to the risk behaviors

PHASE 6: IDENTIFICATION OF PROGRAMS, PROJECTS AND ACTIVITIES FOR INTEGRATION WITH LGU DEVELOPMENT PLANS



This phase translates the identified interventions into programs, projects and activities that will be integrated into LGU development plans and budgets.

6.1 Development of proposed interventions based on issues raised and strategic approach

The HRVA team convened and made a thorough discussion on the proposed appropriate interventions based on the recommended strategic approaches. The team also identified the existing best practices that can be integrated in the HIV intervention programs. Through a focus discussion among the Faith-Based Organizations (FBOs), the following strategic approaches were emphasized:

	Issues Raised and Strategic Approaches	Proposed Integrated Program-based Intervention
1st	Genuine participation of the young people from planning to implementation	OSYs, SKs, PCAC, LGU roadmapping
2nd	Organizing groups of OSYs to begin the process of more involved planning and implementing a program that will benefit them.	Bayanihan Savings for the OSYs. Skills-based group formation integrated with the DepEd's Alternative Learning System (ALS)
3rd	Youth-to-youth peer education programmes and building networks among them and with existing programs and services	OSYs participation in the Annual Youth Congress/ Assembly. Regular meeting of OSY group officers.
4th	Training in interpersonal communication skills of youth service providers, including peer educators	Life skills training/seminar
5th	OSYs themselves are interested and willing to be involved in an effort against HIV/AIDS	OSYs as program/intervention implementers (facilitators, testimonials, trainers)
6th	Employ both community-based education approaches that will involve institutions currently serving the youth and clinic-based service delivery including counseling.	Mobilize existing institutions like BCPCs, churches, FBOs operating in the community to establish and strengthen programs for the OSYs

7th	The community is a critical arena for promoting ARH. Sensitizing communities about the information needs of adolescents, including initiatives aimed at parents, religious and political institutions, community leaders, schools, mass media and peer groups, a supportive environment for community-based IEC and advocacy programmes.	LGU partnership with the Network of FBOs thru the Disaster Intercession Network (DIN) shall be forged to mitigate the effects of external threats like AIDS in Pasay City.
8th	Internet and other multi-media can be used as an effective vehicle to inform and build support for adolescent sexual and reproductive health programmes	LGU partnership with relevant IT stakeholders for HIV/AIDS website development and internet shops as education facilities.
9th	Community-based programs should provide information and training to adolescents on personal hygiene, gender relations, understanding and managing sexual relationships, empowerment skills, safe sex, and preventing STIs, RTIs and HIV/AIDS.	Life Skills to be downloaded weekly in the OSY-Bayanihan groups, associations.
10th	Feedback session with the OSYs for validation of results and consultation in making more specific aspects of an action program is needed.	FGD for designing the DIN on HIV/AIDS IEC material.

6.2 Prioritization and ranking of integrated programs/projects-based interventions.

From the abovementioned recommended strategic approaches, programs and projects are identified and prioritized based on the following criteria:

- 6.2.1 Urgency/seriousness of the problem being addressed
- 6.2.2 Impact to the target male and female beneficiaries (gender responsiveness, acceptability to the community)
- 6.2.3 Feasibility of the program/project (cost effectiveness, environment friendliness, sustainability,)

(WHO DOES THE RANKING? WHAT IS THE PROCESS OF PRIORITIZING?)

Program 1	Behavioral intervention to change the KAS of young people towards HIV/AIDS prevention
Project 1	Formation of Skills-based OSY Bayanihan Savings Groups
Project 2	Trainers Training for Facilitators on Life Skills
Project 3	Life Skills sessions for OSYs thru Bayanihan Savings or ALS
Program 2	Structural intervention to address societal issues towards decreasing vulnerability to risk behaviors
Project 1	Clinic-based service delivery
Project 2	FBO-initiated Education Campaign through the DIN
Project 3	Mobilization of FBOs on implementing MEET @ Youth in Pasay City
Project 4	Integration of Family MDG and OSY projects

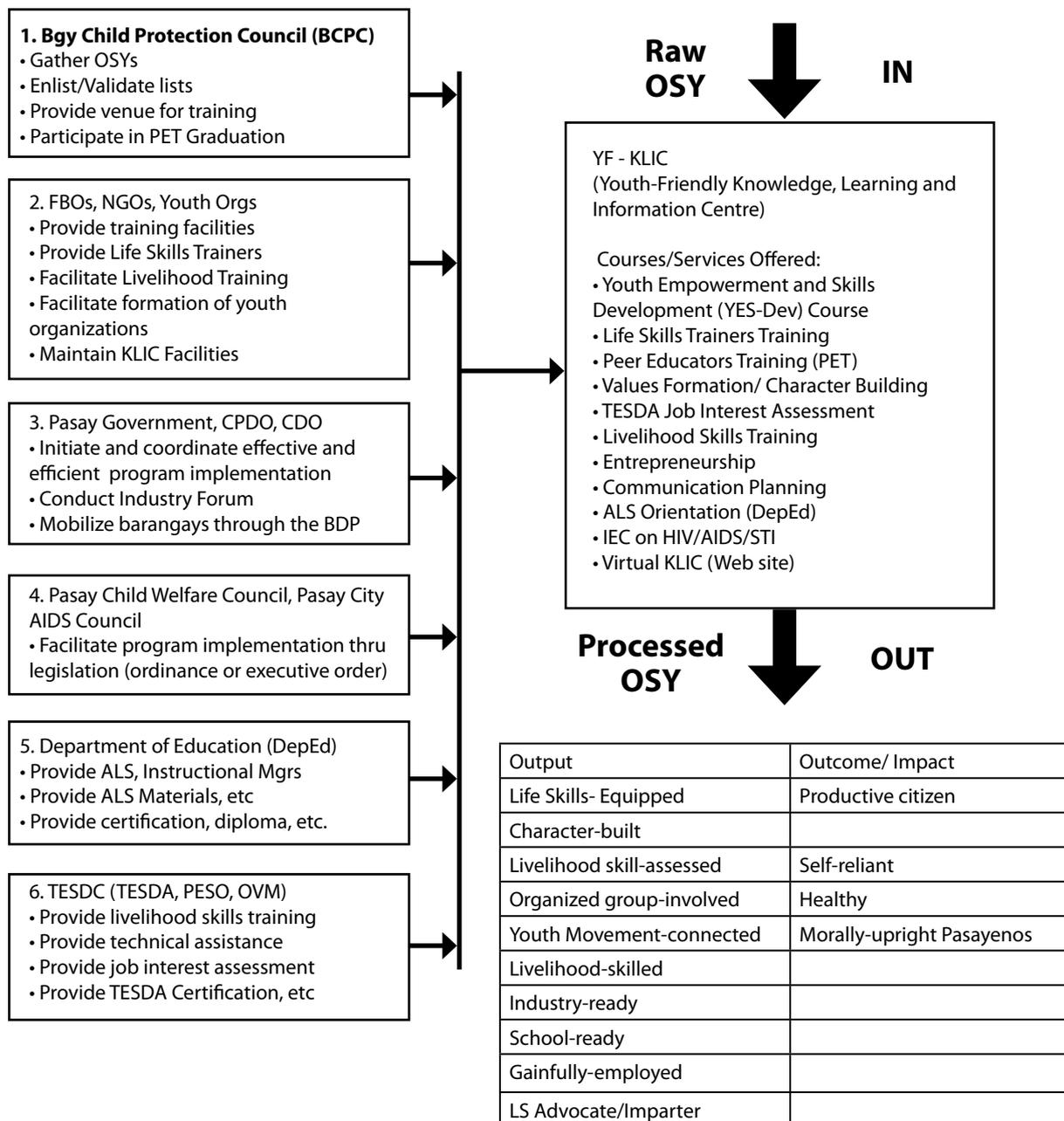
6. 3 Presentation of the Integrated Behavioral and Structural Intervention Program

The integrated behavioral and structural intervention program is presented to _____.

(WHAT IS THE PURPOSE OF THE PRESENTATION?)

Program Title	Mitigating the effects of External Threats on the Youth in Pasay (MEET @ YOUTH)
Objective	Establish youth-friendly functional Knowledge, Learning and Information Centers (KLIC) and/or community-based life skills training networks
Target OSYs for 2007	7,000 in at least 50 barangays
Project Management Team (PMAT)	One Team Leader, One Technical Assistant, 3 Field Supervisors

KNOWLEDGE, LEARNING AND INFORMATION CENTER (KLIC) FRAMEWORK



6.4 Presentation of PPAs and Budget

6.4.1 Behavioral interventions to change the KSA of young people towards HIV/AIDS prevention

PPAs	Description	Cost (PhP)	Fund Source
OSYs, SKs, PCAC, LGU roadmapping	Participatory formulation of the strategic workplan for the OSYs	0.05M	AIP
Formation of Skills-based OSY Bayanihan Savings Groups	Bayanihan Savings for the OSYs . Skills-based group formation integrated with the DepEd's . Alternative Learning System(ALS)	1.0	AIP
Trainers Training for Facilitators on Life Skills	Equipping of peer educators, facilitators, ALS instructional managers, etc	0.5	AIP
Life Skills sessions for OSYs thru Bayanihan Savings or ALS	Life Skills to be downloaded weekly in the OSY-Bayanihan groups, associations.	0.2	AIP
OSYs participation in the Annual Youth Congress/Assembly. Regular meeting of OSY group officers.	OSYs as program/intervention implementers (facilitators, testimonials, trainors)	0.1	AIP

6.4.2 Structural interventions to address societal issues towards decreasing vulnerability to risk behaviors

PPAs	Description	Cost (PhP)	Fund Source
Clinic-based service delivery	Voluntary counseling and testing at the hygiene clinic	0.5M	CHO
LGU partnership with the Network of FBOs thru the Disaster Intercession Network (DIN) shall be forged to mitigate the effects of external threats like AIDS in Pasay City.	Mobilize existing institutions like BCPCs, churches, FBOs operating in the community to establish and strengthen programs for the OSYs. Conduct FGD for designing the DIN on HIV/AIDS IEC material.	0.5	CDO-AIP
FBO-initiated Education Campaign through the DIN	Publication and dissemination of FBO-initiated Bayan ko Mahal ko Intercession Bulletin and Disaster Management Plan for the churches, faith-based NGOs, schools and government offices.	0.2	CDO-AIP
LGU partnership with relevant IT stakeholders and/or churches for HIV/AIDS website development and internet shops as education/training facilities.	Information access by OSYs on STI, HIV/AIDS prevention, Life Skills techniques. Training venues for OSYs equipping programs.	0.1	AIP
Solution Providers' Regular Forum including PCAC	Information exchange facilities for LGU programs and linkage with the business sector's corporate social responsibility	0.2	CDO-AIP
Regular coaching and monitoring of stakeholders, facilitators, peer educators, etc.	Monitoring and Evaluation of current operation. Updating of project's operational flow.	0.1	CDO-AIP
	Total	1.6M	

PHASE 7: VALIDATION WITH STAKEHOLDERS

7.1

Consultation meetings among the stakeholders

- FGD among OSYs (male/female)
- FGD among relevant government line agencies, PCAC members, NGOs, private organizations, etc

7.2

Presentation of plans

7.3

Acceptance of recommendations by the stakeholders

This phase operationalizes participatory planning and aims to promote acceptance of the proposed programs and projects for the OSYs and establish ownership of the plan by the stakeholders.

7.1 Consultation Meetings or FGDs among the stakeholders

- 7.1.1 FGD for the behavioral intervention to change the KSA of young people towards HIV/AIDS prevention was done among the non-married male and female OSYs and OSYs living in with partners and already had children was held. The 40 attendees supported the proposed intervention of conducting life skills seminars for the OSYs that would include Alternative Learning System (ALS) and Livelihood Training.
- 7.1.2 FGD for structural intervention to address societal issues towards decreasing vulnerability to risk behaviors of young people was done among the FBOs, relevant government line agencies, NGOs, and private organizations. It discussed the formation of the Disaster Intercession Network (DIN) and the participation of the FBOs in mitigating the effects of external threats including HIV/AIDS prevention in Pasay City.

7.2 Presentation of the project to the network of FBOs

The proposed program/projects were presented in a consultation meeting of the network of FBOs under the IFP for potential nationwide replication. More than 200 FBO participants participated. Various social projects and programs were presented including the OSY project.

The presentation covered the following:

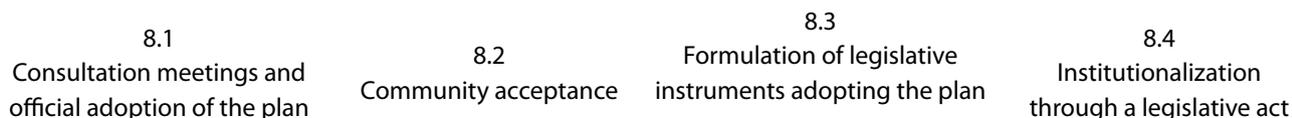
- The recent study on OSY's risky behaviors
- Responses of different sectors
- Integrated programs/projects proposed
- Definition of roles and responsibilities
- Mechanism for coordination of plan activities and implementers
- Defining implementation structures
- Plan monitoring and evaluation systems

The participants affirmed their willingness to get involved by mobilizing their respective faith-based organizations to apply the interventions within their organizations or among their members and also to the communities where they were planted.

7.3 Acceptance of recommendations by the stakeholders

- 7.3.1 The recommended integrated program-based intervention was presented to the relevant stakeholders and potential resource or service Providers. It was a consultation meeting among the leaders of the FBOs called CASAPAS. The FBOs affirmed their acceptance and willingness to participate in the recommended intervention for the OSYs. Other FBOs who were not prepared to join and participate in the intervention also expressed their support.
- 7.3.2 The final presentation of the intervention shall be with the Mayor, Vice Mayor, City Councilors, and relevant line agencies for budget allocation and approval for pilot implementation.

PHASE 8: LEGITIMIZATION



Plan legitimization involves the participation of all male and female stakeholders through a series of consultation meetings towards achieving wider acceptance and official adoption of the plan.

8.1 Consultation meetings and official adoption of the plan

- 8.1.1 Consultation Meetings or FGDs among the stakeholders resulted in wider acceptance of the proposed programs and projects for the OSYs.
- 8.1.2 The proposed resolution was formulated by the project management group based on the consultation meetings. The draft resolution shall be presented to the Mayor and other critical stakeholders.

8.2 The Draft of the Board Resolution

REPUBLIC OF THE PHILIPPINES
SANGGUNIANG PANLUNGSOD
PASAY CITY, METRO MANILA

SANGGUNIANG PANGLUNSOD RESOLUTION NO. _____

A RESOLUTION ON THE RECOGNITION AND IMPLEMENTATION OF THE PROGRAM CALLED MITIGATING THE EFFECTS OF EXTERNAL THREATS TO THE MILLENNIUM DEVELOPMENT GOALS USING HAZARD, RISK AND VULNERABILITY ASSESSMENT (HRVA) FOCUSING ON COMBATING STI/HIV/AIDS AMONG YOUNG PEOPLE

WHEREAS, Pasay City as the land, air and sea transport terminals in the country and the gateway of trade, tourism and technology, attract thousands of visitors from countries including those with high incidence of HIV/AIDS. Thus, while the city attracts potential investors and tourists who could enhance the city's image, it also becomes doubly vulnerable to the outbreaks of HIV/AIDS and other sexually transmitted diseases and infections (STDs/STIs). Study shows that significant number of adolescent that are engaged in risky behaviors are now infected with the dreaded disease.

WHEREAS, HIV/AIDS is increasingly a problem of the young. Yet young people are also the greatest hope for stopping the epidemic, partly because they also are more likely than adults to adopt and maintain safe behaviors. Whenever the spread of HIV/AIDS has slowed or even declined, it is primarily because young men and women have been given knowledge, tools and the incentives to protect themselves against infection.

WHEREAS, the city, given the responsibility to provide services to its constituents under limited resources, must also find ways to create enabling environment that will allow development to take place as well as halting the spread of HIV/AIDS.

WHEREAS, in year 2006, UNDP, UN-habitat, UNESCAP, UNICEF, the Intercessors for the Philippines (IFP), Faith-based Organizations (FBOs) and the City government collaborated to develop a program aimed at mitigating the effects of external threats to the millennium development goals using Hazard, Risk and Vulnerability Assessment (HRVA) focusing on combating STI/HIV/AIDS among young people.

Whereas, The abovementioned program is now called: THE PASAY AIDS-FREE COMMUNITY (PAFC) PLAN ALSO KNOWN AS "BAYANIHAN-True Love Waits PROGRAM (Bayanihan-TLW)" and also entitled "Mitigating the Effects of External Threats among the Youth" (MEET@Youth). This behavioral and structural interventions are for the Young People In Pasay both Out-Of-School (OSY) and In-School-Youth (ISY).

NOW, THEREFORE, for and in consideration of the foregoing premises, guided by the Philippine AIDS Law, **RA 8504** – otherwise known as the Philippine AIDS Prevention and Control Act of 1988, which clearly establishes the role of the national and local government in HIV/AIDS prevention activities) and Local AIDS Law, **PASAY CITY ORDINANCE 2341** – also known as PASAY AIDS PREVENTION AND CONTROL ORDINANCE OF 2002, hereby enjoined all relevant stakeholders to implement the AIDS- Free Community Plan (AFC) of Pasay City, as follows:

Section 1: GENERAL PROJECT OVERVIEW - The Pasay AIDS-Free Community (PAFC) Plan also known as “Bayanihan-TLWs Program” is an attempt to implement the partnership output of UNDP/UN-Habitat, Pasay City Government, Intercessors of the Philippines (IFP) and the Faith-Based Organizations (FBOs) in regards to Mitigating the Effects of External Threats to the Millennium Development Goals (MEET the MDGs) in Pasay City focusing on MDG 6, Combat HIV/AIDS, Malaria and other Infectious Diseases.

Section 2: Objectives - The intervention plan is divided into behavioral and structural interventions which firstly seeks to change the knowledge, skills and attitudes of the adolescents that directly addresses the prevention of increasing HIV prevalence. The latter aims to address the broader societal issues that serve as either risk or protective factors of reproductive health towards decreasing vulnerability to the risk behaviors. This includes the integration of existing best practices to maximize limited LGU resources and provide strong framework for more sustained operation.

Section 3: PROCEDURAL GUIDELINES – The following step by step procedures shall be cautiously implemented to achieve the desired objectives.

Step 1: The creation of the Hazard, Risk and Vulnerability Assessment (HRVA) Team composed of (1) MDG Focal Person designated by the city mayor, (1) representative from the City Planning and Development Office (CPDO), (1) representative from Private Organizations, (1) representative from the FaithoBased Organizations (FBOs), that would facilitate the gathering of relevant information, as well as validation, analysis, assessment of the abovementioned data gathered.

Step 2: The HRVA Team facilitates the deliberation, discussion of relevant issues including intervention design and integration of best practices and recommendation of appropriate project that addresses the major concerns regarding MDG 6.

Step 3. The creation of the Project Management Group (PMG) composed of (2) representatives of the HRVA Team, (2) representatives of the FBOs, (2) representatives of the Youth Organizations, (1) representative of the community organization that would provide overall direction and monitor the project implementation. The PMG is the body responsible for planning, implementing and evaluating all the phases of the project implementation in the locality.

Step 4. The PMG facilitates the conduct of Community-based trainers' training on Life Skills Program to equip the Potential Life Skills Trainers (LSTs) or project promoters coming from the Faith-Based Organizations (FBOs) in mobilizing the community and developing appropriate Information, Education and Communication (IEC) materials and training modules.

Step 5. The PMG facilitates the establishment of church-based and/or community-based life skills training networks that create supportive environment to enhance positive youth health behavior development. These networks hold regular life skills training for trainers (LSTs) and peer educators (PEs) as well as livelihood skills and Alternative Learning System (ALS) for the OSYs in their own facilities and/or sponsored facilities..

Step 6. The PMG holds regular celebration for PET graduates (monthly) to be held at the church-based and/or community-based network facilities. The graduation celebration should be initiated by the networks.

Step 7. The PMG accredits and mobilizes the LSTs to conduct Peer Educators Training (PET) regularly to equip the young people (out-of school or in-school) as peer educators. The peer educators are encouraged to reach out or touch the lives of other young people by conducting group dynamic activities on life skills. The peer educators will also encourage the reached-young people to attend a peer educators training for continuous capacity building on life skills.

Step 8. To monitor and evaluate this behavioral intervention, the PMG holds a regular coaching and monitoring among the LSTs. The LSTs submit the necessary documents on their regular training activities like personal information sheet of each PET participant, PET attendance, Life Skills' pre and post assessment sheets filled up by each participant, Activity report by the LSTs.

Step 9. The PMG analyses feedback from peer educators and resource persons within the community to identify specific needs of young people and present report with recommendations for policy intervention to support positive youth health behavior.

Step 10. For structural intervention, the PMG conducts the Integrated Bayanihan Banking –Life Skills Program (IBLS) to equip the LSTs and Selected Peer Educators on savings group formation. The PMG and LSTs initiate the formation of OSYs and/or peer educators' savings groups or "interest" groups. A young people, particularly OSY should actively involve in an organization (formal or informal) to survive.

Step 11. The PMG in partnership with the Cooperative Development Office (CDO) accredits and mobilizes equipped LSTs and peer educators to form OSY savings groups. All members of the savings groups formed select among themselves their own officers and meet within an hour on a weekly basis for savings and values formation.



Step 12. The PMG initiates the monthly or weekly meetings of the IBLS coordinators/ organizers for regular coaching and monitoring. This meeting ensures the integration of best practices like ALS, skills inventory, and job facilitation in the program.

Step 13. On the 3rd month of the 6 months gestation period, each OSY savings group shall be assessed for preparedness in the Alternative Learning System (ALS) and livelihood skills formation program in partnership with DepEd, TESDA, training school-partners and other business establishment-partners.

Step 14. PMG facilitates the entry of OSYs into the equipping stage that would result to acquiring knowledge, skills, talents, attitudes and possible employment evidenced by TESDA certificate, diploma and additional income. Each pax is expected to become a member of a manpower cooperative recognized by the city government.

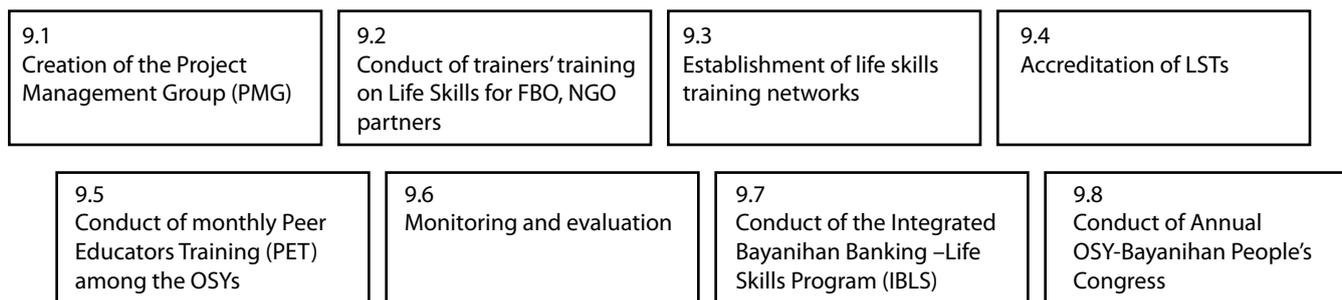
Step 15. PMG facilitates the conduct of an Annual OSY-Bayanihan People's Congress. An assembly of all project stakeholders, including all members of all existing and active IBLS savings groups in the locality. OSY savers are encouraged to invite members of their respective households and their neighbors with the objective of exposing them to the benefits of the program. The congress is also conducted to boost morale and among savers and to encourage them through testimonies from successful IBLS saving groups.

Step 16. To further strengthen and empower the IBLS Savings Group, they may consolidate by either forming their own cooperative or joining existing cooperatives as associate and/or regular members

Section 4: EFFECTIVITY – This Resolution shall take effect immediately.

Done this _____ day of _____, 2006 in the City of Pasay.

City Councilors Signatures

PHASE 9: IMPLEMENTATION

This phase defines the implementation structure and lays down the detailed processes and activities to implement the program.

- 9.1 Creation of the Project Management Group (PMG) composed of (2) representatives of the HRVA Team, (2) representatives of the FBOs, (2) representatives of the Youth Organizations, (1) representative of the community organization that would provide overall direction and monitor the project implementation. The PMG is the body responsible for planning, implementing and evaluating all the phases of the project implementation in the locality.
- 9.2 PMG facilitates the conduct of community-based trainers' training on Life Skills to equip the potential Life Skills Trainers (LSTs) or project promoters coming from the FBOs in mobilizing the community and developing appropriate IEC materials and training modules.
- 9.3 PMG facilitates the establishment of church-based and/or community-based life skills training networks that create supportive environment to enhance positive youth health behavior development. These networks hold regular life skills training for trainers (LSTs) and peer educators as well as livelihood skills and Alternative Learning System (ALS) for the OSYs in their own facilities and/or sponsored facilities..
- 9.4 PMG accredits and mobilizes the LSTs to conduct PET regularly to equip the young people (out-of school or in-school) as peer educators. The peer educators are encouraged to reach out or touch the lives of other young people by conducting group dynamic activities on life skills. The peer educators will also encourage the reached-young people to attend a peer educators training for continuous capacity building on life skills.
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- 9.6 To monitor and evaluate this behavioral intervention, the PMG holds a regular coaching and monitoring among the LSTs. The LSTs submit the necessary documents on their regular training activities like personal information sheet of each PET participant, PET attendance, Life Skills' pre and post assessment sheets filled

up by each participant, Activity report by the LSTs. The PMG analyses feedback from peer educators and resource persons within the community to identify specific needs of young people and present report with recommendations for policy intervention to support positive youth health behavior.

- 9.7 For structural intervention, the PMG conducts the Integrated Bayanihan Banking –Life Skills Program (IBLS) to equip the LSTs and Selected Peer Educators on savings group formation. The PMG and LSTs initiate the formation of OSYs and/or peer educators’ savings groups or “interest” groups. A young people, particularly OSY should actively involve in an organization (formal or informal) to survive. The PMG, in partnership with the Cooperative Development Office (CDO), accredits and mobilizes equipped LSTs and peer educators to form OSY savings groups. All members of the savings groups formed select among themselves their own officers and meet within an hour on a weekly basis for savings and values formation.
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PHASE 10: MONITORING AND EVALUATION

Monitoring focuses on operations and asks: How is the project running? It is conducted continuously from start of implementation. It documents the project's progress during its implantation. The project monitor is actively concerned with the conduct as well as the outcome of the project.

Evaluation focuses on project effects and asks: What difference did the project make? Impact evaluation is done after a project, or after a certain stage of it, has completed. The project evaluator has no involvement with the day-to-day operations of the project and maintain a detached and impartial view of the project.

(ANY MONITORING TOOLS TO BE USED?)



REFERENCES:

1. Status and Trends of HIV/AIDS in the Philippines: The 2002 Technical Report of the National HIV/AIDS Sentinel Surveillance System. USAID, DOH, WHO, 2002.
2. Survey Result on Strengthening Life Skills for Positive Health Behaviour.
3. What Religious Leaders Can Do About HIV/AIDS: Action for Children and Young People. The United Nations Children's Fund (UNICEF), New York, 2004.

MANUAL DEVELOPMENT TEAM:

1. Rolando A. Londonio
2. Rowena L. Tabuso
3. Maria Alvarado
4. Joselyn Carasig

DEFINITION OF TERMS

AIDS – Acquired Immune Deficiency Syndrome. Human viral disease that ravages the immune system, undermining the body’s ability to defend itself from infection and disease. AIDS leaves an infected person vulnerable to opportunistic infections. Such infections are harmless in healthy people, but in those whose immune systems have been greatly weakened, they can prove fatal. There is no cure for AIDS.

BARANGAY – Smallest political unit in the Philippine government system composed of contiguous households and headed by a Barangay Captain.

BEHAVIORAL SENTINEL SURVEILLANCE – Behavioral Sentinel Surveillance was introduced in 1997 to monitor trends in knowledge and behaviors of the vulnerable groups. Core behavioral indicators for high-risk behavior include: knowledge of three correct ways to prevent HIV transmission; median number of sex partners per week (per month for MSM); consistent condom use; use of condom with regular or non-regular partner; and health-seeking behavior.

FAITH-BASED ORGANIZATION – Groups, non-government organizations, associations, clubs, etc. that by nature were organized due to affiliation to same faith or religious belief and are holding their religious rites, community works and involvement in certain places.

FREELANCE FEMALE SEX WORKERS – Women who do not work in an establishment but exchanged sex favors for money.

HEALTH RISK BEHAVIORS - Risky or problem behaviors that have health consequences. These behaviors include substance abuse such as smoking, alcohol drinking and drug use. Another risky behavior is engaging in pre-marital sex.

HIGH RISK GROUP – A group of people who has higher chances of getting HIV/AIDS due to the nature

of their work, sexual behavior and involvement on risky behavior such as injected drug use.

HIV SEROLOGIC SURVEILLANCE – A methodology started in 1993 to provide periodic estimates and monitor the prevalence of HIV infection among vulnerable groups in sentinel sites. It entails the collection of blood samples from individuals belonging to the following high risk groups: registered female sex workers, freelance sex workers, men having sex with men and injecting drug users.

HIV - Human Immunodeficiency Virus is the virus that causes AIDS.

INJECTING DRUG USER – A man or woman who uses injectible drugs for recreational purposes

LIFE SKILLS TRAINING - Activities designed to equip the youth with knowledge, skills and right attitudes towards positive health behavior and in dealing with risks that face adolescents.

MEN HAVING SEX WITH MEN – Men who have sex with other men for pleasure and/or money regardless of sexual orientation.

OUT-OF-SCHOOL YOUTH – Men and women ages 16-24 who are not attending school.

OVERSEAS FILIPINO WORKER – Filipino men and women who are working or have working contracts in another country.

REGISTERED FEMALE SEX WORKER – Women who are permitted to work in entertainment establishments and who exchange sex for money.

SENTINEL SITES – Locations where high-risk groups of HIV/AIDS are found.

VULNERABLE GROUPS – People at risk in acquiring HIV/AIDS.

YOUTH – Men and women aged 16-24 years old.

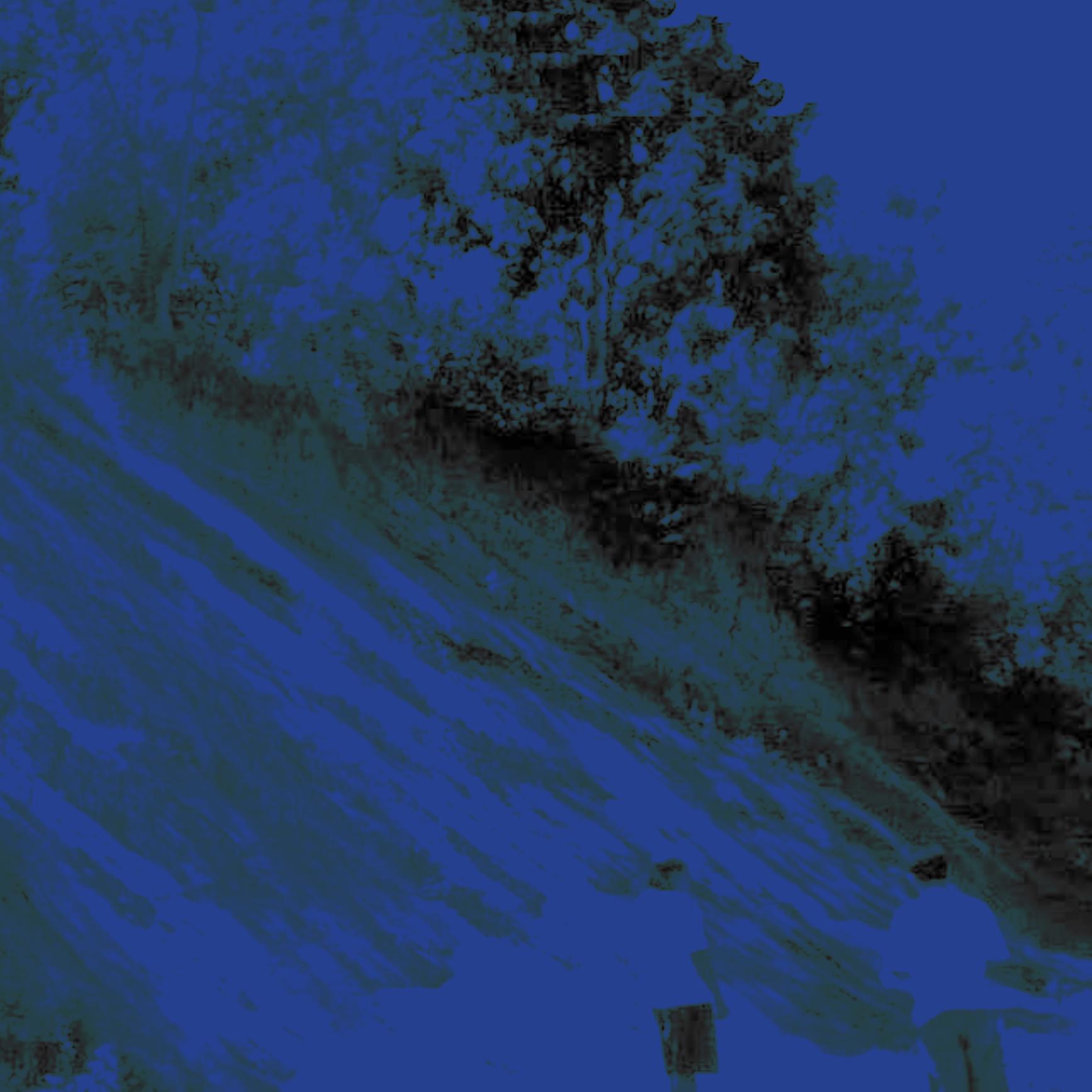




MDG 7: Environment

MEET @ Environment

Mitigating the Effects of External Threats
to the Environment
in Iligan City



ACKNOWLEDGMENTS

The growing population each year strains the capacity of local and national governments to provide the most basic services to both urban and rural dwellers. Accompanying the growing population is the increasing demand for land and natural resources. Thus, the situation creates competition and conflicts.

Everyday, natural resources are becoming scarce. Land values increasingly go higher making it difficult for low-income earners to own land. Hence, indigenous structures sprout on coastal and river easements. They are most vulnerable to disasters as history in Iligan shows. Yet lessons seem to have not been learned. Everybody is so busy in daily survival.

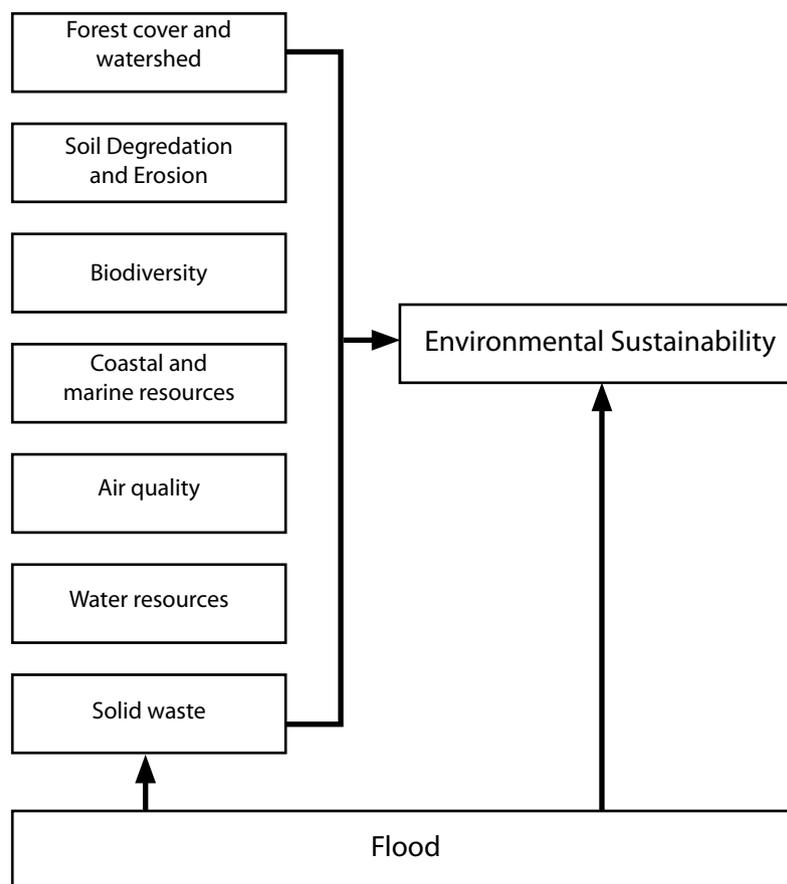
The initiatives by UN-Habitat through the MEET the MDGs project is significant to LGUs like Iligan. This project awakens the minds of the vulnerable communities making them realize that they too have their share of responsibilities in disaster mitigation.

The Hazards-based Risk Vulnerability Assessment Guidebook represents an important contribution towards a disaster-free community.

OVERALL DISASTER MITIGATION FRAMEWORK

MDG 7: Ensure environmental sustainability

Target 10: Implement national strategies to reverse the loss of environmental resources



OVERALL HRVA FRAMEWORK/CONCEPT MAP

Hazards-based Risk Vulnerability Assessment on MDG 7 is premised on specific thrusts that ensure environmental sustainability and promote the successful incorporation of local leadership and community participation into the overall management of the city's disaster. The following steps were undertaken:

1. Organization and Institutionalization of the HRVA working committee
2. Gathering of secondary data available from the CPDO and barangay development plans.
3. Hazards Identification.
4. Identification of community that may be affected by hazards.
5. Community preparation/ orientation. An overview on disaster management and HRVA
6. Conduct of risk and vulnerability assessment - identifying the hazards, risks and vulnerabilities and determining the possible effects to the community, activity and to the environment.
7. Recommendations. Identify measures to undertake to reduce/eliminates vulnerability, and the actions needed minimize the impact of disastrous events. This would serve as inputs in the formulation of prevention, mitigation, and preparedness planning

MDG- DISASTER MANAGEMENT/ HRVA FRAMEWORK

I. Overview

A.1 Iligan City

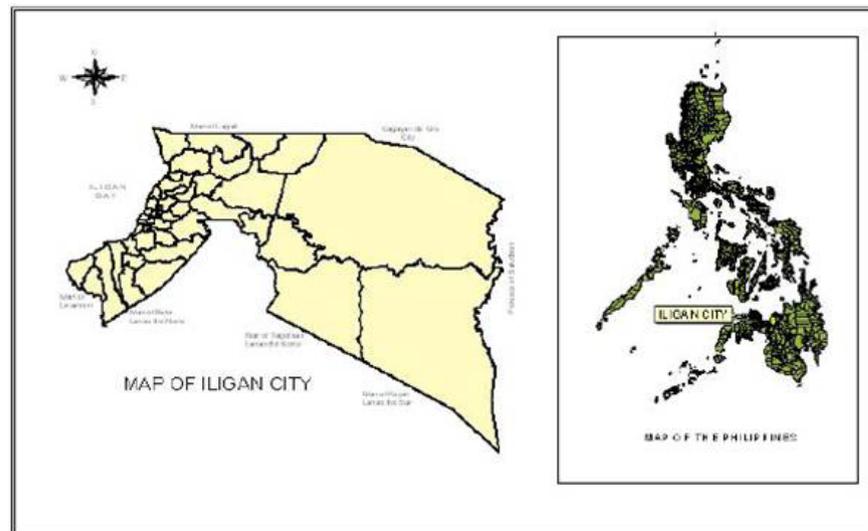
Iligan City is located in the central coastline of Mindanao island. It is lying at 8°13'56" north latitude and 124°13'54" east longitude. It is bounded on the north by the province of Misamis Oriental, on the south by the province of Lanao del Norte, on the east by the provinces of Bukidnon and Lanao del Sur (see Figure 1). Although it is politically independent from the province of Lanao del Norte, socio-economic and political relationships are still maintained. The city is the main entry of the provinces of Lanao del Norte, Lanao del Sur and the municipalities of the south-western part of Misamis Oriental. Iligan City has a total land area of 81,337 hectares and is politically subdivided into 44 barangays.

From being merely a small district in the Department of Mindanao and Sulu in 1903, it grew into a municipality in the ten unified province of Lanao. It became a chartered city on June 16, 2006 by virtue of Republic Act 525 signed by the late President Elpidio Quirino.

Based on NSO survey in year 2000, the city's population is 285,061. With an average annual population growth rate of 0.93, its projected population in 2006 is 301,342 with 149,731 males and 151,611 females.

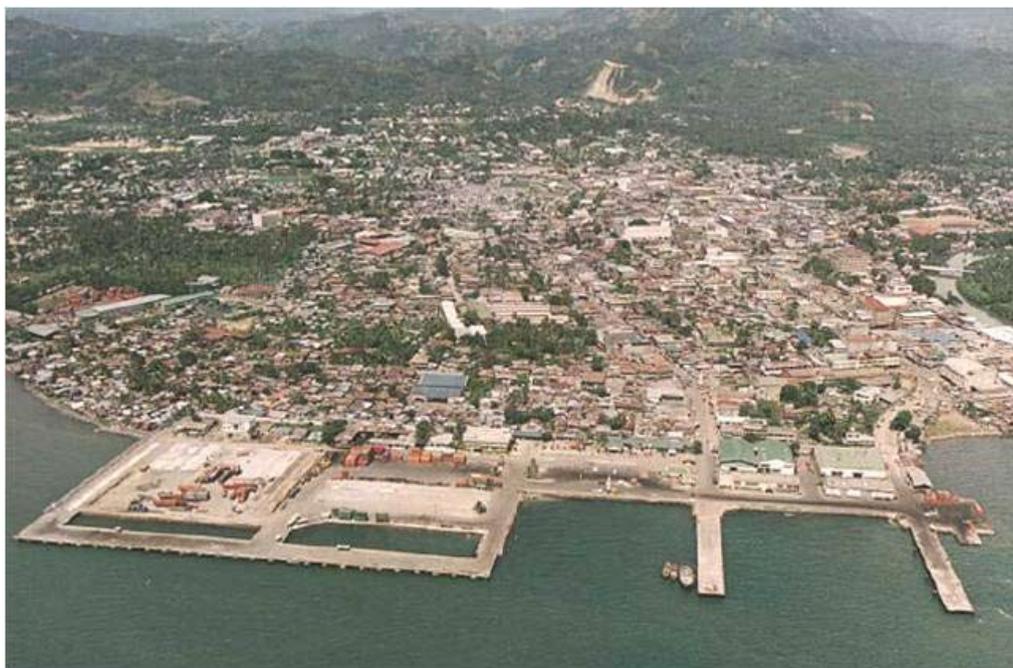
Iligan is a highly urbanized city. It is a major component of the Cagayan-Iligan Industrial Corridor, the fastest growing regional growth center in Mindanao and one of the priority investment areas in the Philippines. Aside from the presence of large scale industries, Iligan City is also a home of major hydro-electric power plants in Mindanao. Pictures below (mostly taken-up by Bobby Timonera) show some of these industries.

Iligan City is also blessed with abundant natural resources as well as favorable climatic and geographical condition. It is known as the “city of water falls” because of several water falls located within its area of jurisdiction.



The city’s vision:

“To become a beautiful, prosperous and dynamic city where culturally diverse, empowered people are working in harmony to achieve balanced, sustainable growth, attuned to globalization.”



A.2 The MDGs and the LGU's focus

Iligan city enrolled in the MEET the MDGs Project focusing on Millennium Development Goal number 7 which is to Ensure Environmental Sustainability. This focus considers that Iligan is endowed with abundant natural resources which are now at a stage of depletion if government policies will not be strictly enforced.

A.3 Disaster Management and HRVA

Through a participatory process, flood was identified as the major hazard that had brought in disasters to certain areas of the city. Forty (40) puroks out 73 puroks in the three (3) identified barangays of Iligan City whose lives and properties are at risk. With the City Disaster Coordinating Council (CDCC) in place, the HRVA is on time for its disaster and management planning.

(How done?)

VULNERABILITY ANALYSIS

Hazard Analysis

FLOOD – It usually happens when an area of land, usually low-lying, is covered with water. The worst floods generally occur when rivers overflow their banks. Flood from the sea may be caused by a heavy storm (storm surge), a high tide, a tsunami, or a combination thereof. In Iligan City, the common type of flood that affects the identified community is the overflowing of run-off waters from the river channels.

DAMAGING CHARACTERISTICS

- It hampers economic activities
- It damages properties and loss of live
- It destroys infrastructure facilities (roads, bridges, communication, water pipelines, electricity, drainage system, etc.)
- It alters landforms, waterways

FOREWARNING

- Continuous raining for 3-5 days
- Overflow of run-off water from the river banks

SPEED OF IMPACT

- Gradual. It usually happens 2-3 days of continuous heavy rainfall
- Flood water rises 2-5hours

IMPACT DURATION

- Flood subsides in a span of (2) to three (3) three days. However, its impact on properties usually last for months or even years before it could recover.

CAUSES

- **Forest denudation**
Forest from the very core of the watershed is fragile, yet over-exploited ecosystem. For instance, Iligan's classified forestland cover has been reduced by about 27,000 hectares in a span of 11 years (1984-1995), or an average of 2,500 hectares a year. Absence of trees will incapacitate the soil to absorb large volume of water when heavy rains strike that usually results into flooding.
- **River Siltation**
Siltation in the Iligan River is mainly due to soil erosion from the high land areas and scouring along its banks.
- **Improper Disposal of Solid Wastes**
The presence of residential/commercial structures near the river and the laxity in the enforcement of environmental policies are contributory factors in mismanagement of household/commercial wastes disposal.
- **Sand & Gravel Quarrying**
Illegal, uncontrolled and unmonitored sand and gravel quarrying change the physical characteristics of the river. There are islets formed at the center of the river. Likewise, the depth of the river varies from one portion to the other.

HISTORY

Based on the stories of the elderly inhabitants of this community, Iligan River unpredictably dislodged its rampaging waters to cause widespread destruction and damage to properties and even lives in 1952. This happened again in November 1972, when flood was of equal magnitude as that of 1952. Many houses were swept away. Commercial and institutional buildings were destroyed due to strong current of water.

On January 28, 1983, flood control was established but sometime in November of the same year, Iligan River overflowed entering West Mahayahay through the Lagnasan Creek. The water current was not so strong compared to that of 1972 but many appliances, furniture, and livelihood projects were damaged.

At present, houses along the river banks continues to grow in number except in Barangay Ubaldo Laya where houses along the river banks were demolished (the barangay strictly prohibits construction of structures along river easement).

PREDICTABILITY

The predictability for an occurrence of flood is high and it happens in the months of August to December. Continuous heavy rains especially during high tides would result to flooding. Flood control projects have already been started. However, it was stopped due to problems on right-of-way in Purok Sta Lucia in Barangay Mahayahay,. When a river overflows, water enters the unfinished portion of the project resulting in flooding.

PROBABILITY

Structures will continue to rise parallel with the increase in population along flood-prone areas if environmental policies, zoning ordinance, and the building code will not be strictly implemented. Probability of flooding to occur in the area is high if this would not be taken care of seriously.

CONTROLABILITY

Flood control projects have been partially established along Iligan River banks to control flooding. In Barangay Ubaldo Laya, the barangay officials strictly prohibit inhabitants to live near river banks. In fact, a household head was put to jail for violating this policy. Residents of the other barangays used to evacuate to a higher level area when the water level rose. These residential structures (which are mostly owned by squatters) would probably be demolished with the realization of the City Shelter Plan that focuses the relocation of the informal settlers.

GROWTH

Considering the unfinished flood control projects and the increasing number of residential structures in flood-prone areas, flooding will remain to be a hazard in the community affecting greater number of population. The barangays and the city government as well will be greatly affected in terms of financial matters to address problems (social, infrastructure, environmental) of the affected community

COMMENTS

Rehabilitation of degraded environment is one of the best ways to prevent flooding. However, the construction of proper drainage system and the completion of flood control dike along the river banks within the 3 barangays would be an immediate solution to prevent disaster from happening. The realization of the housing projects for the informal settlers, who are usually exposed to hazard, shall likewise be given priority. Strict enforcement of environmental laws/policies is also a must to protect the environment from being totally damaged.

COMMUNITY PROFILE

Physical Characteristics

	BRGY MAHAYAHAY	BRGY UBALDO LAYA	BRGY TAMBACAN
Geographical Boundaries	North: portion of brgy. Poblacion and Pala-o East: Brgy. Ubaldo Laya South: Brgy. Tubod West: Brgy. Tambacan.	Barangay Ubaldo Laya is situated in the northeast portion of Iligan City. Boundaries: North : Brgy. Pala-o; Northeast: Brgy.Puga-an; Southeast: Brgy. Tipanoy; West: Brgy Tubod Northwest: Brgy. Mahayahay	North: Brgy. Poblacion East: Brgy. Mahayahay South&southwest: Brgy. Tubod West & Northwest: Coastline of Iligan Bay
Grid References			
Landforms/ geology	The land features a slope of 0 -18%, that is level to nearly level. Only 0.32 hectare is within 18-30% slope.	It has an open manmade slope, alternating sequence of sandstone and tigger tuff, thickness tuff: 20-90 cm; tuffaceous sandstone: 4-14 cm, loosely compacted, planar sliding along dip planes, minor calcareous tuff lamina, slightly jointed, bedding is disturbed, rock masses folded in parts, N30E 40NW, vegetated at crest with tress and grasses, part of Holy Land Subdivision. (cited from Geohazard Assessment of parts of Iligan City, Geosciences Division, MGB-Reg. X, 2004)	The land features a slope of 0 -18%, that is level to nearly level.

Climate/ weather	<p>Climate is Type C, characterized by a short dry period of one to three months. Its annual average temperature is 27.40 C.</p> <p>Rainfall is evenly distributed throughout the year. Monthly average rainfall for the past two (2) years (2004 & 2005) is 176.12 mm and 177.33 mm at 30.50 days and 15.16 days respectively.</p>	<p>Climate is Type C, characterized by a short dry period of one to three months. Its annual average temperature is 27.40 C.</p> <p>Rainfall is evenly distributed throughout the year. Monthly average rainfall for the past two (2) years (2004 & 2005) is 176.12 mm and 177.33 mm at 30.50 days and 15.16 days respectively.</p>	<p>Climate is Type C, characterized by a short dry period of one to three months. Its annual average temperature is 27.40 C.</p> <p>Rainfall is evenly distributed throughout the year. Monthly average rainfall for the past two (2) years (2004 & 2005) is 176.12 mm and 177.33 mm at 30.50 days and 15.16 days respectively.</p>
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SOCIAL CHARACTERISTICS

Community : Barangay MAHAYAHAY

Total Projected Population (2005) : 10,240

Population distribution:

Male: 5,088

Female: 5,152

Mobility:

Barangay Mahayahay is one of the barangays situated in the central part of the city making it accessible to all types of vehicles. The large number of vehicles routing to the eastern and northern part of the city passing thru the national highway traversing the area of the barangay have the made the populace easier to travel from their respective homes all the way to their working places, schools and vise versa.

Experience/History

Since the creation of Barangay Mahayahay through Congressional Resolution No. 376 in 1966 and City Ordinance No.331 in 1967, various changes occurred. The area was once thinly populated and calm, its surroundings was a scenario of wide open plains blessed with verdant everglades and towering coconut trees. The fertility of the soil was further enriched with abundant alluvial deposit. Its silent and winding river leaves behind as it cascades its load of pure crystal water down the sea just a few meters away from the barangay.

However, the barangay is not at all times setting on favorable environmental situations. It has also its shares of woes when natural and human-made calamities strike. The Iligan River which traverses the northeast periphery unpredictably dislodged its rampaging waters to cause widespread destruction and damage to properties and even lives in 1952. This was again followed in November 1972, where flood was of equal magnitude with that of 1952. Many houses were swept away, commercial, and institutional buildings were destroyed due to strong current of water.

On January 28, 1983 flood control was established but sometime in November of the same year, Iligan River overflowed entering West Mahayahay through the Lagnasan Creek. Many appliances, furniture, and livelihood projects were damaged.

Vulnerable Groups:

- Informal settlers along river banks and low-lying areas (where houses are made of light materials)
- Children
- Differently-abled
- Senior citizen

Community : Barangay UBALDO LAYA

Total Projected Population (2005) : 8,194

Population distribution:

Male: 4,071

Female: 4,122

Mobility:

The area is accessible to all types of vehicles. Currently, there are 34 public utility vehicles of which 5 units are routing Merila and 29 units routing Noria.

Experience/History

In an interview with the elders regarding the occurrence of flooding on the past years, it was known that flood happened before World War II. The next flooding happened in 1952 and 1972. These were the two (2) big floods that destroyed properties, agricultural products and disrupted economic activities. Another flood occurred in November of 1996 destroying agricultural plantation near river banks. Since Iligan River is now silted, it will easily overflow.

Vulnerable Groups:

- Informal settlers along river banks and low-lying areas (where houses are made of light materials)
- children
- differently-abled

Community : Barangay TAMBACAN**Total Projected Population (2005) :** 12,180**Population distribution:**

Male: 6,052

Female: 6,128

Mobility:

There are two (2) main roads in the area which are both accessible to all types of vehicles. Residents in the interior part of the barangay passes through footpaths and alleys.

Experience/History

In the past flooding occurred once in every 20 years. It destroyed human settlements and damaged properties. Recently, flood happen more often due to defective drainage system and siltation of Iligan River. However, the water current is not so strong that impact on human settlement is minimal.

Vulnerable Groups:

- Informal settlers along river banks and low-lying areas (where houses are made of light materials)
- children
- differently-abled

THE HRVA PROCESS

OBJECTIVES

1. To enable communities to identify its exposure to hazard and its possible impacts and to proactively address emergency and recovery.
2. To assist emergency managers and planners in their efforts to reduce hazard vulnerabilities
3. To come up with an assessment to be used as input in emergency mitigation measures and to evaluate the effectiveness of these measures over time
4. To provide information on the probable location and severity of dangerous natural phenomena and the likelihood of their occurrence within a specific time period in a given area.

I. PRE-ASSESSMENT PHASE

A. ORGANIZATION/INSTITUTIONALIZATION

1. The Team Leader of MEET the MDGs Project (Mr. Blenn Huelgas) visited Iligan City in August 2006 and met the City Planning & Development Coordinator (Architect Gil Balondo). Discussed were matters relative to MEET the MDGs project.
2. In line with the project, the UN-Habitat asked for the profile of Iligan City Disaster Risk Management Capacity of which the city has prepared and submitted in July 2006).
3. In August 2006, the LCE received a letter from the UN-Habitat inviting five (5) member core group that will participate the MEET the MDG City Disaster Management Training in Iloilo City.

4. Five (5) core group members from different offices of the LGU were selected to attend the capability-building seminar in Iloilo City. Selection of members was based on their actual functions that can input to disaster management. Following are the composition of the core group.
 - 1-staff from the City Engineer's Office (CEO)
 - 1- staff from the Dept. of Social Welfare & Development (CSWD)
 - 1- staff from the City Disaster Coordinating Council (CDCC)
 - 2- staff from the City Planning & Development Office (CPDO)
5. After the training in Iloilo City, the core group convened at the CPDO to discuss activities related to the MEET the MGD project, particularly formulation of HRVA Toolkit/Guidebook. During the discussion the group agreed to meet the CPDC for the following purpose:
 - To make a brief presentation of the project.
 - Solicit advice where to get funds that will be spent for the lined-up activities while counterpart funds of UN-Habitat has not yet been downloaded to the city's account.
 - Proposal to create a Technical Working Group (TWG) that will be responsible to undertake the project.
6. Meeting with the CPDC

The core group made a brief presentation of the MEET the MDG project to the CPDC and a short report orientation of the training the group attended in Iloilo City.

Funding Scheme/Arrangement

The group informed the CPDC that during the training workshop, the group had prepared and submitted the project's Work and Financial Plan to UN-Habitat. The group further informed the CPDC that of the P75,000.00 project cost, P50,000.00 will be funded by UN-Habitat while P25,000.00 will be the city's counterpart. Likewise, the group also sought advice from the CPDC where to get funds that will be spent for the lined-up activities while funding from the UN-Habitat has not yet been downloaded to the city's account considering the limited time frame of the project.

Presented in the next page is the Minutes of the Meeting with the CPDC

Core Group with the CPDC Meeting on MEET the MDG - City HRVA
 CPDC Conference Room
 Bahaykisan Hill, City Hall, Iloilo City
 August 30, 2006

ATTENDEES:

- | | |
|------------------------------|---------------------|
| 1. Archt. Gil R. Balondo | - Asst. Team Leader |
| 2. Engr. Guadon E. Talan | - Member |
| 3. Mr. Armando A. Edrozo | - Member |
| 4. Engr. Venancio O. Bostoco | - Member |
| 5. Ms. Pergrina L. Mantos | - Member |
| 6. Ms. Josephine G. Rosales | - Secretariat |

AGENDA:

1. Brief presentation of MEET the MDG project
2. Funding Scheme/Arrangement
3. Discussion on the draft Executive Order
4. Discussion on the Work Plan submitted to the UN Habitat consultant during the workshop in Iloilo

HIGHLIGHTS OF THE MEETING:

The meeting started at 2:30 in the afternoon presided by Archt. Gil R. Balondo.

I. Brief Presentation of the Meet the MDG Project

- a. The core group made a brief presentation of the MEET the MDG project to the CPDC and a short report/orientation of the training the group attended in Iloilo City.
- b. Funding Scheme/Arrangement

The group informed the CPDC that during the training workshop, the group had prepared and submitted Work and Financial Plan to the UN Habitat. The group further informed the CPDC that of the P75,000.00 project cost, P50,000.00 will be funded by the UN-Habitat while P25,000.00 will be the city's counterpart. Likewise, the groups also seek advice from the CPDC where to get funds that will be spent for the lined up activities while funding from the UN Habitat has not yet been downloaded to the city's account considering the limited time frame of the project. The CPDC suggested advised to utilize local funds allocated to MDG for the group to start the project.

2. On the Discussion of the Draft Executive Order**2.1 Amendment of the Title**

- Archt. Balondo suggested that the title of the Executive Order will be changed to "Creation of the City Hazards Risk Vulnerability Assessment (HRVA) Technical Working Group" instead of "Creation of MEET the MDG - City Hazard Risk Vulnerability Assessment (HRVA) Technical Working Group".
- Suggestion of Archt. Balondo was carried by the group.

2.2 On the composition of members

- Aside from the members identified in the draft Executive Order, it was agreed to include representatives from the academe (MSU-IT), CENRO, Office of the City Agriculture, and Non-Government Organization (NGO) to compose the technical working group.
- Archt. Balondo's suggestion that position of chairman & vice-chairman will be changed to team leader & asst. team leader was carried by the group.
- Engr. Bostoco shall be included as regular member, while Ms. Rosales shall remain as secretariat.

2.3 On the functions of the Technical Working Group (TWG)

- Archt. Balondo suggested that specific functions of the team leader, asst. team leader, members, and secretariat are to be deleted considering that these were already stated in the general functions of the TWG stipulated in the draft Executive Order.
- The group carried Archt. Balondo's suggestion.

II. On the Discussion of the Work Plan submitted by the core group**to the UN Habitat consultant during the workshop in Iloilo City.**

- Archt. Balondo suggested to do detailed activities based on the monthly activity identified in the Work Plan (output during the workshop in Iloilo City).

No other motion taken, the meeting ended at 4:00 P.M.

Prepared by:

JOSEPHINE G. ROSALES

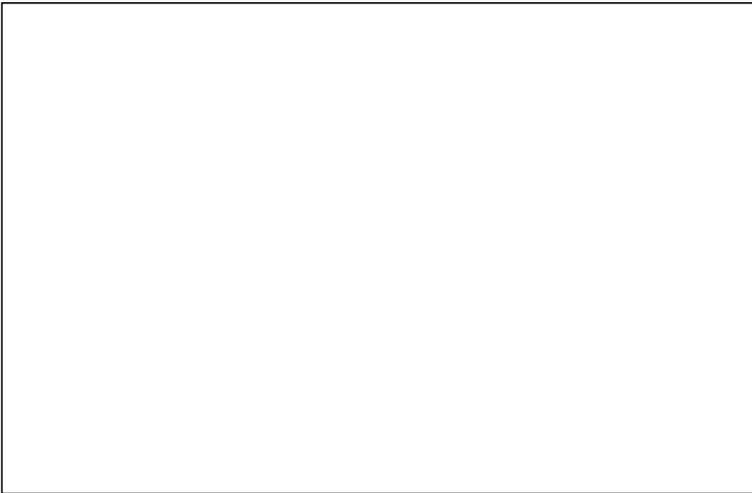
. The creation of Technical Working Group

The Mayor, aware of the importance of the project, formally signed the E.O. on September 11, 2006. The five members of the core group became automatic members of the TWG with Josephine G. Rosales designated to the secretariat.

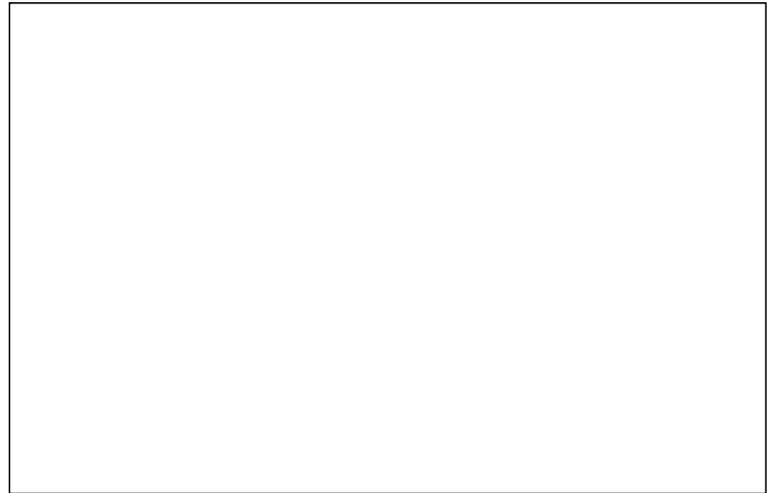


7. Identification of areas most likely affected

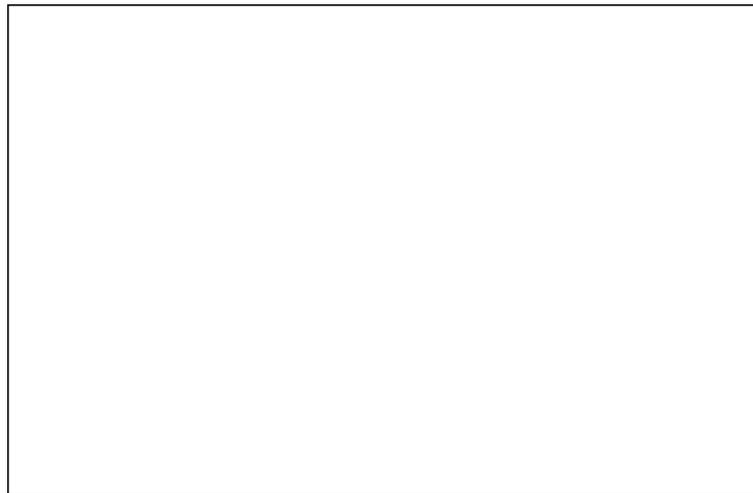
- The TWG used the following tools in identifying the hazard and areas most likely affected:
- Secondary data from the barangay development plans and the research division of the CPDO.
 - Information generated from unstructured interviews with the community.
 - Ocular survey conducted by the TWG.
 - Maps generated from the GIS showing the flood prone area.



At left is Ms. Joy G Rosales shown on top of the unfinished flood control dike during an ocular inspection at Sta Lucia, Brgy Mahayahay. Below (left to right) are the flood prone areas along the river plain of the Iligan River at puroks Bayanihan and Dama de Nochi Brgy Mahayahay.



Ms. Joy G. Rosales making unstructured interview with residents residing within the flood prone areas at Pk Dama de Nochi, Brgy Mahayahay.



Below (left to right) are the flood prone areas along the river plain of the Iligan River at puroks Bayanihan and Dama de Nochi Brgy Mahayahay.

After due consideration of the information/data gathered, the TWG agreed to consider FLOOD as the environmental hazard to be assessed in Iligan City because of the following reasons;

- It is the only hazard that often hits and introduces the greatest damage in the city.
- The present environmental pressures (e.g. forest denudation resulting in soil erosion and siltation along the river channel; mining; unmonitored and illegal sand & gravel extraction).
- It affects bigger number of population and infrastructure facilities

Using the mentioned above information plus the history of impacts/effects of previous flooding, three (3) barangays were considered namely: Mahayahay, Tambacan and Ubaldo Laya.

B. ORIENTATION OF STAKEHOLDERS AND PLANNING

1. Courtesy calls with concerned barangay officials

Preparatory Activity

The TWG, by way of telephone calls, made an arrangement for courtesy call with the barangay officials of the three barangays. This is inform and brief them of the project and at the same time get their support and cooperation.

During the Visit

During the courtesy calls, the core group made a brief orientation of the project to the concerned barangay chairmen/officials Since most of them knew have a common knowledge that their respective area has been exposed to some form of environmental hazards, they expressed to extend their support and cooperation to the TWG for the completion of the project.

2. Orientation Meeting on HRVA

Duration : 1 day

Objective:

To present an overview on the concept of disaster and disaster management, and the HRVA to the TWG and barangay officials.

Preparatory Activities:

- Tasking
- Preparation of Activity Design
- Preparation of venue (including meals and snacks for the attendees), materials, hand outs and equipment
- Preparation and dissemination of notice of meeting

Orientation/Meeting Proper

The core group conducted a one (1) day orientation meeting on Disaster and Disaster Management and HRVA to the members of the TWG and concerned barangay captains together with their respective kagawad holding the Committee on Environment. Topics discussed were divided among the core group members. See attached program and photo documentation

All expenses of the activity (including meal & snacks o were taken from the 20% Devt. Fund (MDG related activities) which will be replenished against the MEET the MDG funds whenever this funds is down loaded to the city's account.



II - ASSESSMENT PHASE

A. Data Gathering and analysis

1. Strategy Formation

Considering the time limitation of the project, the TWG agreed to use the participatory rapid appraisal in data gathering. Aside from the secondary data gathered from the Barangay Development Plan, focus group discussion (FGD), ocular inspection key informant interviews were utilized to elicit needed data. TWG members were given specific assignments for the whole activity. Materials and equipment needed were prepared and the venue (including food) was arranged for the workshop. The target participants were the barangay officials and key persons/informants (preferable elders residing in the community for at least 35 years or more) with ample knowledge on hazards and history of events that often hit the city. Participants were notified through an invitation letter aside from telephone calls.

2. Focus Group Discussion

A one-day Focus Group Discussion was conducted by the TWG to generate information based on the knowledge and personal experiences of the participants that include barangay officials. Since Iligan City was tasked to focus on environment, participants were advised to focus on environmental hazard that will certainly affect their respective barangay. Two of the TWG members were assigned as facilitators; two (2) are documentors while the rest are observers. Staff from the Plans & Programs Division of the CPDO was in full support of the whole day activity. They help in facilitating the workshops. Tools being used were mostly based on the vulnerability analysis worksheets. Following were the whole process of the activity:

- The participants who were from the three (3) identified barangays were grouped into three (3): one (1) group per barangay. Each group appointed their respective leader, documentor and presenter. Materials such as manila paper, pencil pen, meta cards of different colors (1 color per group), etc. were provided to each group. Through consensus, they were advised to write down 2-3 words of relevant information/data/idea/opinion/comments they agreed upon that will supply vulnerability analysis worksheets #2. Workshop outputs for every vulnerability analysis worksheet was presented by each group to the plenary for validation and comments.
- Using their respective barangay development plan as reference, the participants were able to accomplish their community profile. Further, the participants were able to identify or describe different form of damage when flood struck the area based on their experiences. The analysis considered in the HRVA was done by the participants in a participatory manner.
- Relevant comments/suggestions made by participants during the presentation were immediately reflected on the manila paper. Through vulnerability analysis worksheet #1, the community was able to identify "Flood" as the common hazard that most likely bring greater damaged to the community. As noted, this is the same hazard initially identified by the TWG.
- After the activity, the TWG together with the CPDO staff gave each participants a Certificate of Appreciation for their active participation of the whole day activity.

3. Collection of Secondary

Collection of secondary data was done by Ms Joy Rosales. The Barangay Development Plan (2004-2008) of the three (3) concerned barangays on file at the CPDO served as reference in the gathering of needed data.

4. Conduct of Ocular Survey and Unstructured Interview

A. Actual Field Works

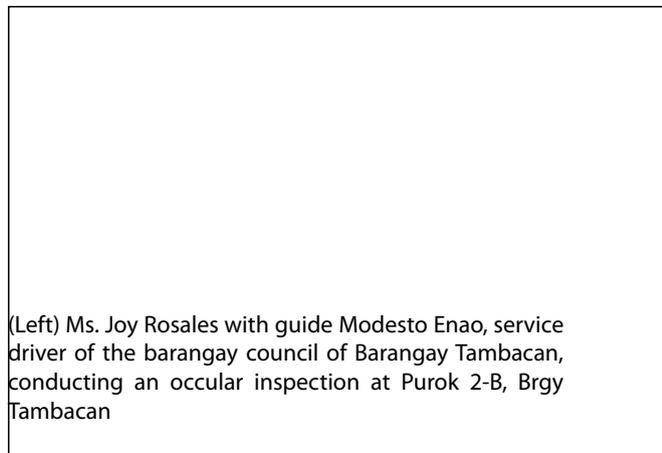
- The ocular inspection was done in two (2) days (September 21-22, 2006). The first day was scheduled in the barangays of Mahayahay and Tambacan while the last day was in barangay Ubaldo Laya.
- About ten (10) key informants were interviewed per barangay.
- The interview was focused on environmental hazard using sheet no.1 - Vulnerability Analysis - of the UN-Habitat Checklist.



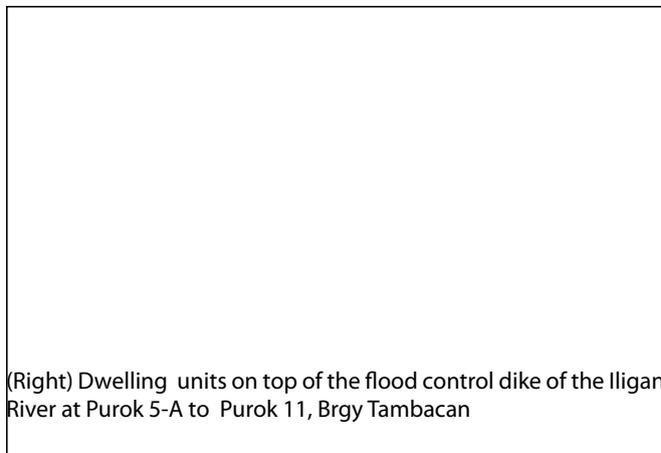
Flood prone area at Purok Purok Dama de Nochi, Barangay Mahayahay



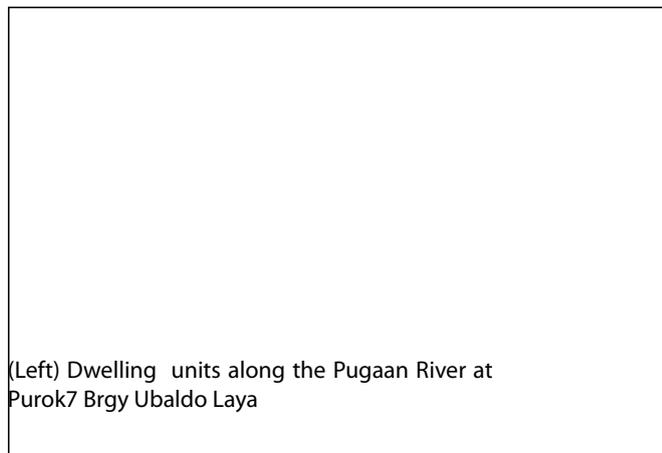
Flood prone area at Purok 2-B, Barangay Tambacan



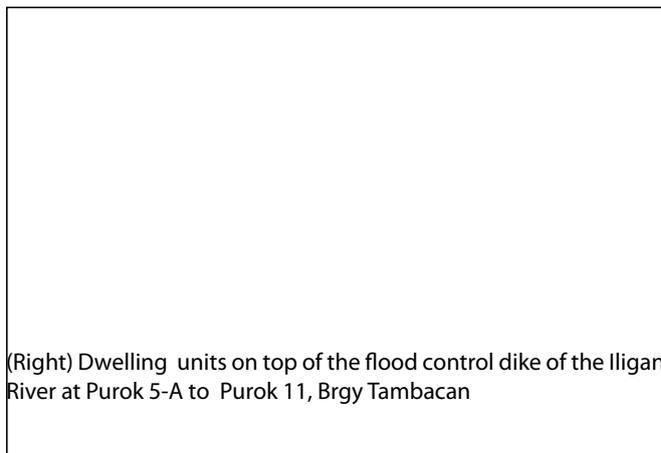
(Left) Ms. Joy Rosales with guide Modesto Enao, service driver of the barangay council of Barangay Tambacan, conducting an ocular inspection at Purok 2-B, Brgy Tambacan



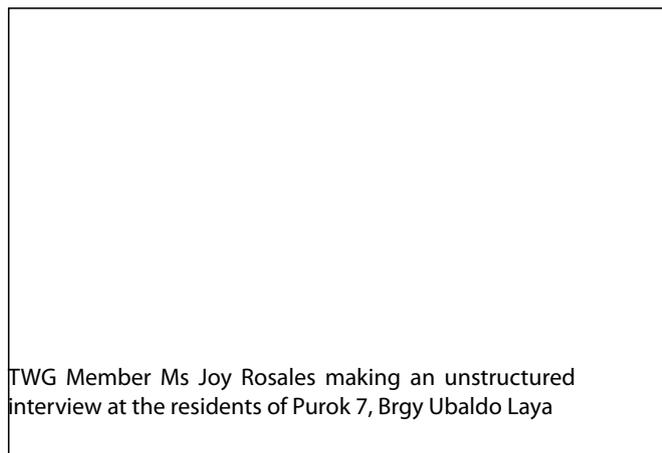
(Right) Dwelling units on top of the flood control dike of the Iligan River at Purok 5-A to Purok 11, Brgy Tambacan



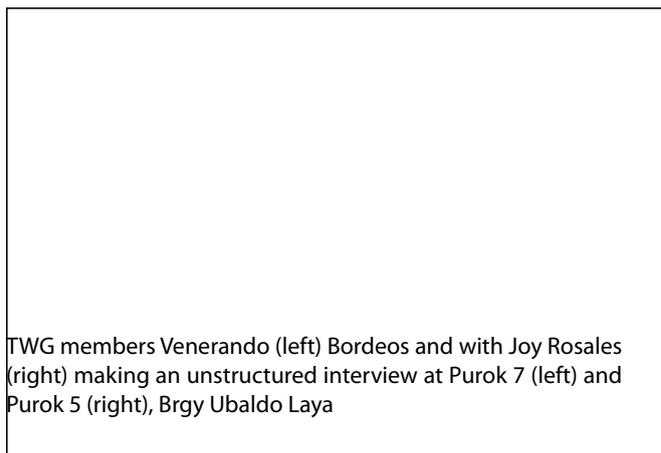
(Left) Dwelling units along the Pugaan River at Purok 7 Brgy Ubaldo Laya



(Right) Dwelling units on top of the flood control dike of the Iligan River at Purok 5-A to Purok 11, Brgy Tambacan



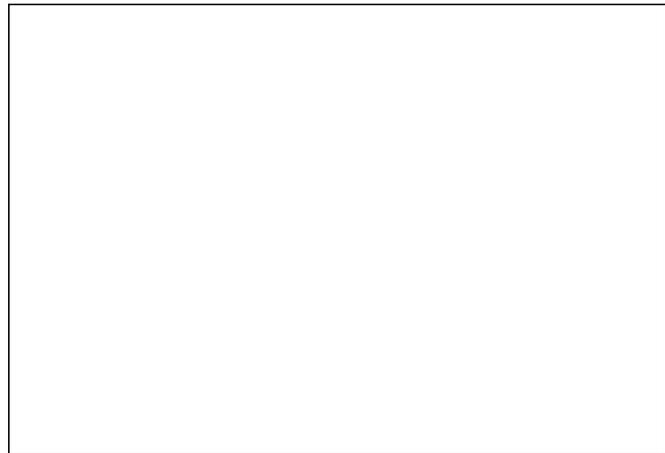
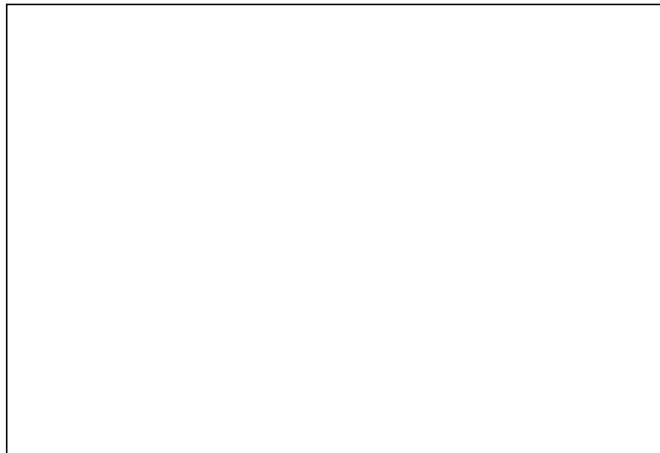
TWG Member Ms Joy Rosales making an unstructured interview at the residents of Purok 7, Brgy Ubaldo Laya



TWG members Venerando (left) Bordeos and with Joy Rosales (right) making an unstructured interview at Purok 7 (left) and Purok 5 (right), Brgy Ubaldo Laya

Residents of Purok 7, Brgy Ubaldo Laya filed up boulders along certain portion of bank of the the Pugaan River to protect it from scouring

Dwelling units with elevated flooring in preparation to any occurences of flooding at Purok 7, Brgy Ubaldo



B. Experience in the Field

- Inavailability of service vehicle for the field works.
- Other residents were hesitant and even refused to be interviewed, especially those residing within the river easement
- Barangay officials were very cooperative, especially the barangay officials of barangay Tambacan who provided the core team with service vehicle and a guide during the ocular inspection in thier area.

C. Learnings

- There is a need to utilized your own resources to have the scheduled activity done.
- Poor people usually gamble to settle in hazard areas and occupy public easement because of thier incapacity tsettle in safe areas.
- Concerned government officials/agencies are slow in the enforcement of laws/policies, particularly, the National Building Code of the Phil, Anti-Squating Law, etc.
- Other people learned to apply measures to protect them and thier dwellings from flood..

D. Insightss

- Government has to extend efforts in adopting preventive and or mitigative measures to protect the community from any form of disater.

Republic of the Philippines
City of Iligan

City Hazards-based Risk Vulnerability Assessment
HRVA TECHNICAL WORKING GROUP

October 3, 2006

Dr. Olga M. Nuñez
Officer-in-Charge
Office of the Vice Chancellor for Research & Extension
MSU-IIT, Bonifacio Ave., Iligan City

Dear Dr. Nuñez,

There will be a meeting to all members of the City Hazards-based Risk Vulnerability Assessment (HRVA) Technical Working Group on October 4, 2006 at 8:00 AM to 4:00 PM. This will be held at Patio Alejandra, San Miguel St., this city.

Matters to be taken include overview of disaster and disaster management, hazards-based risk vulnerability assessment, and proposed outline in the formulation of HRVA guidebook.

We look forward to your positive response.

Very truly yours,

CHONILO O. RUIZ
Team Leader

Republic of the Philippines
City of Iligan

City Hazards-based Risk Vulnerability Assessment
HRVA TECHNICAL WORKING GROUP

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Very truly yours,

CHONILO O. RUIZ
Team Leader

B. DATA CONSOLIDATION, VALIDATION AND ANALYSIS

1. Consolidation of Collected Data

All of the data gathered during the FGD, ocular inspection and those culled-out in the Barangay Development Plan of the respective barangays were consolidated and encoded by the TWG secretary, Ms. Joy Rosales. Presented below is the sample output of the consolidated data

Table 4. Hazard Identified by the Community

PARAMETERS	IDENTIFIED COMMUNITY		
	MAHAYAHAY	UBALDO D. LAYA	TAMBACAN
Hazard Name	<ol style="list-style-type: none"> 1. Flood 2. Fire 3. Air pollution/radiation from telecommunication company 4. Drinking water pollution due to dilapidated water pipes 5. Technological which leads to bio-hazard specifically on health 6. Prevalent use of illegal drugs 	<ol style="list-style-type: none"> 1. Flood 2. Flashflood 3. Air & water pollution (due to presence of slaughter house, and piggeries) 4. Electric hazard (due to high voltage transmission line) 5. Landslide 	<ol style="list-style-type: none"> 1. Fire (due to illegal wire tapping) 2.flood 3.sexually transmitted diseases (due to the presence of “mga balay kalingawan”) 4. Water pollution (from industries & passenger boats) 5. Prevalent use of illegal drugs 6.tidal surge

2. Data Validation and Analysis

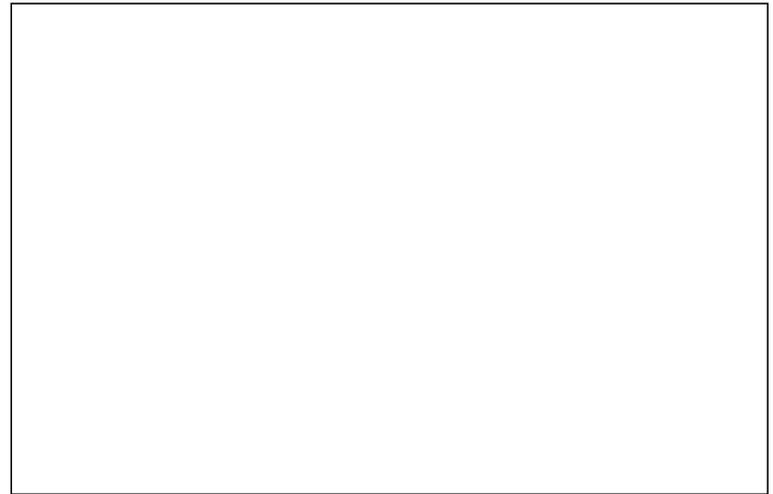
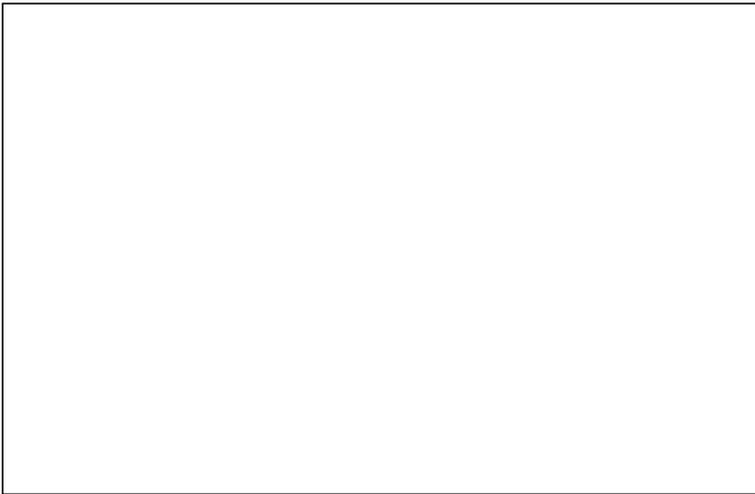
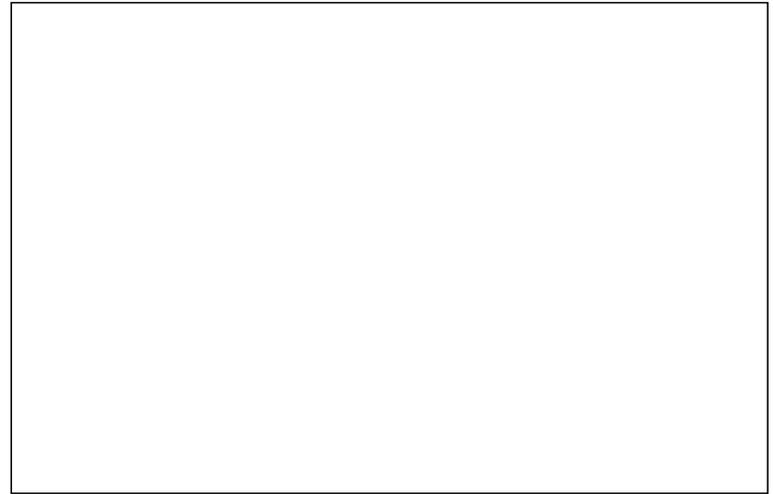
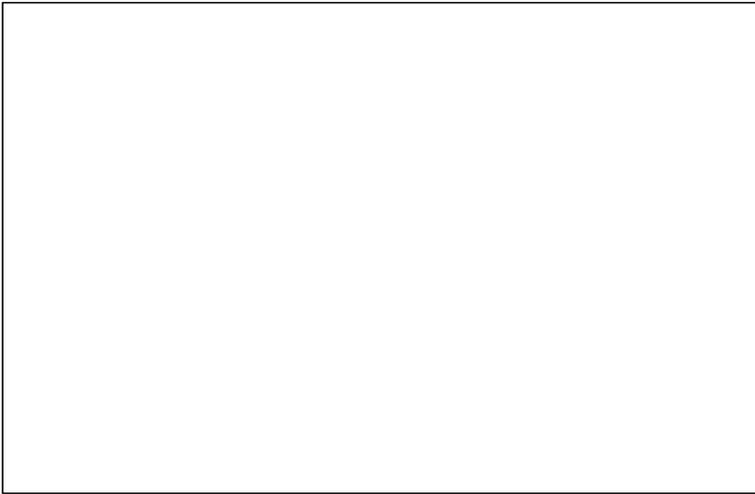
After consolidation of all the data gathered it was presented by the TWG to stakeholders through Power Point presentation for validation and comments. Stakeholders were encouraged to participate and give their comments/corrections to all of the data presented. Interogative words “who, what, when, where, why and how” were used by the TWG to get full accounts of the data.

3. Application/Integration of Corrections/Comments

Any corrections made in all of the presented data were automatically reflected on every slide of shown below is sample of the corrected data.

Table 5. Validated data on Hazard Identified by the Community

PARAMETERS	IDENTIFIED COMMUNITY		
	MAHAYAHAY	UBALDO D. LAYA	TAMBACAN
Hazard Name	1. Flood 2. Fire 3. Air pollution/radiation from telecommunication 4. Drinking water pollution due to dilapidated water pipes 5. Radiation from telecommunication facilities	1. Flashflood 2. Air & water pollution (due to presence of slaughter house and piggeries) 3. Electric hazard (due to high voltage transmission line) 4. Landslide	1. Fire (due to illegal wire tapping) 2. Flood 3. Waste pollution (from industries & passenger boats) 4. Tidal/Storm surge



Photos taken during the data Validation. The activity was participated in by key persons and barangay officials from the 3 barangays (Mahayahay, Tambacan and Ubaldo Laya)

C. Packaging

1. Drafting of HRVA Guidebook

- Write-ups of the HRVA Guidebook started right after the data validation and analysis. Documentation of the overall processes together with the validated data with descriptive information were refined and consolidated by the TWG to form the HRVA Guidebook. Suggested format presented by the technical consultant of the UN-Habitat, MEET the MDG project was adopted by TWG. Write-ups were done by core team members Joy R. Rosales and Venerando O. Bordeos.

2. Presentation of the HRVA Guidebook to Stakeholders

- The draft HRVA Guidebook was presented by the TWG members to selected key persons/informants and barangay officials from the concerned community for suggestion/comments. The overall contents were presented through power point where corrections/comments were noted. The activity was done in one day.

3. Finalization of the HRVA Guidebook

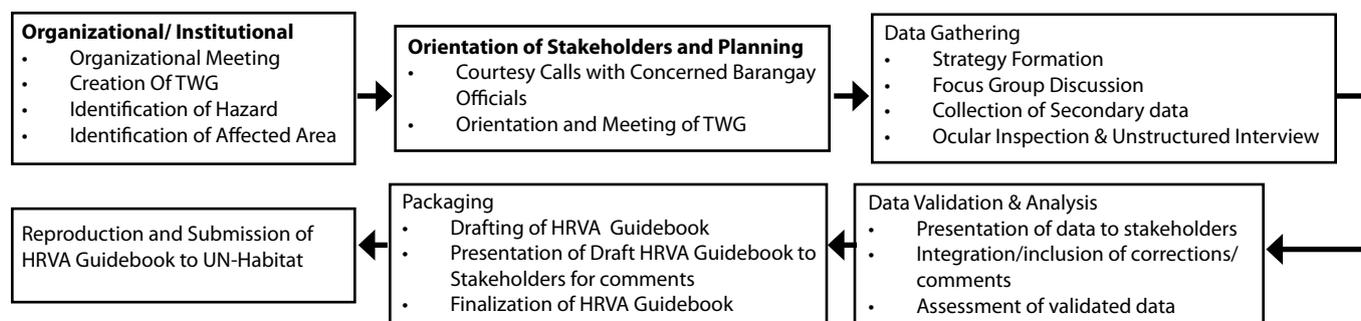
a. Write-ups and Layouting

- Refinement and incorporation of relevant corrections/comments generated during the presentation of the draft HRVA Guidebook to the community were considered in the final draft. Write-ups and layout were done by Ms J Rosales and V. Bordeos.

b. Problems Encountered

- No “Adobe PageMaker” software available in any of the offices of the TWG members.
- No one among TWG members has the knowledge to operate the “Adobe PageMaker” software, the required software to be used in the packaging. It took time for the TWG to look for an access of the software and resource person who can teach them about its basic application/operation.
- Interventions had been experienced right from the start of the activity until its completion. These interventions include works requested by different offices that need immediate attention which causes delay in coming up with this HRVA Guidebook.

The Flow Chart below presents the overall HRVA process.



FLOW CHART OF HRVA PROCESS

LOCAL GOVERNANCE REFORM AGENDA

INTRODUCTION

The local government unit of Iligan has taken steps to upgrade the environmental conditions of the city. In fact, various projects were implemented to support the community. These include development of housing resettlement, livelihood, projects, roads, drainage, and other infrastructure support projects. However, despite programs and projects provided by the government some households preferred to stay in flood-prone areas due to the following reasons; (1) this is the only property they have (2) number of squatter households is too large that all cannot be accommodated in the government housing projects, (3) house rentals in safe areas is expensive and unaffordable.

THE HAZARD-BASED RISK VULNERABILITY ASSESSMENT

The conduct of Hazard-based Risk Vulnerability Assessment (HRVA) increases the community's awareness on the type of hazards that might occur and the level of vulnerability that they are facing. Among the hazards that have been experienced in the three identified barangays (Ubaldo Laya, Tambacan, & Mahayahay) is Flood. It has destroyed properties, disrupted economic activities, and caused the suspension of classes.

The HRVA is an important activity that could be utilized as an input in laying out everything on the ground. Through its result, strategies and policies can be defined to resolve various concerns/issues. Thus, using this tool, it is expected that right things can be laid on the right time at the right place. Considering the significance of HRVA, the formulation of a governance reform agenda is essential.

STATEMENT OF PURPOSE

The Local Governance Reform Agenda serves as guide in carrying out the type of development that will be implemented to complement the needs of the community. Likewise, this will address environmental concerns that are vital and are part of mitigating measures to lessen the negative impact of flood.

STATEMENT OF STRATEGY

For effective implementation of the various interventions/actions recommended by the stakeholders based on the output of the HRVA, there is a need to streamline policies and develop guidelines in refining the monitoring systems. Likewise, LGU shall assist the identified barangays and other barangays in initiating and carrying out these reforms. Appropriation of sufficient funds shall also be considered to prioritize these reforms.

PROGRAMS/PROJECTS/ACTIVITIES

1. Completion of river control project (rip-rap) at Purok Sta. Lucia, Brgy. Mahayahay.
2. Construction of main drainage near Veteran's Bank to Tubod bridge
3. Completion of river control project from Tubod bridge to First River, Pala-o
4. Dredging of Iligan River including its tributaries (Puga-an & Tipanoy Rivers)
5. Trees and bamboo planting along river banks, and eroded areas (Brgy. Ubaldo Laya)
6. Establishment of resettlement sites (for those affected by the river control projects)
7. Strict implementation of the zoning ordinance and the building code



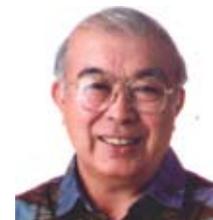
MDG 7: Water

MEET @ Water

Mitigating the
Effects of External Threats
to the Water Resources
of Barangays Pichon and Villarica



MESSAGE



Governance policy in my administration is anchored on the fact that while services are delivered to the people effectively and efficiently, this shall be carried out with utmost consideration on the preservation, regeneration, conservation and protection of the environment. As such, the bottomline of any local government undertaking is that this shall not pose danger to the environment, the very foundation of human survival.

Being an Island City, one environmental area that is considered vital as to how development shall be undertaken hereof are the locality's water resources. While at present there seems to be enough supply of water in the urban centers of the City and in some far flung Barangays, however, the City Government will have to see to it that it effectively and efficiently manages the same. This is so, since, it does not want the future generation to find themselves getting water from far away sources so that appropriate plan of action should be made available at present. Henceforth, shaping the direction of the City's development with utmost consideration on water conservation shall be its primordial concern. Given this premise, the City will embark on managing its water resources through the hazards, risks and vulnerability assessment approach. The conduct of this activity has a sense of urgency considering that it will provide basic information on how this resource is vulnerable to impending risks.

Relative hereof, the City Government conducted the hazards, risks and vulnerability assessment in Barangays Pichon and Villarica. In effect, this was deemed as just the beginning of similar undertakings that shall be initiated in the future to ensure that the environment is adequately accorded with utmost consideration particularly on our water resources. The reason why these had been selected to be the locations of the assessment activity is that being urban Barangays lots of users are at stake in terms of environmental practices that may not be favorable to them. In essence, getting the right information as to the status of water consumption in the areas concerned pave the way for working on options to better serve the people thereof. After this had been done, this shall be replicated in other service delivery areas that the local government will have to consider in the future.

To some extent, my administration would like to enjoin everyone, be it individually or as institutions to take part in any capacity for undertakings of this sort to succeed. At any rate, it is always in working together that handling of critical issues would be easier.

With the foregoing, I would like to make it a point that the bottomline of hazard, risks and vulnerability assessment in broad terms is to identify features that are susceptible to damage like building elements, facilities, population groups or components of the economy from the effects of human induced , technological and natural hazards. Henceforth, the results of a vulnerability assessment can be used to prioritize mitigation activities and can help disaster recovery, mitigation and response planning. These can be directed towards the reduction of the effects of the hazard prior to its occurrence and the preparedness measures which may be implemented during and after any disaster that may occur.

Therefore, the City Government shall design preparedness activities to reduce economic and social disruption and losses to lives or existing property as the case maybe. Although these activities can serve, in the absence of more permanent mitigation measures, to reduce threats to these negative impacts, they are more effective when employed as component of a comprehensive, overall disaster management plan. To this effect, the local officialdom will be bequeathing to the next generation of local policy makers a legacy of seeing to it that while they profess to be well-meaning public servants, they shall work on their programs of government with the environment as the integrating factor. In this light, it shall be ensured that sustainable development will be an expression that shall catapult the City towards prosperity to make a Garden City in real terms.

ROGELIO P. ANTALAN
City Mayor

ACKNOWLEDGMENTS

The members of the MEET the MDG Core Group would like to convey their sincerest gratitude and appreciation to those who contributed in the accomplishment of the endeavor. With this, they are of the belief that such success could not have been realized without them giving their full support that boosted their morale amidst the difficulties experienced.

Foremost is the constant provision and guidance of the Father Almighty for giving them the strength to survive the trials that crossed their path as they started to go through with the undertaking.

The members of the Core Group are also extending their deepest appreciation to the City Mayor, Hon. Rogelio P. Antalan for bestowing upon them his trust and confidence that initiated tasks will greatly contribute to his platform of public management reform along the area of hazard, risks and vulnerability assessment which is the bottomline of service delivery.

Likewise, they are extending their heartfelt gratitude to the UN-Habitat with special mention of people like Juan Blenn I. Huelgas, Christopher Rollo and company who made possible so that this very critical undertaking would become a reality which will be considered as reference for future local government initiatives and so with personnel who rendered services though not part of the core group. Hence, we would like to thank Ms. Vilma Marifosque of the City Planning and Development Office and Jose O. Orlanes, Jr of the Island Garden City of Samal Water District for helping out so that the output can be submitted on time to the sponsoring agency.

Equally deserving for utmost appreciation are the Officials of the concerned Barangays for their unwavering support to the initiative undertaken by the City Government and so with the respondents of the study who provided information which, though not substantial enough in terms of their reliability, nevertheless this had been of great help for them to come up with a picture of how the same affected the vulnerability of their sources of water to impending risks.

Finally, the Core Group members convey their gratefulness to each and every one for sharing their precious time to be part of this noble undertaking,

To each and everyone, thank you very much.

INTRODUCTION

In essence, in the conduct of a hazard, risk and vulnerability assessment, the basic considerations are the information on the location to be affected, the cost of properties including their environment that maybe damaged as a result of a natural hazard events. These are deemed necessary so that a clear picture of the characteristics of the subject area can be generated thereby providing an opportunity for coming up with rational interventions.

In effect, this assessment process has something to do with various factors like the profile of existing community practices, in relation to a particular concern such as waste management, health and sanitation practices, infrastructure development or agricultural undertakings. Likewise, the conduct of assets inventory in the areas concerned to determine what resources are vulnerable to impending risks is imperative. Here, impending risks to critical facilities are also assessed since these are vital concerns that are necessary components in the delivery of essential products and services to the general public to preserve their welfare and quality of life.

From here, vulnerability analysis will be carried out by determining potential losses. Given the actual conditions of a subject area in terms of its vulnerability to certain risks, there is a need to go through mitigating opportunities analysis wherein measures will be put in place to lessen the impact of hazardous events on properties and the lives of the people in cases when all systems fail to respond.

OVERVIEW

Global trends in urbanization boils down to population rate increase, land and water use, mobility, trade and climate among others which are imposing stresses and risks on societies and their environments all over the world.

With the foregoing, there is a need to assess the circumstances that have bearing with the state of water development in the City with consideration of addressing it

In view of these realities, this hazard, risk and vulnerability assessment will have to promote public and private sectors disaster mitigation and preparedness initiatives. Hence, there shall be pursued efforts that invite our people to participate in our undertaking particularly in coming up with sustainable disaster preparedness and prevention programs.

Therefore, the analysis that shall be drawn out shall identify how water will be affected by the various factors that really have bearing thereof. Hence, while all drinking water and sewerage systems are subject, to a greater or lesser degree of hazards, the entities operating and maintaining these systems should have strategies that are directed at reducing the vulnerability of water and providing the best possible responses once an emergency situation arises.

BRIEF LGU PROFILE RELEVANT TO THE MDG FOCUS

Creation

The Island Garden City of Samal (IGaCos) was created from the merger of the municipalities of Babak, Samal, and Kaputian by virtue of Republic Act. No. 8471 which was approved by then President Fidel V. Ramos on January 30, 1998 , and later ratified by its residents on March 7 of the same year.

Politically , IGaCoS is a component city of Davao Norte Province. As a result of the merger, the three municipalities that were involved in the creation ceased to exist, thus the newly created city acquired all the physical characteristics of the former municipalities which now have become its three political districts. Babak as district I , Samal as district II where center of the city government is located , and Kaputian as district III.

IGaCoS being located at the heart of Davao Gulf and separated from mainland Mindanao by a body of water is accessible via a 15 minute motorboat ride to Babak port from km. 11 , Sasa, Davao City , and a 45 minute ride to Peñaplata and Kaputian ports from Sta. Ana wharf, Davao City or on board similar transports. Ferryboats to carry vehicles and trucks are also available at PEO Barangay Caliclic to km. 11 Sasa Davao City. The City has five seaports Kaputian, Samal , Babak , PEO and Sta. Cruz Talicud Island.

The nearest distance from the Island City to Davao City is between Barangay Caliclic and km. 10 Sasa, being only 900 meters apart. In Geographical terms, IGaCos is located between latitude 6° 54'00" and 7° 11'28" north, and between longitude 125° 39'30" and 125° 47'28" east.

Basic Information:

Date created: March 7,1998 Land Area (in has) : 30,130

Total # of Districts : 3

Total number of Barangays : 46

Total number of Puroks : 337

Babak District : 8,647.97

Samal District : 9,563.68

Kaputian District : 11,918.35

Total Population(NSO2000) : 82,609

Total # of Coastal Barangays : 31

Total Households : 17,388

Total Pop. 2007 Projection : 92,040

Male : 42,363

Female : 40,246

COMPARATIVE DATA ON WATER SERVICE OF IGACOS

Level Type	Household served		# of Households decreased/increased
	1999	2006	
Level 1 (deep well, shallow well, spring)	6,798	2,673	4,125 (decreased)
Level 2 (communal faucet)	6,774	11,015	4,241 (increased)
Level 3 (household connection)	382	3,576	3,194 (increased)
TOTAL	13,954	17,264	

Babak District is composed of 16 Barangays , two Urban and 14 Rural. Barangays Pichon and Villarica the Urban areas were identified as the focus areas of HRVA because of the following reasons : High Population, Several Economic Activities, Potability of the water and its vulnerability to risks.

Barangay Pichon

No. of Households: 854
 No. of Population: 5,548
 No. of Puroks: 7
 No. of Shallow wells: 41
 No. of Deep wells: 12

No. of Households

Connections : 319

No. of reservoir: 3
 No. of Communal Faucets: 2
 Barangay Villarica

No. of Households: 804
 No. of Population: 3,824
 No. of Puroks : 7
 No. of Shallow wells: 16
 No. of Deep wells: 0
 No. of Households
 Connections: 373
 No. of reservoir: 2
 No. of Communal Faucets : 0

BRIEF LGU PROFILE RELEVANT TO THE MDG FOCUS

The millennium development goal focus of the local government unit is on water. The City being an island has an environment that is delicate. With this, the government finds it necessary to protect its common life support systems. Anchored on this premise, the effort of protecting, conserving, preservation and regenerating the water resources in the Island is a noble undertaking that can only be realized if initiatives are put in place.

DESCRIPTION OF THE PROJECT

The project involves the process of assessing the extent of hazards, risks and vulnerability level in the context of water consumption in Barangays Villarica and Pichon. The purpose of undertaking this tasks is to ensure that adequate information is available as basis for designing approaches to maintain the effectiveness and efficiency of service delivery in the area of water supply without jeopardizing the environment. Hence, an assessment on existing community practices and experiences shall be conducted in the following areas:

- Waste Management
- Health and Sanitation Practices
- Infrastructure Development
- Agricultural Undertakings

After adequate and substantial information regarding the foregoings had been gathered, an in depth analysis will be done to come up a complete picture of what is the extent of vulnerability to risks of water in the Barangays concerned. The result hereof will be the basis in formulating a local governance reform agenda along these areas of concerned which will now serve as basis for future similar undertakings.

THE HAZARDS, RISKS AND VULNERABILITY ASSESSMENT (HRVA) PROCESS

I. Pre-Assessment Phase

1. Preliminary Activities

- 1.1 Upon the invitation of UN-Habitat to IGACOS -LGU for a training on Hazards, Risk, Vulnerability Workshop on August 23-25,2006, City Mayor Rogelio P. Antalan tasked Mr. Walter Somoza to attend the said training being the in-charge of LGU City Disaster Coordinating Council. In the process the IGACOS-LGU enrolled on the MDG No.7 which concern is environment with focus on water supply development.
- 1.2 The DILG Officer reported to the City Mayor the output of the training. The Local Chief Executive issued an Administrative Order No. 2006-002 an Order creating the “IGaCoS MEET the MDGs Team” which compose of the following members:

Name	Designation	Office/insti.
1. Mr. Walter Somoza	Team Leader	DILG
2. Mr. Rene Ambrona	Member	CVet
3. Ms. Ines D. Solamo	Member	IGaCos Water Dist.
4. Engr. Darwin Arig	Member	CEO
5. Mr. Percenito Bustamente	Member	CGSO
6. Dra. Petronila Ferrer	Member	CHO
7. Mr. Edgar Arellano	Member	CAGRO
8. Engr. Analea Zapanta	Member	CPDO

The said personnel were chosen to constitute the MDG Team considering that the offices they are representing have common concern for water safety. A support staff was also formed to act as secretariat.

Republic of the Philippines
Province of Davao del Norte
Island Garden City of Samal

OFFICE OF THE CITY MAYOR

August 28, 2006

ADMINISTRATIVE ORDER NO. 7996-06

SUBJECT : CONSTITUTING "THE MEET THE MDG" TEAM OF IGACOS

The Philippines, as a UN member, is a signatory to the Millennium declaration, and takes on the challenge of meeting the Millennium Development Goals (MGDs) by 2015. Thus, the project "Mitigating the Effects of External Threats to the Millennium Development Goals (MEET the MDGs) is focused to ensure that Disaster Management and Hazard-based Vulnerability and Risk Management (HRVM) is mainstreamed into the UN-HABITAT resource cities for development planning processes.

The Island Garden City of Samal has enrolled on MDG No. 7 which concern on Environment with focus on water supply development.

Relative to this, the MEET the MDG team is hereby organized to constitute the following:

- | | |
|---------------------------------------|---------------------|
| 1. LGOO V Walter A. Somozo (DILG) | - Team Leader |
| 2. CAO IV Rene E. Ambrona (CMO) | - Asst. Team Leader |
| 3. GM Ines D. Solamo (Water District) | - Member |
| 4. Engr. Darwin S. Arig (CEO) | - Member |
| 5. GSO Percenito O. Bustamante | - Member |
| 6. DRA. Petronila D. Ferrer (CHO) | - Member |
| 7. CAGRO Edgar F. Arellano | - Member |
| 8. CPDC Ana Lea A. Zapanta (CPDO) | - Member |

Support Staff:

- | | |
|--|------------------|
| 1. Engr. Honorato "Jun" A. Dela Madrid | (Water District) |
| 2. Ms. Vilma A. Marifosque | (CPDO) |
| 3. Ms. Richelle O. Algabre | (DILG) |

As necessary the team members and support staff are advised to detach themselves from their daily functions to hold meetings, conduct workshop and other related activities in order to formulate and complete on or before Oct. 15, 2006 a documented report on the Hazard and Risk Vulnerability Assessment (HRVA) on the water supply development project of IGACOS. Fund for the activities is authorized subject to its availability and the usual accounting and auditing rules and regulations.

ROGELIO P. ANTALAN
City Mayor

2. Organization and Institutionalization

2.1. Conduct of Orientation.

The MDG Team Leader called a meeting of all members of the IGACOS MEET THE MDG Technical Team on September 13, 2006. The purpose of the meeting was to orient and brief the members of the IGACOS MEET THE MDG Team on project concepts, required tasks and its relevance to the local implementation. The Team Leader having attended the first training on HRVA facilitated the meeting. The following is the process flow of the orientation and the Process Design.

ORIENTATION PROGRAM

September 13, 2006

ABC Hall, City Hall Compound, Island Garden City of Samal

Prayer

National Anthem

Welcome Message

Overview of the MEET the MDG

Defining the Commitment of the Team Members

Definition of Tasks and Functions of the Team

Presentation and Adoption of the IGACOS MDG Action Plan

Distribution of Modules

Activity Design for Orientation and Briefing

Enabling Objective:	By the end of 4-hours workshop, the participants shall be able to:		
	<ul style="list-style-type: none"> • Understand and appreciate the concepts and the HRVA Goals and Objectives; • Formulate Action Plan and define the corresponding tasks 		
Method	Key Points	Timeframe	Resources Needed
A. Input on MEET the MDG	<ul style="list-style-type: none"> • Overview of the project • Definition of Terms • Objectives 	1 hour	Module
B. Action Planning	<ul style="list-style-type: none"> • Objective Setting • Strategies • Tasking 	2 hours	Initial Draft of Action Plan formulated during the training

After the input was given, there was a leveling off of expectations and understanding as to the objective of the project, its significance of the project to IGACOS, and the expected tasks of the team members. What made them worry was the limited time to work out the requirements of coming out a guide book on HRVA focusing on water safety. However, convinced of the significance of the project, the team members agreed to do the immediate tasks such as the formulation of Work Financial Plan and the setting of parameters. This was done to ensure that everybody will be having the same parameters of understanding as to how the undertaking shall be carried out. At this juncture, it was also decided to include the assessment of people's attitudes and management perspectives because they believe that these concerns would also have bearing in terms of the risks mentioned.

2.2. Action Plan Formulation.

2.2.1 Work and Financial Planning

The Team members conducted a workshop on the different activities that shall be carried out including budgeting for every activity. This had been facilitated by the designated Team Leader assisted by the City Administrator. The following concerns had been approved as the activities to be carried out:

- Conduct of MEET the MDG Team Meetings/Workshops
 - Discussion on the parameters of the assessment
 - Workshop on the formulation of questionnaires based on the agreed parameters
- Orientation Activities
 - With Multi-stakeholders and
 - Enumerators
- Data gathering
 - Secondary data through office/agency records
 - Primary data through actual survey
- Consolidation and analysis of the result
- Presentation of the result to Barangay officials and the community for validation
- Packaging of the report
- Submission of draft and final documents to UN-Habitat

3. Identification of HRVA Focus Areas

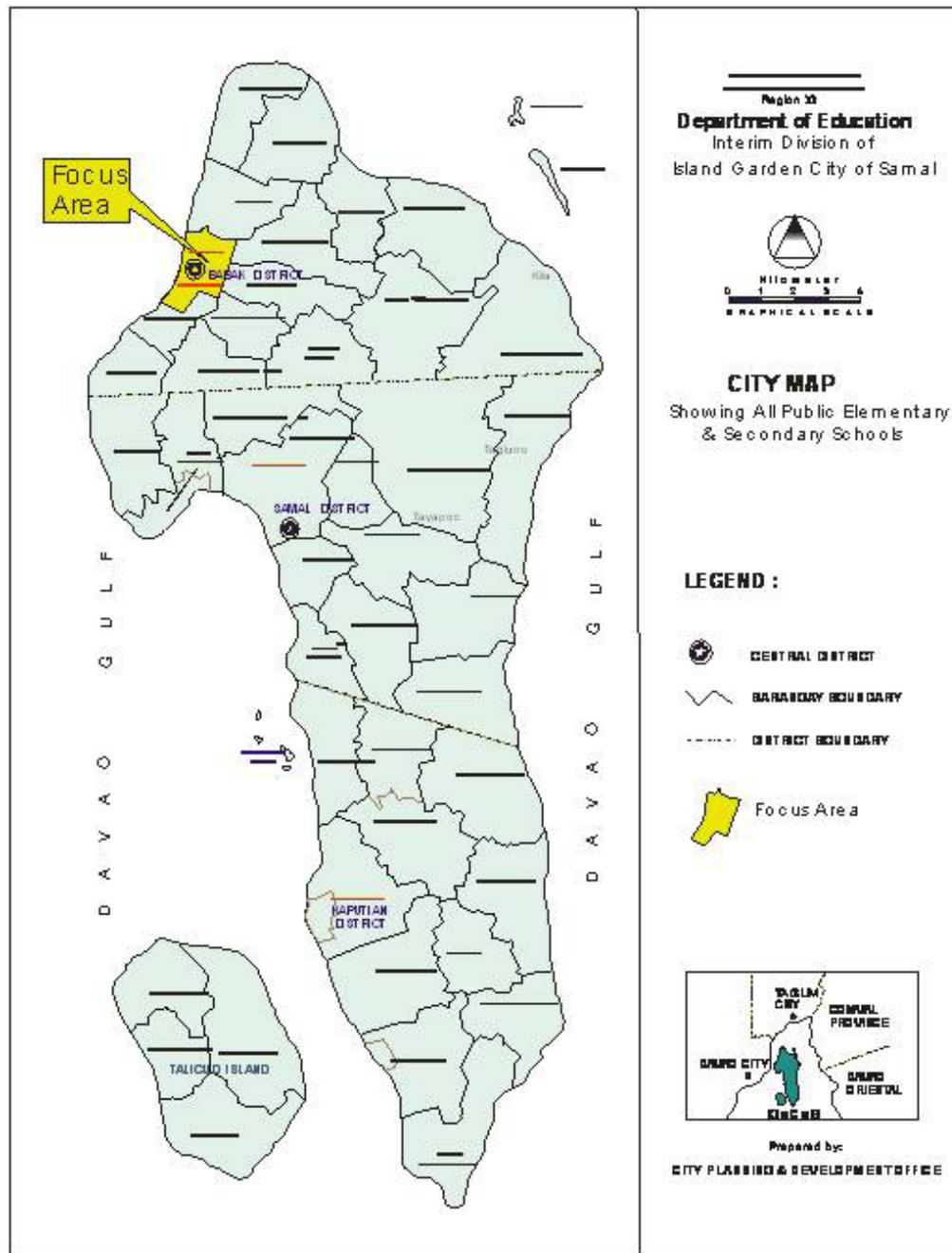
3.1. During September 20, 2006 meeting, the team discussed and deliberated the identification of HRVA Focus Areas. In the course of their discussion they came up with the following criteria as basis for identifying the focus areas, to wit:

- Number of households availed the water supply
- Economic activities of the people
- Water quality
- Potential contribution of the area to economic development in the city

Base on the said criteria, the Team Members identified the Five (5) possible HRVA Focus Areas which were as follows:

1. Kaputian Poblacion
2. Villarica-Pichon
3. Hagimit Water falls
4. Pange (spring & source)
5. Supa Spring

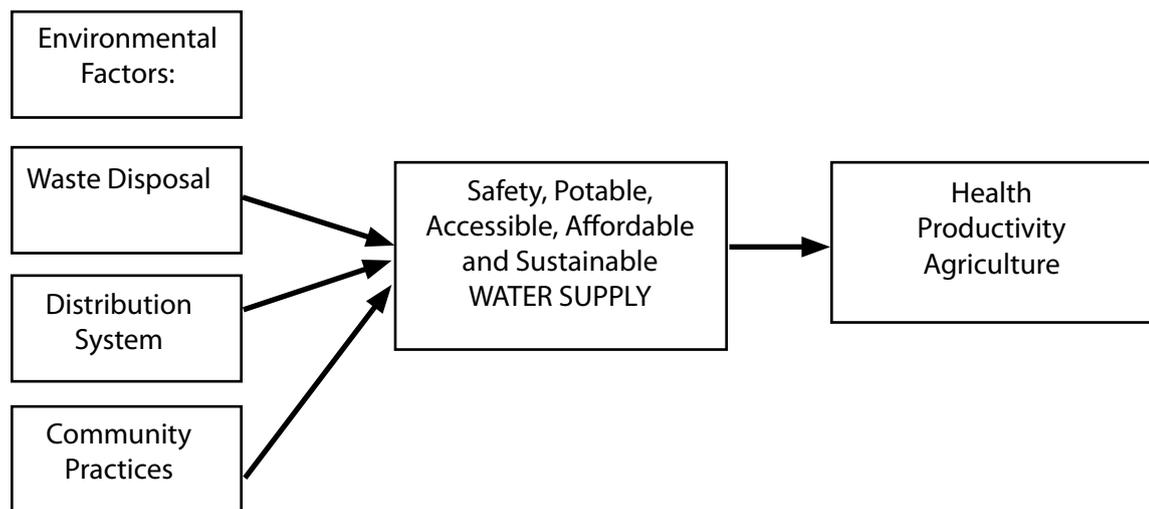
Since the proposed five HRVA focus areas possessed distinct characteristics, the team asked the opinion of the IGaCoS Water District General Manager regarding the choices. Thus, General Manager singled out the Barangays Pichon and Villarica as the focus areas for HRVA because of the following reasons: their main sources of water are located within the urban area, their population growth is increasing and economic activities of the people pose a threat to its potability and sustainability of water supply.





Henceforth, unanimously agreed that Barangays Pichon and Villarica will be the project locations,

During the discussion the Team Members have made framework of analysis in relation to water safety and sustainability. This framework explains that the environment plays an important role in ensuring a potable and sustainable water supply in the island.



Consequently , the Team Members have identified the following areas of concern as main component of the survey questionnaires.

- Health and Sanitation
- Waste Management
- Agricultural Development
- Infrastructure Development
- Water District Operations

Having agreed on the said areas of concern, sub-groups were formed among the participating offices with respect to their line of work who shall be responsible in their respective concerns:

City Health Office - Health and Sanitation
 City General Services Office - Waste Management
 City Agriculturist Office - Agricultural Development
 City Engineering Office - Infrastructure Development
 IGaCoS Water District - Water District Operations

4. Setting of Indicators for Assessment and Data classification

4.1 Discussion on the factors that would affect the potability and sustainable supply of water been conducted wherein various concerns attendant thereof had been identified. These are as follows:

4.1.1 Urbanization

- Population Dimension
 - Demography
 - Settlement Patterns
- Waste Generation
 - Solid Waste
 - Liquid Waste
 - Hazardous Waste (used oil, batteries, etc.)
 - Water Pollutants (soap, cleaning substance)
 - Sewerage System
 - Location and Distance of Existing Dump Site from Project Site
 - Status of Compliance to Existing SWM Ordinances
- Land Use Classification
 - Agricultural/Pasture Lands
 - Residential
 - Commercial
 - Industrial
 - Blighted Areas
- Road Opening/Expansion and Other Infra
- Existence of Water Refilling Stations (volume being utilized)
- Cost of Water
- Consumption Patterns (bottled, tap-quantity, drilling, WD-Depth/Volume)
- Cost of Repair and maintenance
- Uses
 - Domestic (bathing, laundry, gardening)
 - Agricultural Uses (irrigation, garden, vegetable, orchard)
 - Residential
 - Commercial
 - Industrial
 - Others

- Community Practices/Cultural Behavior
 - Policies of the Barangay
 - Mitigation factors
 - Level of ecological consciousness
 - Budget for Water Consumption
 - Water Use Practices
 - Boiled
 - Filtered
- Water Related Problems
 - Skin Diseases, diarrhea, dengue
 - Etc.

4.1.2 Technical Perspective

- Water Facilities/Expansion
 - Sources of Water and Volume
 - Rainwater
 - Springs
 - Deep wells
 - Run-off
 - Re-charge areas
- Water Wastage
 - Leaking
 - Unclosed Faucets
- Design of Water System
- Accessibility
 - Levels 1-3
 - Distance from Source
- Distance from threats
 - Septic Tanks
 - Junk Shops/Repair Shops
 - Dump Sites
 - Others
- Frequency of Water Testing
- Water Interruptions (Frequency and Length of Time)
- Septic Tanks Design
- Soil Types

4.1.3 Topography/Geological Characteristics

- Contours/Terrain
- Watershed Status

After setting the parameters, the representatives of the concern offices were tasked to formulate the draft of survey questionnaires which will be presented during the next team meeting.

5. Designing of Assessment Tool/Questionnaire

In order that primary data from the concerned respondents will be obtained, an assessment tool or questionnaire based on the parameters or indicators had been designed. This task had been carefully carried out, making sure that from the tool, appropriate and substantial information can be generated. As such, the following took place:

- 5.1 Each sub-group was given the responsibility of designing their respective questionnaires in English language with a translation in Visayan dialect, upon which they presented the same before the Team for finalization
- 5.2 The team reviewed the questionnaires particularly the Visayan translation upon which approval was accorded thereof
- 5.3 Pre-testing of the questionnaire among the City Hall employees was conducted to determine whether or not respondents would be able to respond objectively or that substantial information can be generated.
- 5.4 Since it was found out that the contents of the questionnaire were clearly stated, reproduction of the questionnaire (Visayan version) ensued,



The Questionnaire

- Bisayan and English version

Hazard, Risk and Vulnerability Assessment for Barangays Villarica and Pichon

Prepared By :

IGaCoS Meet the MDGs Team
2006

Tinahod namong Tagbalay,

Ang IGaCos nagpatigayon karon ug usa ka pagtuon kabahin sa HRVA sa tubig sa inyong barangay. Tungod niini kami naghanyo kaninyo sa paghatag og hustong impormasyon aron makab-ot nato ang tinoud nga kahimtang sa patubig og mapalambo ang kalidad sa atong ginagamit nga tubig.

Kami nagpasalig kanimo nga ang imong tubag “secret lang” walay bisag kinsa ang makahibalo.

To our dear household,

The Local Government Unit of the Island Garden City of Samal through the MEET MDG Team is conducting a study on the HAZARDS, Risks and Vulnerability Assessment (HRVA) on water in your Barangay. In line with this , we are asking you to help us provide sufficient data and information regarding the status / conditions of your water supply in your area.

We assure you that all the information we get from you will be held confidential.

Thank you.

HAZARD , RISK AND VULNERABILITY ASSESSMENT SURVEY**WATER USER****I-IMFORMASYON BAHIN SA TAGBALAY:**

Barangay : _____

Purok : _____

1.1 Pangalan : _____

 Bana Asawa Anak uban pa

1.2 Kakuhaan sa Panginabuhian : _____

1.3 Binulan nga Kita : _____

1.4 Pila kabuok sakop sa Panimalay : _____

II- MGA PANGUTANA:**A. HEALTH AND SANITATION**

- a. Unsa ang tinubdan sa tubig nga inyong ginagamit? _____
- b. Kinsa ang nagpadagan sa maong patubig ?
1. Water utility _____
 2. Barangay (BAWASA) _____
 3. Water vendor _____
 4. Small Private Piped water _____
 5. Own well _____
- c. Unsa ang kasagaran nga gidaghanon sa tubig nga inyong magamit matag bulan(in cubic meter)? _____
- d. Sa unsang pamaagi ang gigamit ninyo sa tubig ilimnon?
1. pinabukal ()
 2. ginasala ()
 3. natural ()
- e. Pila kasagaran ang mabayran matag bulan? Php _____
- f. Unsa ang gilay-on sa gikuha-an nimo sa tubig nga imong gigamit? _____
- g. Unsa ang kasagarang sakit ang nasinati sa miembro sa panimalay karong tuiga ?

- h. Pila ka higayon naundang ang serbisyo sa inyong patubig ug unsa ka dugay? _____ (hrs/
day) ngano man? _____
- i. Nakontento ba kamo sa serbisyo sa patubig diha sa inyong dapit ? _____
ngano man ? _____

j. Kung adunay depekto ang inyong tubig sulod sa balay kinsa ang mag-ayo? _____

_____ Ug unsa ka dali ang pagresponde? _____

k. Unsang mga basura ang makuha sa inyong panimalay? Ug gi-unsang paghipos?

k.1 Solid Wastes

Types (klase)	Kilos	Gi -Unsa Paghipos

k.2 Liquid Wastes

Types (klase)	Kilos	Gi -Unsa Paghipos

k.3 Special Wastes

Types (klase)	Kilos	Gi -Unsa Paghipos

k.4 Hazardous Wastes

Types (klase)	Kilos	Gi -Unsa Paghipos

k.5 Pollutants

Types (klase)	Kilos	Gi -Unsa Paghipos

l. Unsa ang kasagarang problema ang nasinati sa paghipos sa inyong basura?

m. Unsa sa imong pagtoo ang mamahimong epekto kung ang maong mga Basura dili mahipos ?

B. PANG-AGRIKULTURA

a. Unsay mga kahayupan nga inyong gibuhi sa inyong panimalay?

Pila ka buok ug pila ka litro sa tubig ang inyong magamit?

Klase sa hayop	Pila ka buok	Konsumo sa tubig(in liters , galloon, & containers)

b. Unsang klase sa mga tanom ang imong gi-atiman ug pila ka litro sa tubig ang inyong ginagamit sa pagmentinar niini?

Klase sa Tanom	Ang Kadak-on	Konsumo sa tubig(in liters , galloon, & containers)

C. LEVEL OF ECOLOGICAL CONCIOUSNESS

a . Aduna ba kamoy kasilyas? _____ Kung aduna unsang klase:

1. water sealed
2. antipolo
- 3.ug uban pang klase

b. Asa paingon ang inyong hinugas/ kinaligo og uban pang ginamit nga tubig:

1. septic tank
2. drainage/canal
3. diretso sa yuta

Pirma sa Consumer

Pirma sa Enumerator

HAZARD , RISK AND VULNERABILITY ASSESSMENT SURVEY WATER PROVIDER

Barangay : _____ Purok : _____

1. Pangalan /Organization sa tag supply sa tubig. _____
2. Pangalan og Katungdanan sa nagtubag: _____
3. Ang nahimutangan sa supplier: _____
4. Ang kadaghanon sa naserbisyohan:
 _____ Households _____ Institutional _____ Commercial
5. Pila ka buok ang adunay metrohan: _____
 _____ Households _____ Institutional _____ Commercial
6. Asa nahimutang ang tinubdan sa maong patubig: _____
 Unsang klase : _____
7. Pila ang “discharge” sa maong patubig : _____ . Unsa ang gilay-on sa tinubdan gikan sa mga

a. septic tank	_____
b. cemetery	_____
c. dump site	_____
d. mga drainage/ canal	_____
e . baybay	_____
f. Funeral Parlor	_____
g. Junk shop	_____
h. Slaughterhouse	_____

9. Aduna bay regular nga “ treatment “ sa maong patubig: _____
 How frequent ? _____
10. Unsay pamaagi sa inyong water treatment ?:

11. Pila ka oras ang paghatag ninyo og serbisyo sa katawhan: _____
12. Pila ang kantidad sa tubig matag litro/ galoon / c.m.: _____
13. Aduna bay production meter: _____
14. Pila ka kubiko ang naproduce matag bulan: _____
15. Ang gidugayon sa maong patubig: _____
16. Pila ka kubikoang nabaligya nga tubig matag bulan: _____
17. Cost of operation and maintenance : _____

Pirma sa Provider

Pirma sa Enumerator

k. What types of waste generate in your house? Manner of disposal.

k.1 Solid Wastes

Types (klase)	Kilos	Manner of disposal

k.2 Liquid Wastes

Types (klase)	Kilos	Manner of disposal

k.3 Special Wastes

Types (klase)	Kilos	Manner of disposal

k.4 Hazardous Wastes

Types (klase)	Kilos	Manner of disposal

k.5 Pollutants

Types (klase)	Kilos	Manner of disposal

- l. What are the problems you encountered in waste segregation?

- m. In your opinion, what are the effects of waste not properly disposed?

B. AGRICULTURE

- a. What animals do you have in the house?

Types of Animals	Numbers	Water consume(in liters , galloon, & containers)

- b. List of plants you have in the house , area occupied and water consumed.

List of vegetation	meters	Water consume (in liters , galloon, & containers)

C. LEVEL OF ECOLOGICAL CONCIOUSNESS

- a . Do you have restroom in your house? _____ if yes what type ?

1. water sealed
2. antipolo
3. others

- b. What is your sewerage outlet?

1. septic tank
2. drainage/canal
3. land

Pirma sa Consumer

Pirma sa Enumerator

HAZARD , RISK AND VULNERABILITY ASSESSMENT SURVEY

WATER PROVIDER

Barangay : _____ Purok : _____

1. Name of the water provider ? _____
2. Name of the respondents? _____
3. Location of the water supplier: _____
4. Number of households served:
 _____ Households _____ Institutional _____ Commercial
5. How many are metered : _____
 _____ Households _____ Institutional _____ Commercial
6. Where the location of the source: _____
7. Type of source : _____
8. Distance of water source from (in meters) :

a. septic tank	_____
b. cemetery	_____
c. dump site	_____
d. mga drainage/ canal	_____
e . baybay	_____
f. Funeral Parlor	_____
g. Junk shop	_____
h. Slaughterhouse	_____

9. Is water treatment conducted? _____ If yes how frequent ? _____
10. How the water treatment is conducted ?

11. How many hours the consumers being served. _____
12. How much is being charged of water consumption per liter/ galloon/ cu.m? _____
13. Does your system have a production meter: _____
14. Volume of water produce in a month: _____
15. How many years does the Water system existed / generated: _____
16. Volume of water sold every month: _____
17. How much is the Cost of operation and maintenance : _____

Pirma sa Provider

Pirma sa Enumerator

6. Random Sampling and Identification of Enumerators

6.1 Random sampling was done so that the following was initiated:

- 6.1.1 A list of residents in each purok in the Barangays concerned was obtained including those for institutions and business establishments within
- 6.1.2 A random selection of ten (10%) among the residents and personalities from the establishments was done by draw lots
- 6.1.3 Identification of probable enumerators was done by determining who are those in the Barangays concerned that have clout among the residents. With this, the Barangay Nutrition Scholars and Barangay Health Workers were identified because they have extensive experience in the conduct of this type of activity having been tapped on many occasions by the City Health Office in their own information generation from the different Barangays

7. Conduct of Orientation with Multi-stakeholders and the Enumerators

7.1 Conduct of meeting with multi-stakeholders at the project sites that involved Barangay Officials, Purok Leaders, Midwives, Barangay Nutrition Scholars (BNS) Sanitary Inspectors and Barangay Health Workers (BHW). The objective of the activity is for them to be able to understand the significance of conducting the hazard, risk and vulnerability assessment in their areas.

Activity Design

Enabling Objective:	• By the end of 3-hours workshop, the multi-stakeholders shall be able to understand and appreciate the HRVA Goals and Objectives and the IGACOS MEET the MDG project.		
Method	Key Points	Timeframe	Resources Needed
A. Input on MEET the MDG	<ul style="list-style-type: none"> • Overview of the project • Definition of Terms • Objectives 	1.5 hour	Module
B. Presentation of the survey questionnaire (draft only)	• Basic structure and component of the survey tool	30 min.	
B. Open Forum	• Issues and concerns of the stakeholders with regards to the project are formally addressed	1 hour	
C. Drawing out of the stakeholders' commitment	• Establish the commitment of the stakeholders participation in the implementation of the project.		



Orientation with Multi-stakeholders of focus areas by City Administrator Jun B. Gales with him the Team Leader Mr. Walter Somozo on November 28, 2006 at Babak District Gymnasium .

- 7.1.1 Grouping of resource persons according to their respective study areas was done
 - 7.1.2 Presented the Overall view of the MEET the MDGs
 - 7.1.3 Discussed the rationale behind the selection of the Barangays as the locations for the study
 - 7.1.4 Identified the factors affecting the potability and sustainable supply of water
 - 7.1.5 Gave inputs with regard to the foregoing concerns
 - 7.1.6 Enjoined stakeholders actively participate and help facilitate the conduct of the study
 - 7.1.7 Presented the contents of the questionnaire (Visayan version)
 - 7.1.8 Conducted interaction with the participants
 - 7.1.9 Challenge the Barangay officials through the Barangay Captains to declare their commitment to the undertaking
- 7.2 Orientation of enumerators regarding the project and the questionnaires
- 7.2.1 Gave inputs regarding the purpose of the project and the contents of the questionnaire clarifying to them who are considered users and providers of water supply
 - 7.2.2 Gave each enumerator the opportunity to clarify issues regarding the latter so that when they conduct the actual interview they can articulate to the respondents the context thereof
 - 7.2.3 Conducted a dry run as to how the survey shall be carried out with focus on how to approach the respondents
 - 7.2.4 Gave the enumerators the tips on how to conduct themselves during their one-on-one encounter with the respondents



Briefing and orientation of the survey forms to the Enumerators on November 29,2006 at Brgy hall of Villarica by Mrs. Bastasta of CPDO.

II. Assessment Phase

2.1 Data Gathering

2.1.1 Gathering of Secondary Data- Each sub-group was tasked to generate data based on records available in the different agencies and offices

2.1.2 Gathering of Primary Data through Actual conduct household survey by assigned enumerators.

One-on-one Interview. During the conduct, enumerators read survey questionnaire before the respondents and being asked immediately as to their responses.

- For respondents who were available only after office hours or working hours, the enumerators went to these households during night time
- The respondents were made to sign the questionnaires to manifest as to the veracity of the information that they provided
- The Support Staff of the MEET the MDG Team retrieved all the questionnaires with the corresponding responses from the enumerators



Poses of enumerators from Barangays Pichon and Villarica conducting actual survey to respective respondents. From left to right; Barangay Sanitary Inspector interviewed a resident of Purok 5, Barangay Pichon while a Barangay Nutrition Scholars interviewed a resident of Purok 4, Barangay Villarica

2.2. Consolidation of data gathered

- Support staff design matrix to consolidate tally sheets for the Users and Providers by purok . For the users data we separated the tally sheet for Solid waste, Agriculture and the Level of Ecological Consciousness, while data for Establishments was on the other sheet.
- Afterwards , Support Staff submitted the consolidated data to the different sub-groups for analysis,



Support staff consolidated the data on December 1-4 ,2006 at the City Planning Office

Consolidated data of HRVA of Barangays Pichon and Villarica

Summary of Actual Survey of Households and Establishment of Barangays Pichon and Villarica.

Barangay	Purok	No. of Hhs	Actual Surveyed	No. of Establishments	Actual Surveyed	Provider
Miranda		854	86	29	4	BAWASA
**	Purok 1					
	Purok 2	99	10			
	Purok 3	104	10			
	Purok 4	160	16			
	Purok 5	90	9			
	Purok 6	107	11			
	Purok 7	145	14			
Moncado		804	88	45	9	BAWASA
	Zone 1	229	23			
	Zone 2	95	13			
	Zone 3	175	14			
	Zone 4	87	10			
	Zone 5	62	11			
	Zone 6	111	12			
	Zone 7	45	5			

** Data not available

USERS:

BARANGAY PICHON

HRVA CONSOLIDATED SURVEY RESULT FOR BARANGAY PICHON

	P-2	P-3	P-4	P-5	P-6	P-7	TOTAL
Impormasyon sa Tagbalay							
nagtubag asawa	5	20	11	16	5	12	69
bana	2	3	4	2	8	3	22
anak	1	2	1		3		7
Panginabuhian							
Business	2	2	1	4	1	6	16
vendor			1		2		3
Farming	1	-	1	2	1	2	7
livestock		2		-	-	1	3
fishing		1	11	2	-	1	15
Private employee	1	-		-	-	-	1
Gov't employee		2		1	3	-	6
seaman		-		1	-		1
launcher		-		-	-	-	
operator							
carpenter		-	-	-	2	2	4
mason		-	11	1	-		12
driver	1	6	1	1	1	3	13
tailoring		-	-	-	-		
laborer		3	-	3	2		8
Shoe repair							
Pensioner		1	-	2	2	1	6
Pintor		-	-	1	11		12
helper		1	-	-	-		1
kusinero							
caretaker	1						1
dressmaker					1		1
Security guard			1		2		3
welder			1				1

Self employed			1				1
Walay trabaho		1					1
Buy and sell							
Tubero							
Brgy.employee					1		1
Brgy.officials					1		1
Hosp.maintenance					1		1
	P-2	P-3	P-4	P-5	P-6	P-7	TOTAL
Binulan nga kita							
Below 1,000	1		1			6	8
1,000 – 1,999		7	6	2			15
2,000 - 2,999	2	1	3	4	5	3	18
3,000 - 3,999		5	1	6	3	3	18
4,000 - 4,999		1	1	1	4	1	8
5,000 - 5,999	2	3	1	1	3		10
6,000 - 6,999	2	3	2	1	3	1	12
7,000 - 7,999	1				1		1
8,000 - 8,999					1		2
10,000 - up		2		3	2		8
Sakop sa panimalay							
1		1			2	1	4
2			2	2	4	1	9
3	1	3	3	3	3	2	15
4	1	3	3	6	7	5	25
5	4	3		1	2	1	11
6		4	6	2	4	1	17
7	2	2	1	3	2	1	11
8		3	4			1	8
9		1		1		2	4
10		1	1		1		3

A. Health and Sanitation

a. tinubdan sa tubig							
Deep well	8	6	2	18	22	15	71
Shallow well							
Spring							
Jetmatic		19	14	14			47
Ulan				1			1
	P-2	P-3	P-4	P-5	P-6	P-7	TOTAL
b. nagpadagan sa tubig							
BAWASA	7	4	2	16	19		48
Own well		6		1	5		12
Gov't owned		15	14			9	38
Small private piped/ulan	1			0/1		6	7/1
c. konsumo sa tubig							
Below 10 cu.m.	5		16	4	1		21
10 cu.m. – 19 cu.m.				7	16	1	24
20 cu.m. – 29cu.m.				2	2		4
30cu.m. – 39cu.m.	2						2
Pinabukal/ mineral h2o	2				1 / 2	/2	3/ 4
ginasala	1	1		3	1		5
natural	7	24	16	14	16	13	90
e. mabayran matag bulan							
Wala/ free	1	18	2	2	4	9	36
Below 100 php	2	4	4	10	3	1	24
100 php - 150 php	4	1	2	3	3	3	16
150 php - 200 php					3		3
200 php - 300 php	1				1	1	3
400-1000			8				8
f. Connection sa tubig							
Level 1			10				10
Level 2	1		2				3
Level 3	7		3				10
	P-2	P-3	P-4	P-5	P-6	P-7	TOTAL

g. kasagarang sakit							
fever	2	15	7	8	12	12	56
Cough and cold	2	22	4	1			29
diarrhea		3	4		2	3	12
Sipon	2		1	1			4
asthma		1					1
tonsil					6		6
h. kadugayon nga walay sebisyo							
wala		3	1	3	2		9
1 hr - 4 hrs.	6	8		1	2	8	25
others				6			6
1 day – 3 days		10	15	5	18	7	55
3 months							
Ngano man?							
brownout	5	5			4	5	19
Nadaut ang bomba		16	1	8		4	29
other						6	6
Kanunay agas			1				1
Hinay,no hose				3			3
Naputlan kuryente		1					1
i. kontento sa serbisyo							
Kontento	5	21	14	16	22	13	91
Dili kontento			2	2	1	2	7
Ngano man?							
Ok kayo			1	9	1		11
Walay lain		1		1		3	4
Walay undang agas		5					
Dali ra							
j. ang mag-ayo kong adunay nadaot							
Provider	6	1		16	2		25
Plumber						8	8
Tagbalay		6		3	7	3	19
Ass'n			14				14
Kadugayon sa pagresponde							
Kadali ra	6	4	9	11	12	3	45
3 days			2	4	5		11

K. Solid Wastes	Klase sa Basura	Kilos	Gi unsa paghipos
Purok 1			
Purok 2	Solid wastes		
	Cartoon / dahon	- 24 kls	Sunog, collection
	Plastic / cellophane	23 kls	Baligya / sulod sako
	Liquid wastes		
	Hinugas, kinaligo, linabhan	-	-
	Special wastes		
	Pinutol nga kahoy	-	- -
	Hazardous wastes		
	mabuak	6 kls	daplin
	pollutants		
	detergents	16 kls	yabo
Purok 3	Solid wastes		
	malata	675 kls / month	Sunog, lubong
	Plastic / cellophane	190 kls / month	collection
	Liquid wastes		
	Hinugas / kinaligo / nilaba	-	-
	Special wastes		
	Pinutol nga kahoy	-	-
	Hazardous wastes		
	mabuak	37 kls / month	Kolekta, gilubong
	Batteries / used oil	-	Labay lang
	Pollutants		
	detergents	350 kls / month	Yabo, bobo tanom, painom baka
Purok 4	Solid Waste		Sunog, sulod sako
	malata	66 kls	
	Dili malata	31.5	
	Special wastes Pinutol kahoy	70 kls	baligya
	Hazardous wastes	26 kls	Collection / labay sa bangag

Purok 5	Solid wastes		
	malata	420 kls / month	Gitapok / labay uma / dauban
	Tae sa hayop	360 kls	Labay uma / abono
	Dili malata	15kls/wk = 60 kls / month	collection
	Liquid wastes		
	Hinugas / kinaligo / nilaba	-	-
	Special wastes		
	Pinutol nga kahoy	161 kls	Gisugnod uban dauban
	Biya nga tsinelas	-	collection
	Hazardous wastes		
	Buak nga botelya	16 kls	Collection / labay sa bangag
	Batteries / used oils	-	Gilubong / gilabay sa daplin
	Pollutants		
	detergents	30 kls / mon	Gi yabo sa yuta
Purok 6	Solid Wastes		
	malata	26 kls	gilubong
	Dili malata	32.5 kls	collection
	Liquid wastes		
	Hinugas / kinaligo / nilaba	-	-
	Special wastes		
	dahon	30 kls (30) = 900 kls/mo	gisunog
	Pinutol nga kahoy	30 kls	Gisunog / gisugnod
	Hazardous wastes		
	mabuak	9 kls (collection
	Batteries / used oil	1 kl	collection
	Pollutants		
	detergents	44 kls	Yabo sa yuta

Purok 7	Solid Wastes		
	cellophane	8 kls.	collection
	Animal waste	1,025 kls	Abono, gilubong
	Liquid wastes		
	Hinugas / kinaligo / nilaba	Walay nagtubag	n/a
	Hazardous wastes		
	Buak nga botelya	29 kls.	Sulog bangag / labay / tapok
	batteries	24 kls	Butang daplin
	Special wastes		
	Kahoy / dahon	2,331 kls per month	Sunog, pundok sa daplin
	Pollutants		
	Detergent / chlorine / zonrox	161 kls per month	Yabo sa yuta

B. Agricultural Water Consumption

Average water consumption per Purok (per liter per day)											
Purok/ Zone	Pigs	Rabbit	Cat	Dog	Chicken	Lovebirds	Bulak	Gulay	Fruits	Others	Total/Purok
1											
2	7.56	2	0.75				10				20.31 agricultural water consumption
3	3600	1440	7.5	1028.16	15	60	7200	5920	1134	480	20884.66
4	200	3.78	0.5				420	11.34			635.62
5	180	29.29	0.25	0.75			68.04	320	1		599.33
6	192	37.8	20				238.14	1000	368	290	2145.94
7	30	3480	4200	340.2			8888	5700			22638.2
Total	4209.56	4992.87	4229	1369.1	15	60	16824.18	12951.3	1503	770	46924.06
Number of household (HH) - 1,075 (BAWASA Miranda) Ave. Water Consumption - 7820.6767 Liter/day per Purok Total Water Consumption of Brgy. Miranda - 46,924.06 liters/day											

C. Level of Ecological Consciousness

Purok	1	2	3	4	5	6	7	Total
Klase sa kasilyas								
water sealed		6	18	8		23	15	70
antipolo		2	3	2				7
Shared/Common			1	1				2
Wala			1	4				5
Diretso dagat								
Under Construction								
Paingnan sa hinugas ug kainaligo								
Septic Tank		4	5	2		12	5	28
Drainage/Canal		2	2				1	5
Diretso sa yuta		3	17	11		11	4	46
Diretso sa dagat			1	3			5	9
Bobo bulak			1					1

- ESTABLISHMENTS

Questions	Bakery (5)	Hardware (2)	Resort	Carenderia (9)
Information sa Tagbalay				
- Binulan nga kita	90,000 php	150,000 php	15,000 php	30,000 php
- sakop sa panimalay	7	4	6	2
Health and Sanitation				
a. tinubdan sa tubig	D/W	D/W	D/W	D/W
b. nagpadagan sa tubig	BAWASA	BAWASA	Own well	BAWASA
c. konsumo sa tubig	40 cu. m. (5) = 200 cu.m.	30 cu. m.(2) = 60 cu.m.	120 cu.m.	15 cu.m.
d. pamaagi sa tubig ilimnon	natural	natural	natural	natural
e. pila ang mabayran matag bulan	400 php (5) = 2,000	240 php (2) = 480 php	wala	150 php
f. gilay-on sa tubig	Level 3	10 meters	10 meters	10 meters
g. kasagarang sakit	kalintura	kalintura	kalintura	kalintura
h. kadugayon sa pag undang sa serbisyo	1 hr	1 hr	1 day	1 hr.
i. kontento sa serbisyo?	Okey ra	oo	kontento	kontento
Ngano man?	Naa reserve nga bomba	Kanunay agas	Kaugalingon man	Kanunay agas
j. Kinsa ang nag ayo sa daut nga tubo	tagbalay	provider	tagbalay	provider
Unsa kadali ang responde	Dali ra	Dali ra	Dali ra	Dali ra
k. Mga basura nga makuha sa panimalay				
Solid Wastes = malata	-	3 kls/wk	-	-
Dili malata / plastic	10 kls/mo.(5) = 50 kls.	3 kls/wk	10 kls/mo.	3 kls/day
Lata sa gatas / sardinas	3 kls/wk (4)(5) = 60 kls.	-	5 kls/mo.	-
Tsinelas/sapatos	-	-	-	-
Gi-unsa paghipos	collection	collection	collection	collection
Liquid Wastes = kinaligo / hinugas/ pool	2 ka container/day (5)(4) (30)= 1.2 cu.m.	-	130 cu.m. / mo.	90 liters/day(30)(9)= 24.3 cu.m.

Gi unsa paghipos	Diretso canal	-	Drainage /canal	Drainage/canal
Special Wastes = pinutol nga kahoy	1 kl/day (30) = 30 kls./ mo. Bakery (5)	1 kl/day Hardware (2)	14 kls/day Resort	Wala Carenderia (9)
Gi unsa paghipos	gisunog	Sulod sako/collection	Gi abono	Not applicable
Hazardous, wastes = buak nga botelya	-	wala	none	none
Dagom / blade	-	-	-	-
Batteries / used oil	-	-	-	-
Giunsa paghipos	-	-	-	-
Pollutants = detergents, chlorine,	wala	wala	-	none
Gi unsa paghipos	n/a	-	-	Not applicable
l. Unsa ang nasinati sa paghipos sa basura	Okey ra	wala	wala	wala
m. Epekto kong basura dili mahipos	Makahatag sakit	Samok	sakit	makasakit
Pang- Agrikultura				
a. mga hayop sa balay = baboy	wala	wala	-	none
manok			-	
Iro / iring			2 / 1 liter/day	
aquarium	-	-	-	
b. tanom = bulak	wala	wala	500sq.m. / 3cu.m/day	none
gulayon			-	
Level of Consciousness				
a. klase sa CR = watersealed	x	x	x	x
antipolo				
Uban pa				
Walay CR				
b. asa paingon ang hinugas/kinaligo				
Septic tank		x	x	x
Drainage canal	x			
Diretso sa yuta				
Diretso sa dagat				

USERS:
BARANGAY VILLARICA
HRVA CONSOLIDATED SURVEY RESULT FOR BARANGAY VILLARICA

	P-1	P-2	P-3	P-4	P-5	P-6	P-7	Total
Information sa Tagbalay								
nagtubag asawa	16	14	6	8	6	9	5	64
bana	3	1	-	2	5	-	-	11
anak			1			2		3
- Panginabuhian								
Business	4			3	2	1		10
vendor	-	-	-	-	--	-	-	-
Farming	-	-	-	-	-	1	-	1
livestock	-	-	-	-	-	-	-	-
fishing	1	3	1	-	-	-	-	5
Private employee	-	-	-	2	-	-	1	3
Gov't employee	-	1	-	1	3	1	-	6
seaman	-	-	-	-	-	-	-	-
Launchero operator	-	2	-	1	-	-	-	3
carpenter	2	4	2	-	-	2	2	12
mason	-	-	-	-	-	1	-	1
driver	3	2	2	-	1	1	1	10
tailoring	1	-	-	-	-	-	1	2
laborer	4	-	-	-	-	-	-	4
Shoe repair								
Pensioner	2	-	3	2	3	-	-	10
Pintor	1	-	1	-	-	-	-	2
helper	1	-	-	1	-	-	-	2
kusinero	-	-	1	-	-	-		
caretaker			1					1
dressmaker								

Security guard						1		1
labandera	-	-	1					1
welder	-	-	-	-	-	1		1
Self employed	-	1						1
Walay trabaho								
Buy and sell	1	-						1
Tubero	-	-	2					2
Brgy.employee					1			1
Brgy.officials					1			1
Hosp.maintenance	-	-	-	-				
- Binulan nga kita								
Below 1,000	4							4
1,000 – 1,999			2					2
2,000 - 2,999	3	2	3		3	1	2	14
3,000 - 3,999	6	5	3			6	1	21
4,000 - 4,999	3	1	2			1		7
5,000 - 5,999	1	3	2		1	1	1	9
6,000 - 6,999	1	1	1		4	1		8
7,000 - 7,999	1		1					2
8,000 - 8,999		1			1	1	1	4
10,000 - up	2				2			4
- Sakop sa panimalay								
1								
2						2		2
3	3	2			2	2		9
4	4	7		2	3	1	3	20
5	4	-		4	1	2	1	12
6	-	2		1	1	2	1	7
7		2			1	2		12
8	1	1		2	1			5
9	-	-						
10	1	-				1		2

A. Health and Sanitation

a. tinubdan sa tubig								
Deep well	9	15	13	2	11	11	5	66
Shallow well	12	-	1	14				27
spring		-						
Jetmatic								
Ulan								
b. nagpadagan sa tubig								
BAWASA	2	10	14	2	10	10	5	53
Own well	-	2	1					4
Gov't owned	18	3	-	14				35
Small private piped/ulan	1	-	-					1
c. konsumo sa tubig								
Below 10 cu.m.	1	-	5	16			1	23
10 cu.m. – 19 cu.m.	14	5	6	4	5	10	4	44
20 cu.m. – 29cu.m.	1	2	1		1	1		6
30cu.m. – 39cu.m.	4	5			1			10
40cu.m. – 49cu.m.	-	1						1
50 cu.m. - 59 cu.m.	-	-						
70 cu.m. - 79 cu.m.	-	2						
d. pamaagi sa ilimnon								
Pinabukal/ mineral h2o	1	1	-		1	2		5
ginasala	-	1	-			3		4
natural	21	13	13	6	9	8	5	75
e. mabayran matag bulan								
Wala/ free	19	4		4	2			29
Below 100 php	1	3	9	2	2	8	4	29
100 php - 150 php	1	-			2	2	1	6
150 php - 200 php	-	1			2	1		4
200 php - 300 php	-	4	2					8
400-1000				8				8

f. Connection sa tubig								
Level 1	14	4		14				32
Level 2	-	-	1					1
Level 3	16	8	13			10	5	54
g. kasagarang sakit								
fever	17	13	5		6	10	5	56
Cough and cold	13	10	9		15			47
diarrhea						1		1
Sipon	2					6		8
asthma						1		1
tonsil						1		1
h. kadugayon nga walay sebisyo								
wala	-	5		1		1	1	8
1 hr - 4 hrs.	3	10	14		8	9	3	47
others				11				11
1 day – 3 days	13	-	1	4	2			20
3 months						1		1
Ngano man?								
brownout	-	5	9		8	9	3	34
Nadaut ang bomba	13	4	1	13	2			33
other				3				3
Kanunay agas		5						5
Hinay,no hose								
Naputlan kuryente						1		1
i. kontento sa serbisyo								
Kontento	20	14	10		9	11	4	82
Dili kontento			2					2
Ngano man?								
Ok kayo	2	4	8		7	5		24
Walay lain	7	1			1			9
Walay undang agas		2	5		1	6	4	18
Dali ra		4	1					5

j. ang mag-ayo kong adunay nadaot								
Provider	1	8	2	1	2	7	2	24
Plumber								
Tagbalay	3	6	7		9	3	3	31
Ass'n	17	-		14				31
Kadugayon sa pagresponde								
Kadali ra		12	11		6	4	1	49
3 days		1	1		3			5

k. Solid Wastes			
	Klase sa basura	Kilos	Gi-unsang paghipos
Zone 1	Solid wastes		
	malata	160 kls	sulod sako
	Dili malata	140 kls	-
	Special wastes		
	Tsinelas / sapatos	14.5 kgs	11 kgs
	Liquid wastes	-	-
	Linaba, kinaligo, hinugas	-	-
	Hazardous wastes		
	mabuak	18 kls	Gibutang balon, gibutang bangag
	Batteries, used oils	-	-
	pollutants		
	detergents	-	- sulod sako para baligya
Zone 2	Solid wastes		
	Malata / dahon	72 kls	- gisunog
	Plastic / cellophane	64 kls	- collection
	Liquid wastes		
	Nilaba, hinugas, kinaligo	-	-

	Special wastes		
	sapatos	2 kls	collection
	Hazardous wastes		
	mabuak	13 kls	Gisulod bangag
	pollutants		
	detergents	-	-
Zone 3	Solid wastes		
	Malata / dahon / papel	38 kls	Gisunog, gi-abono
	Cellophane / plastic	45 kls	collection
	Liquid wastes		
	Kinaligo, hinugas, linaba	-	-
	Special wastes		
	sapatos	1 kl	collection
	Hazardous wastes		
	mabuak	55 kls	Gibaligya, collection
	pollutants		
	detergents	-	-
Zone 4	Solid wastes		
	Plastic / cellophane	164 kls	collection
	dahon	705 kls	gisunog
	newspapers	116 kls	gibaligya
	Boxes/ tissues/ cotton	-	collection
	Liquid wastes		
	Kinaligo, hinugas, nilaba	-	-
	Special wastes		
	Kahoy nga pinutol	150 kls	gisugnod
	Hazardous wastes	none	
	pollutants		
	detergents	-	-

Zone 5	Solid wastes		
	Cellophane / plastic	111 kls	cellophane
	Dahon, panit gulay, uban malata	354 kls	Sunog, collection
	Liquid wastes		
	Linaba, kinaligo, hinugas	-	-
	Special wastes		
	Tsinelas, sapatos	14 kls	collection
	Pinutol nga kahoy	3 kls	dauban
	Hazardous		
	Mga buak nga botelya	9 kls	collection
	Batteries, used oil	7 kls	collection
	Pollutants		
	Detergent, muriatic	39 kls	Canal, yuta
Zone 6	Solid wastes		
	cellophane	88 kls	collection
	dahon	537 kls	dauban
	Panit saging	102 kls	Gi abono
	Liquid wastea		
	Kinaligo, hinugas, linaba	-	-
	Special wastes		
	Pinutol nga kahoy	65 kls	Gisugnod, uban gisunog
	Hazardous wastes		
	Botelya (buak o dili)	33 kls	Baligya, collection
	pollutants		
	Detergents	55 kls	Diretso yuta, ihugas bowl
	Klase sa basura	Kilos	Gi-unsang paghipos

Zone 7	Solid wastes		
	Dili malata	92 kls	collection
	malata	72 kls	collection
	Liquid wastes		
	Kinaligo, linaba, hinugas	-	-
	Special wastes		
	Pinutol nga kahoy	3 kls	- gidauban
	Sapatos, tsinelas nga guba	2 kls	- gisulod
	hazardous		
	Botelya nga buak	2 kls	- gisulod sako
	pollutants	-	-

B. Agricultural Water Consumption

Average water consumption per Purok (per liter per day)											
PurokZone	Pigs	Rabbit	Cat	Dog	Chicken	Lovebirds	Bulak	Gulay	Fruits	Others	Total/Purok
1	1940	3856	1000	60			390	5760	700		13706
2	35	13.73					172	210	20		450.73
3	27	136					10	280			453
4	165	189					8040	1800			10194
5	35	6300	496	20		30.24	12600	136.08	2400	9348	31365.32
6	147	4240	340.2				4320	7200	113.4		16360.6
7	90	434.7	1200				270	4960	453.6		7408.3
Total	2439	15169.43	3036.2	80		30.24	25802	20346.1	3687	9348	79937.95
Number of household (HH)		- 820 (BAWASA Villarica)									
Ave. Water Consumption		- 11419.707 Liter/day per Purok									
Total Water Consumption of Brgy. Villarica		- 79,937.95 liters/day									

C. Level of Ecological Consciousness

Purok	1	2	3	4	5	6	7	Total
Klase sa kasilyas								
water sealed	11	11	14	10	11	10	5	72
antipolo	1	4						5
Shared/ Common								0
Wala			1					1
Diretso dagat	9							9
Under Construction						1		1
Paingnan sa hinugas ug kainaligo								
Septic Tank	5	3	13	10	4	3		38
Drainage/ Canal	1	2			6	6		15
Diretso sa yuta	8	5	6		1	2	2	27
Diretso sa dagat	9	5						14
Bobo bulak								

- Establishment**

QUES- TIONS	Hospital	Welding Shop	Piggery	Junk Shop	Car wash	Lodging Inn	Vulcaniz- ing	Const' Supply	Funeral Parlor
Info. Sa Tagbalay:									
- Binulan nga kita	30,000	10,000	30,000	10,000	3,000	7,000	6,000	25,000	50,000
- sakop sa panimalay	10	8	6	7	5	4	3	1	11
Survey Proper									
- tinubdan sa tubig	D/W	D/W	D/W	D/W	D/W	S/W	D/W	S/W	D/W
- nagpada- gan sa tubig	BAWASA	BAWASA	BAWASA	BAWASA	BAWASA	own	BAWASA	own	SIHAI

- konsumo sa tubig	100 cu.m.	140 cu.m	40 cu.m	140 cu.m	70 cu.m.	45 drums	44 cu.m.		
- pamaagi sa tubig ilimnon	ginasala	pinabukal	natural	natural	natural	natural	natural	natural	mineral
- pila ang mabayran	700 php	Php 200	Php 400	Php 230	550 php	wala	340 php	wala	1,500 php
- gilay-on sa tubig	Level 3	Level 3	Level 3	Sulod balay	Sulod balay	Naa sa compd	Naa sa compd	Naa sa compd	Sulod balay
- kasagarang sakit	Ubo/fever	Fever/sipon	HB/fever	ubo	Fever sipon	Sipon/ubo	Sipon/ubo fever	wala	fever
- kadugayon sa pag ubdang sa serbisyo	wala	2 hrs	3hrs	wala	1 hr	n/a	2 hrs	-	1 hr
Ngano man	-	Brownout	Brownout	-	Brownout	n/a	brownout	n/a	brownout
- Kinsa ang nag ayo sa daut nga tubo	provider	tagbalay	tagbalay	tagbalay	tagbalay	own	provider	own	provider
Unsa kadali ang pag responde	1 hr.	Dali ra	Dali ra	-	Dali ra	Dali ra	20 min.	Dali ra	5 min.
- Mga basura nga makuha sa panimalay									
Solid Wastes= malata	3 kls/day	15 kls/wk	-	-	-	-	-	-	-
Dili malata / plastic	5 kls/day	5kls/wk	5kls/wk	20kls/mo.	4kls/wk	2 kls/mo	½ kl/wk	3 kls/wk	1 kl/day
Gi-unsang paghipos	collection	collection	collection	collection	collection	baligya	collection	collection	collection
Liquid Wastes = kinaligo / hinugas					1 drum mo.	-	-	1,000 liters/wk	-
Gi-unsang paghipos	-	-	Septic tank	-	canal	Septic tank		septic	-

Special Wastes= pinutol nga kahoy	20 kls					-		-	-
Gi-unsang paghipos	gisugnod				collection	n/a		recycle	-
Hazardous wastes= buak nga botelya		3kls/wk				-		¼ kl/day	20 kls/ mo
Dagom, blade									
Batteries, used oil									
Gi-unsang paghipos	gilubong	collection		baligya	recycled	n/a		kolekta	baligya
Pollutants = deter- gents, chlorine,	-					-		-	-
Gi-unsang paghipos						n/a	baligya	-	-
Unsa ang nasinati sa paghipos sa basura	wala	wala	Pasagad segregate	wala	Usahay di makuha	Dugay makuha	wala	-	wala
Unsa ang epekto kong basura dili mahipos	wala	mabaho	Makadaot sa lawas	hugaw	Magkasakit	magkasakit	magkasakit	-	
Level of Conscius- ness									
Klase sa CR • Water sealed • Antipolo • Uban Pa • Walay CR	X	X	X	X	X	X	X	X	X
Asa Paingon ang hinugas • Septic Tank • Drainage/ Canal • Diretso sa yuta • Diretso sa Dagat	X	X	X	X	X	X	X	X	X

WATER PROVIDER

	BAWASA MIRANDA	BAWASA VILLARICA	SIHAI	IGCSWaterDistrict
Population	5,022	3,824	Included in Miranda	
Number of Household	1,075	820	Included in Miranda	
Number of deep wells	2 deep well	2 deep well	1 deep well	
Number of Reservoir	3 reservoir	2 reservoir	1 reservoir	
Number of connections	308 households	373	90 households	77 hhs
	11 commercials		-none-	/ 2 Institutional/
Number of meters	319	373	90	77/ 2
Location of water source	Brgy. Hall	Brgy. Hall	Open Space	Lawig Subdivision
Water discharge from the source				4,007.23 cu.m/ mo.
Distance from the pollutants				
Septic tank	25 meters	20 meters	20 meters	10 m
Drainage/ canal	50 meters			10 m
baybay	250 meters	250 meters	1,000 meters	3.0 kms
cemetery	1 km	1 km	700 meters	4.0 kms
junkshop	150 meters	150 meters	1 km	1.50kms
Funeral Parlor				1.8kms
Presence of water treatment	yes	yes	yes	yes
Frequency	w/in machine chlorinator	w/in machine chlorinator	3 times per annum	always
Process of water treatment	Monthly sampling	Monthly sampling	Chlorination at the source 12 hrs. every treatment	By chlorination, an enough Dosage of chlorine Disinfects & Treat the Water prior to its Distribution
Number of hrs. rendered per day	24 hours	24 hours	24 hours	20-24 hrs
Minimum rate	80.00 php / for the first 10 cu.m.	80 pesos for the first 10 cu.m.	80 pesos for the first 10 cu.m.	P 0.112/ liter P 0.42/ gal 11.20/cu.m

	BAWASA MIRANDA	BAWASA VILLARICA	SIHAI	IGCSWaterDistrict
Presence of production meter	none	none	none	Yes
Cu. Meters produce per month	n/a	n/a	n/a	3,500 cu.m/mo.
Cu.meters sold per month	2,900 cu.m.		1,545 cu.m	2,300 cu.m/mo.
No. of years in service	7 years		4 years	2 years
Cost of operation and maintenance	387,686 php		4,000 php	95,085.40

Observations:

Data and information generated from the the actual survey were found insufficient because respondents did not answer questions diligently.

Consequently , the team was having difficulty in coming up with a comprehensive analysis.

2.2 HRVA

2.3 Formalization and Validation

2.3.1 Drafting the Report

2.3.2 Data Validation

Post Assessment Phase

Draft Appraisal
Finalization of the Document
Formulation of Local Government Reform Agenda
Legitimization

Report Presentation
Approval

Implementation

Monitoring and Evaluation

Critical Next Steps and Directions

HRVA Worksheets

Other Appendices/Annexes

Glossary

GLOSSARY





MDG 7: Shelter

MEETing Shelter

Mitigating the Effects
of External Threats to Shelter
in San Vicente, Palawan





MESSAGE

Republic of the Philippines
Province of Palawan
Municipality of San Vicente



OFFICE OF THE MUNICIPAL MAYOR

MESSAGE

MEET the MDGs is one unique tool which can be used by every local disaster coordinating teams or organizations to respond to the real needs of our people especially in times of calamities or disasters. This can be institutionalized in every way thru the Local Government Units (LGUs) with full support by both the Local Chief Executive and by the Legislative branches. Meet the MDGs may not sound quite familiar to everyone. But in far advanced cities and provinces the systems and approaches has already been adopted as manifested by their invincibility to easily bounce back from a disastrous calamity into a strong and viable economic condition in a minimum period of time.

While the Municipality of San Vicente had been implementing all sorts of programs to help alleviate and improve the standard of living of our marginalized sector, we realized that in so doing it has to some extent exercised the principle of mitigating the risks and the vulnerabilities of our communities from hazards brought about by man-made and natural calamities. It is for this reason that we in San Vicente fully supports the program that we are committed to give in every little way we can for the success of this program.

It is in this context that we have allowed our staff in full coordination with Cities Without Slums IMPACT Project, thru UN-HABITAT that this Toolkit is done as we wish to share to each and every reader the visions and purpose that we in San Vicente would like to achieve, with the hope that they will find it useful and more importantly enrich it with their own experiences and lessons for all other LGUs or communities to replicate.

Lastly our congratulations to the United Nations Development Program (UNDP) thru the UN-HABITAT in coming-up with a good and viable program for the benefit of the common good.

Hon. ANTONIO V. GONZALES
Municipal Mayor

INTRODUCTION

Northern Palawan has been endowed with natural scenic spots which made it one of the priorities by the national leadership for tourism development programs.

In 2004, Mayor ANTONIO V. GONZALES created a special team to carry out a special program to compliment with his Executive Agenda. Under the said program, he enumerated Agriculture (with focus on Crop-Livestock Integration), Tourism Development Program, Environment (with focus on Communal Forest & Watershed Development Projects), in Fisheries, the establishment of a Fish Port in San Vicente, and in Local Governance System, the creation of an office that would handle a state of the art one-stop-shop processing system.

Under the Tourism Development Program, the Mayor underscored the existence of coastal informal settlers which is alarmingly growing at the passing of the time. And in order to cope with the situation, the Chief Executive envisioned a program that will provide a sanctuary to these sector that will in effect reduce if not eradicate fishermen squatting in Island Sitios which might in the end affect potential areas for tourism development.

The Municipality of San Vicente with its delegated Point Person had been actively participating with all UN HABITAT's major programs and activities particularly IMPACT.

MEET the MDGs is among those that the Municipality of San Vicente has enrolled with UN HABITAT. Together with other Nine (9) cities, each is given a tasked within which to focus in mitigating the effects of external threats to the Millennium Development Goals (through a Rights-based Reforms in Governance for Greater Equity, Transparency and Sustainability). In this regard, San Vicente has chosen Shelter as its focus.

This Guide Book will tell each and every reader on how the leadership of the Municipality of San Vicente, Palawan, its concerned constituents, its communities, the assisting organizations, the participating Community-based Organizations, and all the participating individuals, with its modest and humble experience is able to cope with its very limited but potent resources in dealing with its slums problems, with the hope that it may to some extent give them insights and lessons replicable in their own locality or dwellings.

ACKNOWLEDGMENTS

The HRVA-CT would like to acknowledge the following individual/group agency who were instrumental in developing this document.

The residents of purok 1, 2 & 3 and barangay officials who participated and provided substantive participation and insights during the assembly, household survey, ocular inspection and, validation process.

The Chairman, members of the HRVA-CT who gave their support, time and effort towards the realization of the HRVA output.

The municipal government of San Vicente as Implementing Partner (IP) of the project with the special mention of the Office of the Municipal Mayor and the Office of the Sangguniang Bayan who are the instrumental bodies in institutionalizing HRVA Process and for their outmost support to the project.

The UN-HABITAT as Responsible Party (RP) who provided technical and financial assistance in the delivery of the work program.

Finally, due credit is recognized to those who may have one way or another have supported the HRVA-CT's effort in the formulation of HRVA Guidebook/Toolkit.

HRVA-Core Team

ACRONYMS

AES	Alimanguan Elementary School	MEET the MDGs	Mitigating the Effects of External Threats to the Millennium Development Goals
AIP	Annual Investment Plan		
ANHS	Alimanguan National High School		
BCLUP	Barangay Comprehensive Land Use Plan	MCDO	Municipal Cooperative & Development Office
BDC	Barangay Development Council	MCRO	Municipal Civil Registrar's Office
BDCC	Barangay Development Coordinating Council	MDCC	Municipal Development Coordinating Council
BHS	Barangay Health Station	MPDO	Municipal Planning & Development Office
CAFGU	Citizens Armed Forces Geographical Unit	MSWDO	Mun. Social Welfare & Development Office
CBMS	Community Based Monitoring System	NAPOCOR	National Power Corporation
CIDSS	Comprehensive Integrated Delivery of Social Services	NGO	Non-Government Organization
CT	Core Team	NHA	National Housing Authority
DCC	Day Care Center	PAG-ASA	Philippine Atmospheric, Geophysical and Astronomical Services Administration
GPS	Geographical Positioning System		
HRVA	Hazard and Risk Vulnerability Assessment	PALECO	Palawan Electric Cooperative
HRVA-CT	Hazard & Risk Vulnerability Assessment – Core Team	PB	Punong Barangay
IP	Implementing Partner	PTCA	Parent-Teacher-Community Association
KALIPI	Kalipunan ng Liping Pilipina	PTPI	Pagdanan Timber Products, Inc.
LGU	Local Government Unit	RP	Responsible Party
MASSO	Municipal Assessor's Office	SCA	Senior Citizens Association
MENRO	Municipal Environment and Natural Resources Office	SRA	Social Reform Agenda
		SVWD	San Vicente Water District

SUMMARY

The HRVA as one of the mitigative measures in dealing Disaster Management provides the assessment or condition of risk level and vulnerabilities of identified community.

The process involves a series of steps and activities that was planned and decided by the Municipal HRVA Core Team, created thru an Executive Order No. 2006-18 composed of a Chairman, Vice Chairman and eleven (11) members.

Implementation of the HRVA Project requires the members' commitment to their assigned tasks and allowing also the residents of the identified community to participate in the process. The HRV Analysis of the identified hazard flood and landslide, and the analysis of the effects of impacts and capacities of the people, property and environment was based on the HRVA household survey, researches, interviews/dialogue with barangay officials, persons in authorities and from other sources of information. Ocular site inspection and evaluation were also conducted to determine the existing condition of infrastructure facilities and other environmental elements that are likely to be affected by hazards.

Output of the survey and result of the analysis was presented for validation during Purok Assembly. The final draft of the analysis and the overall process to come up with a documented HRVA Guidebook/Toolkit was also presented to the Mayor, Vice Mayor, other local officials and HRVA-CT members for comments and critiquing. The purpose of the meeting is to be able to formulate the LGRA, these are the programs and projects identified as an intervention of the LGU based on the output of the HRV analysis, hence, the viability of this project recommends replicating the study to other barangays and areas of the municipality.



Undertaking the project to be able to develop the HRVA Guidebook/Toolkit is a fascinating activity that requires “no” able survey. Data gathering by going to the area is exciting but it is the collating /tabulation of data and the analysis that is so tiresome, knowledge power is needed.

There is much that can be done to achieve the goal as planned, if there is collective effort. To ensure the smooth operation, implementation of the project, allocate time, personnel, equipment/ facilities and budget.

On the other hand, it is much better if in the gathering of data thru household survey, enumerators should come from the barangay like volunteer workers, BHWs, BEANS, etc. to lessen expenses and to maximize time.

HAZARD AND RISK VULNERABILITY ANALYSIS ANALYSIS

I. OVERVIEW

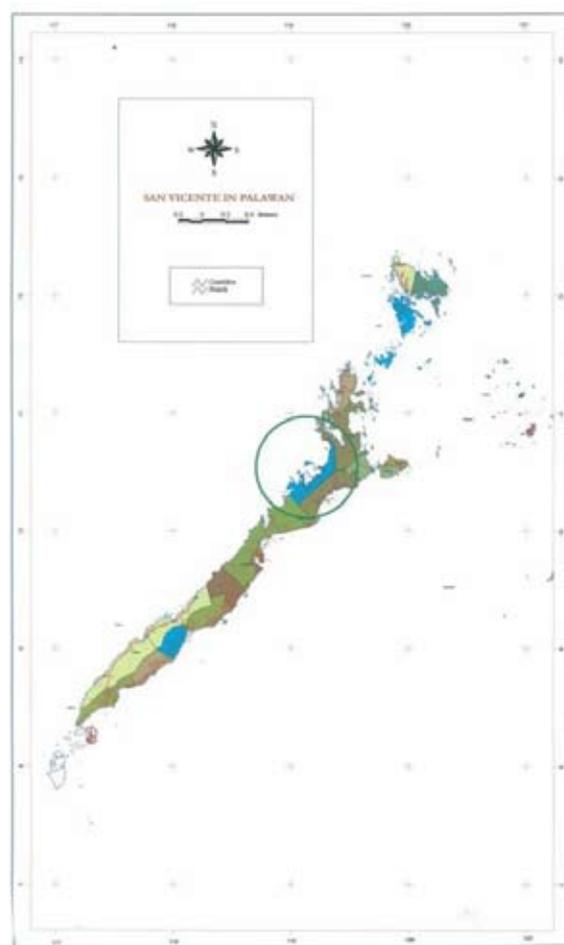
A.1 San Vicente, Palawan

San Vicente is located in the mainland of the northern part of Palawan, with legal jurisdiction over ten (10) barangays which comprise the total land area of 165,797.65 hectares.

It was created on June 21, 1969 by virtue of Republic Act 5821 and officially functioned as distinct municipality on January 2, 1972. San Vicente is a first class municipality and belongs to 1st Congressional District of Palawan having a total population of 25,429. The seat of government is located in barangay Poblacion.

It is approximately 186 kilometers away from the City of Puerto Princesa.

Farming and Fishing are the major economic activity engaged in by 56.33% of the municipality's total employment, with rice and coconut as the main agricultural product. The fishery sector is continuously gaining market recognition even outside the province from live fish trading, fresh and dried fish buying to sardines making.



Tourism is also considered as alternative economic venture. The municipal government is eyeing on tourism development as one way of sustaining marine and other natural resources by creating more employment and investment opportunities without sacrificing the integrity of the environment.

The LGU aims to visualize San Vicente to be a progressive and self-reliant municipality in the next five (5) years to come, and a well-known and favorite tourist destinations on ecological tourism with a balance and sustained environment and natural resources. To help out attain this vision, the LGU makes use of its unequalled tourist attractions as capacity to introduce alternative economic strategy to harmonize development being focused to agriculture and fishery.

A.2 The LGU's MDG focus

The municipality of San Vicente is enrolled in this project focusing on Shelter Project as the local government felt the need to address the human basic need which is shelter.

San Vicente is a coastal municipality, as such; it is endowed with rich marine resources where more that thirty percent (30%) of households living in coastal area rely on sea water as their source of livelihood, and continuously increasing brought by migration and population growth. With the need to cope from everyday battle against poverty, many of these households dwell on salvage/marine zones and critical areas where they could put up temporarily light material houses for free without taking considerations of the hazards and risks that may happen.

To account, there are more than 611 families with no security of tenure, and most of these are informally settled in former mangrove area, coastline areas, and critical areas along the river banks. This is already a perennial problem of the social sector that needs to be addressed now while it is still manageable.

There is a need to relocate these informal settler families/squatter households through relocation project. At present, there are two (2) shelter projects that are now being worked out in partnership between the municipal government of San Vicente and UN-Habitat IMPACT Team in two (2) different areas, in sitio Pinagmangalucan of barangay Poblacion with thirty five (35) household beneficiaries and in barangay Alimanguan with two hundred (200) beneficiaries. Another area is also being eyed as possible relocation site for transient fishermen temporarily residing in the islands of Port Barton, and this is Albaguen Island which at present is being studied for consideration.

The LGU is committed to find ways to resolve the issue through partnership with other key players in the government and NGO networks. Sensible planning is what it takes to further increase the capacity of the LGU and to be able to respond to the needs of the other sector in the municipality. Tourism development is one of the government reform agenda where plans and programs are redirected and being focused with the assistance from national government agencies, private sectors and NGOs. Hence, the Shelter Lead Strategy is based on this goal. This strategic direction captures the natural endowment of the municipality as a tourism area which the LGU can maximize for the sector who are predominantly fisher folks, while enhancing their capabilities to become an asset and boost on the strengths of all stakeholders and the rich resources of the municipality to effectively and efficiently respond to the needs of the socialized housing/shelter sector.

The 2006-2010 Shelter Plan of San Vicente has already been approved by the Sangguniang Bayan. In order to jumpstart the program, UN-HABITAT and the LGU of San Vicente has agreed to start processing the loan portfolio of Pinagmangalucan Fishermen Neighborhood Association, Inc. (PFNAI) which comprise of 35 household beneficiaries. These beneficiaries have been a subject of eviction by the land owner of the area they had been occupying. The LGU of San Vicente through the Congressional Fund of the Congressman of the 1st District of Palawan has bought a 5,000 sq. m. lot just nearby the area for the purpose. The PFNAI through the assistance of UN-HABITAT, the LGU, and the San Vicente Market Vendors Multipurpose Cooperative has already submitted pertinent documents to facilitate release of housing loan with the Development Bank of the Philippines (DBP)

Another area being pursued now by the LGU is in Barangay Alimanguan. The project contains 2 phases, which will cover a total of 198 household beneficiaries. The lot for the project is to be paid shortly upon issuance of a check by the NHA to the lot owner. Some 99 household beneficiaries have been aligned to cover the 1st phase of the project. The 2nd phase shall start upon the completion of the 1st phase and will be a subject of a negotiation with DBP by 2007.

A livelihood program also has already been conceptualized and is bound for implementation before the end of 2006. The project is aimed at upgrading the fishing gears and paraphernalia of the target beneficiaries to augment their income and sustain security payments to their housing obligations and other basic needs.

Other activities have also been done to address the need of housing requirements in Albaguen which will substantially house 300 to 400 target housing beneficiaries.

Before the end of 2010, the project is aimed at establishing 611 housing units to improve social living conditions of slums in San Vicente.

A.3 Disaster Management and HRVA

Disaster Management can be defined as the effective organization, direction and utilization of available counter-disaster resources, while HRVA can be describe as one of the tools and techniques in dealing Disaster Management.

Disaster Management also offers the same objective as that with development. San Vicente is just starting to jump off to urbanization as manifested in its medium and long term development plans. However, all these objectives may or may not be achieved in the account of future incapacities. Integration of Disaster Management into Development Planning is very timely particularly in the case of San Vicente as it slowly embarking to development stages. It is an advantage to take considerations of the impact of disasters that may occur resulted by population growth, poverty and urbanization to mitigate the harmful effects and this is what Hazards-based Risk and Vulnerability Assessment offers – to strategize Disaster Management through local process.

Definition of Terms

Amihan	northeast winds prevailing from January to May
Bayanihan	spirit of cooperativism
Erosion	an eroding or being eroded, especially the wearing away of land by water, air or ice
Evacuee	a displaced person settling outside his own community due to an emergency of disaster
Flood	is usually caused by a temporary rise of the water level of a river, stream or other water course, inundating adjacent lands or floodplains. It could also be due to a temporary rise of lakes, oceans or reservoirs or other bodies of water inundating borderlands normally above water
Habagat	southwest winds prevailing from June to December
Kaping	screen like fish drier made of bamboo splits
Monsoons	a seasonal wind of the Indian Ocean and south Asia, blowing from the southwest from April to October, and from the northeast during the rest of the year
Purok	settlements that comprise the Barangay
Shelter Project	a municipal government program that provides low cost housing for informal settlers, landless and settlers in critical areas. It also provides livelihood projects and capability building program for its beneficiaries to sustain the project
Siltation	reduces the navigability of the rivers

VULNERABILITY ANALYSIS

A. Hazard Analysis

FLOOD

FOREWARNING

- Flood almost always occurs during or immediately after continuous, heavy rainfall. A flood is building up in the area the people observe an increasing flow in streams and rivers with the water level obviously higher than normal.
- When continuous heavy rains occur and/or during typhoon, the Punong Barangay conducts visit particularly in Puroks 1, 2 & 3 to forewarn the residents.
- Weather forecast of PAG-ASA from radio and television.

SPEED OF IMPACT

In low lying areas particularly Purok 3 in Barangay Alimanguan, after 72 hours of continuous heavy rain, the water level rises up to three (3) feet, however, in Purok 1 it counts five (5) days of heavy rains before the water rises up to three (3) feet. Residents become alert and keep observant for any eventuality that may occur. Most houses in flood prone area are submerged into water. Generally, electric power during this time is temporarily off to avoid further damage. Household appliances, paddle boats, motorboats, fishing paraphernalias and other important devices are already kept in a safer place. Being aware of the effects of floods in one (1) to two (2) days, the affected households will start to stock food to avoid food shortage when the weather gets worse.

IMPACT DURATION

As experienced by the affected residents, major flooding usually occurs during 2-3 days of continuous downpour. Based on this event, 1 to 2 days of flooding, the water recedes during low tide which will take 2 to 3 hours to subside, however, when flood occurs during high tide, the river have a tendency to overflow and probably would bring more damages to lives and properties as well as to environment.

CAUSES

Forest denudation

Despite of the government's call for forest protection, illegal kaingin still occurs in some forested areas, and so with illegal cutting of trees as their additional source of livelihood as more houses and other similar structures are being built. Cutting of trees along river banks/creeks causes major damage to environment as the soil loosen its capacity to hold, thus, resulting to floods.



Denuded mountain of the barangay which is a part of Purok I agricultural activities a represent in the area

Dwelling constructions in mangrove areas

Barangay Alimanguan has a mangrove area of 36 hectares located in the northern part of the barangay where puroks 1 and 2 are geographically situated. From 36 hectares mangrove area, 40 percent has been reduced over the years due to construction of dwelling units in this area. Mangrove trees were illegally cut, and gradually altered into residential area. At present there are about twenty five (25) households reside in this place. A one (1) hectare fishpond was also illegally constructed in Purok 1 in 2004. Such report reached municipal authorities and ordered the owner to stop said construction.



Part of Mangrove area of Purok 1 converted as settlement sites.

Sand Quarrying

A brief interview with Mr. Florencio F. Fadrilan, a resident in purok 4, whose house built near the main river, testified that sand quarrying is also a contributory factor to environmental degradation that causes hazards. This activity has been a long practice and became a source of livelihood for some residents whenever there are housing construction and other related structures. Even PB Cesar Caballero attested to this illegal activities and attempted several times to stop such doings, but it remains futile.



Obstruction of waterways due to soil erosion, siltation and wastes

Farm and other development in the area caused soil erosion and siltation of Barangay Alimanguan River and its estuaries, waste generated from agricultural and households greatly contributed to the perennial flooding of the area. Illegal cuttings of mangroves and construction of houses along the riverbanks is also seen as a contributing factor for river clogging.



Dwelling units along river banks of Purok 2, that is at high risk to hazard flood.

HISTORY

According to the old folks in this barangay, originally, Alimanguan has a large portion of mangrove area, which can be found north of the Barangay and have abundant marine products particularly crustaceans, shrimps and wide variety of fishes. The Alimanguan main river then is just small. This river cuts across the hills of Alimanguan that runs through Puroks 2, 3 and 1 and slides through Imuruan Bay. Boatmen then get difficulties passing this river due to its narrowness that they cut mangrove trees along the riverside to get easy access on the river before and after fishing activity.

Environment alteration takes place through the years brought by population growth, man-made developments and natural hazards. Although Palawan is noted as a typhoon-free province, it has its southwest monsoons or habagat which occurs from June to December yearly. During this period, strong winds, big waves and heavy rains normally occurs and its impact can be worsened when it is associated with typhoon and one of its consequences is flooding that causes soil erosion and loss of land. Economic activity is also affected; fishermen could not go fishing.

Data from PAG-ASA shows that the province is normally visited by typhoon twenty (20) times a year. Of these, eight (8) are felt in island and northern municipalities. One of the strongest typhoons that the people can remember is typhoon Norming which happened in year 1998. The Barangay was greatly affected from infrastructure to economic structure. Last December 2005, the barangay was also hit by a typhoon resulting to heavy floods where purok 3 Wooden Bridge (which connects purok 1 and 3) was totally destroyed by its strong winds and current, aside from its being weak already. A new bridge was constructed in February 2006 to replace the damaged one out of the provincial and municipal fund. Based on HRVA survey total damage for these hazards for the last ten (10) years in the community is estimated at Php 5M.



- Trashes dumped along river banks
- Newly planted trees (kakawati) by residents along this area to prevent soil erosion.
- Across the river is the land formation developed through the years due to soil erosion.

Today, the mangrove area has reduced to 20 hectares where 40 percent of its original area were converted into residential uses and will continue to decrease if not properly addressed by concerned authorities. Likewise, the main river gets bigger and wider, as it now measures 6,350m length and 15m width (in settlements area) respectively. Through the years, a mini islet was formed at the center of the river that has transferred to the other side of the river (in purok 2), now planted with coconut trees. The land formation came from the eroded soil in purok 3. Based on Mrs. Cecil P. Co's calculations, a resident of purok 3, there are already more or less nine (9) houses built along the river that have been washed out and approximately five (5) meters width of strip of land had been eroded up to seashore area. She added too, that they have already planted mangrove trees in river sides, but to no avail, it is frequently washed-out.

PREDICTABILITY

The predictability to happen a river flooding is high, during habagat season most particularly in the months of October to December. Prolonged heavy rainfall in association with high tide may also cause river flooding. Hazard effect in terms of damage on dwelling units along riverbank and coastal area is minimal as these are majority made of light materials like nipa, sawali, bamboo and round timber. On infrastructure facilities, three (3) wooden bridges will be affected, these are in purok 1, 2 and 3 costing approximately Php1,728,400.00 including one (1) purok center in purok 1 and three (3) chapels in each purok, also made of light materials. Existing agricultural crops like coconut trees and fruit trees, such as mango, santol, etc. planted five (5) meters away from the river will also be eroded.

PROBABILITY

The absence of flood control and other mitigative measures renders an 80% probability that purok 3 will be erased/eradicated in the map of barangay Alimanguan. This will happen if continuous rain occurs accompanied by strong typhoon and high tide. It can also be triggered if illegal activities in forestlands and watersheds will not be fully stopped.

CONTROLLABILITY

Flood has been a major problem in the identified three (3) sites of the barangay government. In consideration of its annual average budget of Php900,000.00, obviously it has no capacity to address the problem, even the municipal government with much bigger development fund could not afford to program a flood control like dike or seawall as it costs millions of pesos. A flood control bayanihan project was implemented in 1985 through the combined efforts of Barangay Alimanguan and the municipality of San Vicente out of its 20% Development Fund. The mini-dike was made of hardwood lumber, sandbags and rocks constructed in purok 3 where its portion of land reached by water surges that caused soil erosion, however, this measure did not last. Furthermore, the Barangay Council in its effort had already passed several Resolutions to higher government agencies like provincial and national governments for fund sourcing and inclusion to their respective development agenda, however, at the moment, there is no positive response yet to these requests.

This situation calls the attention of the affected households along riverbank to undertake their own mitigating measures like sandbagging, conventional stone filing combined with salvaged woods and timber. Some residents attempted also to plant mangrove trees, however, the mortality is high due to loose soil condition and strong water current.



Conventional stone filing, sand bagging as mitigating measures in Purok 1

GROWTH

As there are no controlled measures to mitigate the effect of the flood hazard, given the predictability and probability at both high levels, the growth of the hazard will have a definite impact to most vulnerable sector. The growth might be initiated on a gradual phase but the effect on environment, social and economic structure will greatly affect the Barangay's capacity to deal with the situation in the coming years, example of these are the growth of the displaced families along river banks and growth of more squatters. These social needs and environmental problems prompted the government to address the situation in most economical ways through the low cost housing program.

COMMENTS

At present, the most effective measure that the local government can do is to relocate these settlers through the Shelter Project. However, a concrete flood control program should be given priority consideration both at the barangay and municipal levels. In addition, government authorities must start up the strict implementation of environmental laws and other ordinances pertaining to illegal quarrying, illegal cutting, sanitation and other form of illegal activities that has an adverse effect to environment.

LANDSLIDE

FOREWARNING

- Major landslides are usually accompanied by a faint rumbling sound that increases in loudness as the landslide approaches.
- When continuous heavy rains occur and/or during typhoon, the Punong Barangay conducts visit particularly in Log pond in Purok 1 to forewarn the residents to evacuate whenever weather conditions become conducive to initiation of mudflows
- Weather forecast of PAG-ASA from radio and television

SPEED OF IMPACT

Generally, at the on set of a landslide the speed of impact is very rapid as it can bury single home or entire settlements, agricultural and forestlands in an instant situation depending on its velocity. It is good to note that at present, there were no reported landslide incidence happened yet in log pond area for the past years. However, natural hazards and man-made activities if not properly controlled may cause hazards in the long run.

IMPACT DURATION

Its impact duration depends on the extent of the hazard damage in a community. Among the physical effects that will be damaged immediately include broken electrical, water and sewage lines. Damaged electrical wires will initiate another hazard caused by fire that complicates situation, while environmental effect have its long impact to the community as this will take periods of time to recover. Erosion from the loss of adequate ground cover may be very damaging. The area may become prone to flash flooding during periods of heavy rains.

In log pond's present situation, minimal damage will be accounted more on dwelling units and environmental aspect. Aside from a strip of road, there are no other Infrastructure and utilities present in the area.



Part of the logpond area in Purok I Susceptible to landslide.

CAUSES

Mountain denudation

Susceptibility of hill slope to landslide is developed as a result of denudation of mountain sides which remove the ground cover that holds the soil or alteration of the surface of the ground like kaingin, grading for road or building constructions.

Continuous heavy rains

A landslide is initiated when a section of a hill slope or sloping section of a seabed rendered weak to support its own weight. This is generally triggered by other natural hazards such as prolonged, heavy rainfall or by other sources of water which increase the water content of the materials.

Earthquakes and volcanic eruptions

Landslide and rock falls are among the hazards posed by earthquakes and volcanic eruptions initiated by weak to violent shaking of the ground produced by sudden movement of rock materials below the earth's surface.

HISTORY

More than twenty (20) years ago, it can be recalled that the Lion Head Point in purok 1 (north of Barangay Alimanguan) is a forested area. It has an elevation of more or less 100 meters above sea level and its terrain is generally steep and treacherous.

It was utilized as log pond area (local residents call it log pond today) by a logging concession then during its operating years from 1970's to 1992. Man-made developments in the said area took place such as access roads and clearing/grading of proposed log pond and docking area of barks and tug boats. When the total log ban was implemented in 1992, the place is slowly converted into settlement area. Based on HRVA survey, there are about fifty-eight (58) dwelling units presently erected and there are two (2) new houses (in skeleton) being constructed in this area. During ocular inspection, it was observed that the top of the former forested area is now altered by kaingin activities, planted with root crops and vegetables as their additional source of income aside from fishing.

Though residents admit that landslide is predictable to happen due to hill slope formation, they took the risk to dwell in this area due to lack of capabilities to own home lots.



The once ten meter wide logging road is now only 2 meters wide having been a settlements to squatters



Remnants of the washed-out settlement during Habagat in August 2006 with settlements above that is vulnerable to hazard landslide.

PREDICTABILITY

Based on the description of the area mentioned previously, the predictability of this hazard offers the same level as that of floods, if triggered by continuous heavy rains, mountain denudation and movement of rocks and soil masses. Settlements below including in seashore area will be in hazard. There are possibilities that it will be buried brought by the impact of downward movement of rocks, mud water and other debris. If this happens, almost all of the fifty-eight (58) houses will be destroyed. Major effect will be felt entirely on economic, social and environment. Other than light material houses, there are no other facilities/utilities that will be destroyed.



Purok 1 settlements in salvage zones vulnerable to floods, bigwaves and landslide.

PROBABILITY

The probability of having a landslide in this area is also high as described by its steepness and mountainous characteristics aside from human activities rendered in the said area. This remains a major concern of the barangay government as this would also bring negative effect on tourism development being pursued by the municipal government. The shelter project is one of the alternative strategies to this social issue. However, some of the interviewed respondents are not willing to vacate the area, mostly are hesitant to accept the project, major reasons are lack of capacity for its monthly amortization and access to economic activity, like fishing, since the proposed relocation site is located east of barangay Alimanguan.

CONTROLLABILITY

If human activities and development continually occurs, a landslide may threaten the entire settlements in this area. The government had already declared this area as danger zone. The Shelter Project was developed to address the increasing number of dwellers in high risk areas, squatters and informal settlers, where log pond residents are among the beneficiaries of the project. New migrating settlers are being discouraged to dwell in log pond area as part of the control measures being done by the barangay government at present.

GROWTH

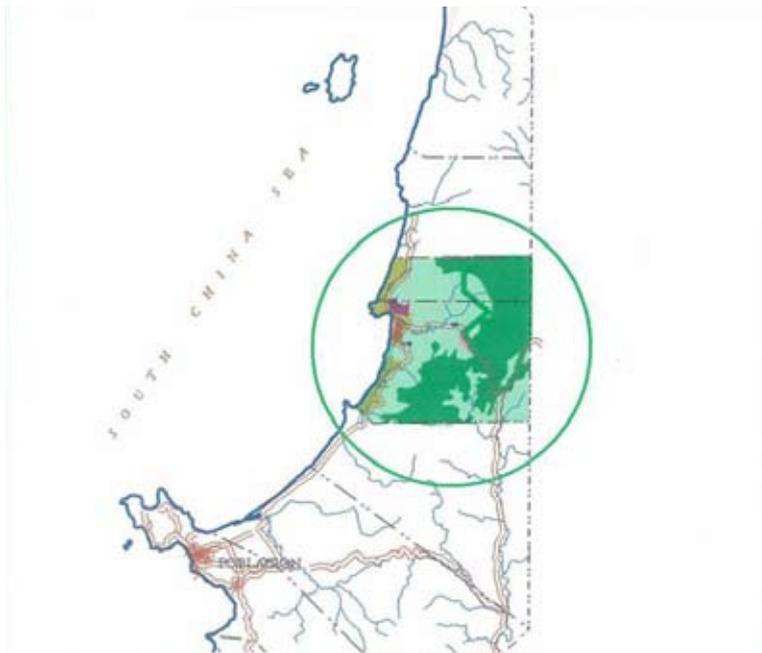
Since there is a relocation project, this would mean a final halt to human activities and further environment destruction of the area. Gradually, the denuded mountain side will be replenished by newly grown trees and bushes, as well as the ground cover of the surface area, which will increase the ability to hold the soil from erosion, thus, the growth of possible landslide hazard shall be lessened.

COMMENTS

There is no close monitoring of migrants coming in, the Barangay government and even the land owner of the area are not fully aware of the increasing number of new settlements. Implementation and enforcement of existing Executive Orders and Barangay Ordinances regarding registration of migrants and settlers should be adhered to by the Barangay and Purok Officials. Environmental laws should also be enforced to stop forest denudation. Tree planting in the area should be encouraged.

B. Community Description

PHYSICAL CHARACTERISTICS



Community Name: Purok 1, 2 and 3 of Brgy. Alimanguan, San Vicente, Palawan

History

According to the early settlers of the place, the name Alimanguan was derived from the word Alimango, a native term which means crabs or specie of crustaceans where habitat is found in the mangrove areas “Katunggan” or “bakawan”. According to the old folks, they remember the place where countless of Alimango could be seen crawling in the streets and could be seen in doorsteps.

Originally, Alimanguan was one of the Barangay part of the municipality of Taytay, however, when San Vicente functioned as a distinct municipality in 1972, the Barangay was ceded by its mother municipality Taytay as one of the barangays of the newly created municipality.

Barangay Alimanguan then is divided into five (5) puroks. The present purok 1 and 2 were original part of purok 3 which comprise now the seven (7) puroks. The original settlers of purok 1 and 2 almost came from purok 3 due to its limited area for residential expansion. Purok 1 and 2 settlements slowly developed over the years when a logging road was developed going to log pond aside from population growth and high influx of migration coming from other barangays, towns and other provinces.

Barangay Alimanguan is twelve (12) kilometers away from Poblacion. It is bounded on the north by Sto. Niño, on the east by the municipality of Taytay, on the south by Barangay San Isidro and on the west by South China Sea.

Fishing and farming are the primary source of income.

Land Forms/Geology

Brgy. Alimanguan has a total land area of 3,350.99 hectares and located in coordinates 119° 19' 36.93" longitude and 10° 36' 21.51" latitude.

Puroks 1, 2 and 3 as identified for HRVA has a total land area of 1,000 has. which is 29% of the total area of the whole Barangay. The areas geographically lies at the lower portion and located in the northern part of the Barangay.

Purok 1 and 2 is in the mangrove forest zone while purok 3 at the coastal area.

The terrain ranges from flat to gently rolling to hilly and mountainous moving eastward from the coastal area. The elevation ranges from 0-394 meters.

Climate/weather

The climatic condition of the identified areas is within the Type I climate condition, with six (6) months dry period that is from December to May and six months wet period June to November. Northeast winds prevail during the months of December to May while southwest winds prevail during the months of June to October.



Alimanguan Beach during "habagat" in the months of August & December

SOCIAL CHARACTERISTICS

I. Demographic Features

1. Population

In the HRVA Household Survey conducted by the team, the identified communities had a total population of 890 which is 22.71% of 3,919 total population of the whole Barangay as of 2005 Community Based Monitoring System (CBMS) survey conducted by the LGU. The community had a total of 461 male population and 429 females. It registered a total of 179 households with an average of five (5) members per household.

The population density of the identified puroks is 162 person per hectare. Purok 1 is most densely populated due to the influx of people coming from the neighboring towns and other provinces. These people are considered informal settlers of the area since they built their houses in critical areas mostly in the marine zones.

Considering the household population as to their Civil Status, the single population has the most number with 521 followed by the married populace with a total of 349 and the least is the separated individuals that is only 5.

Table 1. Household Population by Sex

Location	Male	Female	Total
Purok 1	235	204	439
Purok 2	67	61	128
Purok 3	159	164	323
Total	461	429	890

Table 2. Population and Number of Household

Purok	Total Population	No. of Household	Average HH size
1	439	86	5
2	128	25	5
3	323	68	4.75
Total	890	179	5

Table 3. Household by Civil Status

Location	Single	Married	Widow/widower	Separated	Total
Purok 1	252	179	5	3	439
Purok 2	78	48	2		128
Purok 3	191	122	8	2	323
Total	521	349	15	5	890

2. Age Distribution

The total population 25-59 years old exhibits the most number with 303 or 34.02% of the total population of the identified communities. Infants group ages 0-2 has a total of 58 and ages 60 above who are the senior citizens of the community registered a total of 42.

Table 4 Population Distribution by Age Group

Age Group	Number of Population			Total
	Purok 1	Purok 2	Purok 3	
0 – 2	34	9	15	58
3 – 5	32	7	20	59
6 – 12	80	24	59	163
13 – 17	74	17	45	136
18 – 24	53	22	54	129
25 – 59	156	40	107	303
60 above	10	9	23	42
Total	439	128	323	890

3. Mobility

A rural area, mobility of the people within the community is not complex compared to those in the urban areas. There are no areas and no busy districts, since these areas is not densely populated. There is no traffic problem because there are only few buses/public utility transport, and other land transport facilities that comes and goes out of the Barangay particularly in the identified puroks. The most common means of transportation used are motorcycles and motorized boats.

4. Education/Literacy

Based on the current HRVA household survey, the total population 10-years old above is 688 and out of this total population 682 are able to read and write and solve simple mathematics. Hence, it only shows that the literacy rate of the residents is relatively high with 99%.

On the other hand, a total of 321 children ages 3 to 17 yrs and above are currently studying or enrolled in school. Out of the total enrollees, 48% are in high school and 41% are in the elementary grades. The college enrollees exhibits the least with only 22.

In the educational attainment of the populace most of them had attained the elementary level of education and followed by the secondary level which is 368 and 156 respectively. The college level had a total of 38 only.

The elementary and secondary education of the populace is really high because of the existence of the elementary school and the Alimanguan National High School in the Barangay. Comparing it with the data these who are enrolled in college education there is a big disparity, the parents can not afford to send their children to college due to financial incapacity. Out of school youths of the community engaged themselves into fishing and farming.

Table 5. Population Currently Enrolled/attending classes

Age Group		Number of Population			Total
		Purok 1	Purok 2	Purok 3	
3 – 5	Day Care Pupils	7	2	10	19
6 – 12	Elementary	72	10	51	133
13 – 16	High School	26	16	105	147
17 above	College Education	16	2	4	22
Total		121	30	170	321

Table 6. Educational Attainment

Educational Attainment	Number of Population			Total
	Purok 1	Purok 2	Purok 3	
Elementary Level	195	36	137	368
Elementary Graduate	49	8	16	73
High School Level	70	14	72	156
High School Graduate	23	3	14	40
College Level	9	5	24	38
College Graduate	6	0	4	10

Table 7. Number of population ten years old and above who knows how to read and write and knows how to count

Number of Population			Total
Purok 1	Purok 2	Purok 3	
331	99	252	682

5. Skills and knowledge

The households skills that the populace are capable of doing is carpentry work followed by those who have skills in handicraft that is mat weaving, driving skills and food processing. On food processing, household members attended trainings for this purpose hence they have skill in fish drying and making bottled sardines that is actually one of the business of the existing cooperative in purok 3.

Table 8. Household skills/capabilities

Skills/capabilities	Purok 1	Purok 2	Purok 3	Total
Handicraft – mat weaving	5	1	6	12
Mechanic/welding			2	2
Driving	7		2	9
Baking			1	1
Dressmaking/tailor	1		1	2
Electrical Technician			1	1
Masonry			1	1
Net weaving	3			3
Computer operator	1			1
Manicure/pedicure	1			1
Hair cutter	1		1	2
Carpentry	13	1	10	24
Food processing	7		2	9
				68

6. Health status/sanitation

One of the objective of the LGU is to promote health services to community to a maximum level of efficiency. The Barangay Health Station of Alimanguan who had been a Sentrong Sigla in the past year is manned by one (1) Midwife, one (1) Microscopist, twenty-two (22) Barangay Health Workers wherein for every purok of the Barangay three (3) BHWs are assigned. There are two (2) Nutrition Scholars who conducts the Operation Timbang periodically assess the nutrition status of children 1 month to 5 years old. The Municipal Health Officer and one (1) nurse from the Rural Health Unit conducts visit to the station on scheduled basis.

The Barangay Health Station has only the basic health facilities enough to provide primary health care services like treatment, consultation and dispensation of drugs and medicines and the conduct of regular immunizations. In cases of more serious illnesses and emergencies, patients are referred to the RHU in Poblacion or referred to hospitals in Roxas and in the City of Puerto Princesa.

Same issues of concerns on the health sector of the community, there are still households with no toilet facilities. Some households has no access to sanitary toilets, this explains why diarrhea cases occur among children and adults in the identified community.

The health services to the public is also affected by its own limitations, like medicines, medical supplies and the facilities. The least advantage families rely mostly on medicines provided by the health station. The health services that most of the households availed in the BHS is the immunization of their children wherein a total of 416 children of households had been immunized. In the family planning program 94 couples are practicing or availing its services. A total of 94 couples are not into it while 4 couples are not applying the same for they are beyond the reproductive stage already.

The common illnesses experienced by the households in the identified community is flu (trangkaso) followed by coughs/colds, malaria and diarrhea with a total of 112, 125, 40 and 26 respectively. The least in number as one cause of morbidity is tuberculosis with only 2 cases.

Malnutrition cases is also prevalent in the area wherein out of 117, 0-5 yrs. old children 22 are malnourished. It is in purok 2 and 1 settlements having the most number of malnourished children with 12 and 9. The families living condition, where preparation of food, cleanliness and sanitation is not being observed by the household is a contributing factor to the issue.

The environment of the community is somewhat unsanitary. The main river in the Barangay which runs from the forest down to purok 1, 2 and 3 is unsanitary because households are built on both sides of the river and many of them dispose their waste on the river. There is no designated landfill site as dumping area of the residents. Waste disposal method of the community is burning, composting and dumping.

Table 9. Common Illness

Type of Illness	Purok			Total
	1	2	3	
Cough/colds	48	17	47	112
Flu(trangkaso)	65	10	50	125
Rheumatism	6	5	8	19
Urinary Tract Infection (UTI)	3	1	3	7
Stomach ache (trouble)	8	5	8	21
Headache	1	-	2	3
Malaria	19	7	14	40
Asthma	-	-	3	3
Hypertension (high blood)	3	-	1	4
Ulcer	1	-	2	3
Diarrhea	13	4	9	26
Fever	5	6	3	14
Tuberculosis	1	-	1	2
				379

Table 10. Causes of Mortality for the past year CY 2005

Cause of Death	Purok			Total
	1	2	3	
Diabetes	1			1
Eltor/diarrhea	1		2	3
High blood/hear failure	2		1	3
Malaria	3		2	5
Accident/gunshot			1	1
				13

Table 11. Number of Household by Type of Toilet Facilities

Type of Toilet Facilities	1	2	3	Total
Water sealed	37	16	47	100
• Own Use	32	16	36	84
• Shared toilet	5		11	16
Close pit	28	7	19	54
• Own use	13	7	16	36
• Shared	15		3	18
Open pit	4			4
No toilet facility	17	2	2	21

Table 12. Number of Households by Method of Waste Disposal

Method of Disposal	1	2	3	Total
Burning	68	17	40	125
Composting	22	3	37	62
Dumping	8	2	7	17
Total				204

7. Vulnerable groups of the community

The vulnerable groups to identified hazards of the community includes the infant, ages 0-5 yrs. old with a total population of 117 and 163 children ages 6-12. The nine (9) persons with disabilities are residents of puroks 1 and 3 only with five (5) persons each. Out of the ten (10) disabled two (2) are mentally ill, 2 with walking disabilities, hearing impairment 2, deaf and mute 2 and 1 with an eyesight problem. Other vulnerable groups to hazards are the senior citizens, aside from the lactating mothers and the pregnant women of the community. The elderly of the community comprises 4.7% of the total population of the identified communities with purok 3 having the most number as shown in Table 4.

8. Pressure Groups

For some other development project and programs introduced and implemented in the community it got the people support and approval, however it is in the on going Shelter Project for the resettlement of families living in danger or critical zones of the identified community that did not have a favorable support of all or it did not have a 100% acceptability from target groups.

Most likely, these groups that opposes and are not willing to leave their place are the fisherfolks with conceited minds, contented with their way of living, financially incapacitated and is looking forward to what the government can do for their welfare and not thinking of what they can do as good citizen of the community.

9. Hazard Awareness

Respondents to the HRVA survey are aware of the hazards that is a threat to their community. Hazards identified are floods, typhoon, landslide, fire and tsunami.

The residents are also aware of the effects of the identified hazards, knowing it will cause damage to life and their properties. Having the past experiences of floods and typhoon in their area, they are already aware of what they are supposed to do before the hazard will hit their community. Those in the flooded area will evacuate to higher and safer places. Household properties are being secured to lessen the damage and preparation of food commodities is also taken into consideration. However in purok 1 settlements where landslide is a threat to them, respondents views it as a natural calamity. They do not know as to when it will happen. They have no other choice but to stay where they are and just wait what will happen.

On the other hand, having this hazard awareness, some residents of the community in their own little way are putting sand bags, planting mangrove trees to prevent floods. They are also aware of the evacuation centers of the Barangay.

Table 13. Hazards identified by households that may affect their community

Type of Hazard	Purok 1	Purok 2	Purok 3	Total
Typhoon	20	11	18	44
Floods	65	23	63	151
Landslide	25		4	29
Fire	4		4	8
Tsunami	2		2	4

Table 13.a Social attributes in times of calamities

Tulong na Magagawa/Maiaambag ng Komunidad sa Oras ng Sakuna Kalamidad	Purok 1	Purok 2	Purok 3	Total
Makipagtulungan sa Kinaaukulan	7	1	36	49
Tutulong sa Paglikas / Bayanihan	21	10	17	48
Maging Handa	4	-	7	11
Manalangin	2	-	-	2
Bahala na kung ano ang magagawa	6	4	-	10

10. Labor force and employment

In year 2005, the identified puroks has a total labor force 608 which is 37% of the total labor force population of the whole Barangay. Out of this 574 are working thus employment rate is 94.44%.

During this HRVA survey the household members 15-years old and above total population is 428 and out the said total 66.82% are working and earning for a living of the family. These working members are mostly fishermen, government and private employees and the farmers with a total population of 173, 29 and 26 respectively.

Table 14. Labor force, employment and underemployment

Purok	Labor Force	Employed	Employment Rate	Unemployed	Unemployment Rate
1	259	245	94.60	14	5.40
2	195	177	90.76	18	9.23
3	154	152	98.70	2	1.30
TOTAL	608	574	94.44	34	5.59

Source: 2005 CBMS Survey, MPDO, San Vicente, Palawan

II. Culture

1. Ethnicity

Residents of the identified community are composed of different ethnic groups. Majority are Cebuanos with a total of 270, next are Warays with 180, Masbateño 117 and the least with only 1 are Hiligaynon and Romblomanon. Most of the household speak the Cebuano and Visayan language yet it is still Tagalog that is generally used as a medium of communication.

Table 15. Ethnicity

Ethnic Group/Dialects	Purok 1	Purok 2	Purok 3	Total
Samariño	43		23	66
Cebuano	115	30	125	270
Waray	53	7	120	180
Ilonggo	44	24	2	70
Masbateño	98	6	13	117
Bicolano	23		7	30
Tagalog	11	20	12	43
Ilocano			6	6
Palawan	14	18	5	37
Romblomanon			1	1
Boholano	3	5	1	9
Cuyunen	26	18	8	52
Hiligaynon	13			13
Aklanon	1			1

2. Social Values

Composed of mixed culture and of different ethnic origins is not considered barrier to the spirit of cooperativism and unity of the members of the community. Members of the community are peace loving with no serious crimes reported. The respect to authorities and the presence of CAFGU detachment which is near the vicinity of puroks 1 and 2 and the Barangay Tanods, compels them not to commit crimes or get into trouble. The people still values the “bayanihan system” in the area and shows concern for the welfare of the others. Asked about their views just in case there is a calamity they expressed willingness to help others during the evacuation, help in the information dissemination of what they are supposed to do, give used clothing and food to the needy and some others will pray for their safety.

3. Religion

The freedom of Religion is noticeable in the community. A total of 13 religious affiliations exist in the identified areas. Roman Catholic is the dominant religion with 567 Catholics, second are the Pentecostal with 108 and the smallest with only 1 is the El Shaddai.

There is a Pentecostal Chapel in purok 3 and chapels of the Church of Christ Word Body Ministry in Purok 1, and one (1) Born Again Chapel in purok 2. Most chapels of the other religions are concentrated in the Brgy proper of Alimanguan.



The different religious chapels existing in the community that are made of mixed materials.

4. Normal Food Types

Rice is the staple food because rice production is engaged into by most of the farmers, since most are into fishing as source of livelihood it is rice and fish that is served during meals in the households. Camote tops, kangkong and gabi are the vegetables commonly cooked because of its availability. On the other hand it is banana and papaya fruit that the household prefer since it is abundant and the price is very much affordable. Other fruits and vegetables are mostly purchased from the neighboring towns and in the city of Puerto Princesa. Meat and beef is seldom served because of scarcity, hogs and cows are sold live and transported to the city and Manila. It is during the season when Habagat winds is strong and fishermen cannot go fishing that sardines, noodles are served during meals.

As of survey, 174 households eat their full meals three times a day and only 5 prepare and eat 2 full meals in a day.

Cooking food is done by using firewood, charcoal, LPG gas stove and kerosene stove. Household using firewood exhibits the largest number with a total of 135, next are those using charcoal with a total of 68.



The very common leafy vegetables kangkong & camote tops, are one of the food items in the sari-sari store

5. Socio/Economic Groups

The social groups existing in the whole Barangay of Alimanguan wherein some residents of the identified community are members, are the following:

1. Senior Citizen Association - 42 Senior citizens of purok 1, 2 and 3 are members of this elderly group.
2. PAG-ASA Day Care Parents Groups - These are the parents whose children are enrolled in the Day Care classes of purok 2.
3. Alimanguan Day Care Parents Group - Same members of these groups are those residents of purok 1 and 3 whose children are enrolled in the Day Care classes located at the brgy. Proper because there is no Day Center that exists in the said puroks.
4. KALIPI – Kalipunan ng Liping Pilipina these are womens group of the community livelihood training programs.
5. The Parents Teachers Association (PTCA) of Brgy. Alimanguan Elementary School and the Alimanguan National High School.

III. Economy

1. Agriculture

1.1 Farming - Barangay Alimanguan is basically a farming and fishing community due to its physical characteristics. It is farming and fishing activity that provide major employment. However of the three puroks identified for HRVA, purok 1 and purok 2 has the larger areas for farming activities. The agricultural crops grown in the area are rice, coconut, cashew, mango and banana. On the other hand, although the location of purok 3 is considered as one of the industrial zones of the Barangay some agricultural crops still grows in the area like coconut, mango, santol and some other fruit bearing trees. Livestock and poultry production is common in the community and these backyard production of hogs and chicken. Poultry meat and egg production is insufficient in the community. They raised chicken just for the household consumption.

1.2 Fishery - In terms of employment generation fishing is leading with 60.48% of the total-working members of the identified purok. Fishing activity is much active during northeast monsoon (Amihan) which starts from September to June. In this season, most of the housewives and other members of the households engaged in fish drying and other fishing related activities. In the whole Barangay where purok 1, 2 and 3 are the identified fishing village that contributed much to the fish production estimated at 92 metric tons annually.



Part of Purok 3 that was once a settlement sites of fishermen and with so many coconut trees has been diminishing due to soil erosion.



Fishing Village (Bucana, Purok I)

Fish and other marine products are dried preserved or directly sold to buyers/traders which in turn transported to Roxas or Puerto Princesa City.

During this survey, total motorized boat is 62 units and there are 15 non-motorized boat in the area.

The technology and agricultural services of the community are primarily extended by the Municipal Agricultural Office with the support of the Provincial Agricultural Office, Department of Agriculture and other linking agencies. In rice production, farmers are taught various techniques in rice planting, inputs application such as fertilizers, pesticides, fungicides and seeds/seedling propagation are provided to farmers through credit incentives. To augment the income of farmers livestock dispersal and redispersals are very common livelihood extended by the LGU.

1.3 Agricultural Institutional Support Services

Barangay Alimanguan has presently six (6) existing active farmers and fishermen’s cooperatives and other farm based organizations. These groups were organized and strengthened with the assistance of local government and other agencies helping them avail institutional support and economic services. Economic groups existing are:

1. Alimanguan Palawan Multi-purpose Cooperative - (ALPAMULCO)
2. Alimanguan Farmer’s Multi-purpose Cooperative - (ALFAMCO)
3. Alimanguan Business Multi-purpose Cooperative - (ALBUMCO) – based in purok 3 and engaged in to sardines making the product trade name “Alimanguan’s Best”.
4. Ever Consumers Multi-purpose cooperative - Cooperative Members are the 7th Day Adventist.
5. Bagong Siglo Ng Mga Mangingisda Multi-purpose Cooperative – fishermen availed credit loans in the form of fishing paraphernalias.

ISSUES/CONCERNS

To improve quality and increase production of both farm and sea products in order to uplift the socio-economic condition of every individual is the goal of the LGU on this sector. However, to reach this goal, the problems that poses as a barrier to be able to meet this goal has to be resolved. These are the high cost of farm inputs wherein farmers could hardly cope up, lack of appropriate irrigation systems that limits the rice production to only one (1) cropping per season. Another issue is the lack of post harvest facilities, warehouse and solar dryer are inadequate and construction of fish landing is also a felt need of the fishermen.

Other than insufficient irrigation facilities, low production is attributed to lack of knowledge on the latest technology in farming and fishing. Moreover, there are farmers who refuse to adopt/apply new farming method.

Low market price is the complaint of both farmers and fishermen. Buyers and traders dictates the price because there is no existing price control that could somehow regulate the price of commodities.

On the other hand, to intensify campaign on illegal fishing, provide facilities/inputs, livelihood opportunities, credit assistance to fishermen and farmer and encourage investors to establish and operate business in the community are the objectives of this sector.

2. Trade

The major commercial activity in the identified area involves wholesale and retail merchandising, buying and selling agricultural products and grocery items. Storeowners, purchase their goods mostly from delivery vans/or peddlers who visits the area weekly rather than purchasing them either in neighboring municipality of Roxas or in Puerto Princesa where the cost of freight and handling is costly for them. It is during weekends when merchants wholesale buyers from northern barangays and island visit the area to purchase goods and commodities for consumption and retail purposes. Presently, it is in purok 1 that exhibits the most number of sari-sari stores and with 1 general merchandising store.

Industrial establishment in the area are limited to furniture making in purok 2, sardines making in purok 3 that is a very promising livelihood activities having a market already of their product. There is also a buying station of fresh squid in purok 3 that somehow contributed much to the economic condition of the populace because fishermen already have a sure market of their catch.

In the absence of a permanent venue for selling and trading in the Barangay and particularly in the identified community, sea and farm products are directly sold to household and sari-sari stores. There is no regular supply of vegetables, fruits and meat products and traders commands the prices of the same.



The commercial center of the Barangay is located in the Bgy. Proper that is accessible to the identified puroks.

3. Investments

Commercial activities of the area are very limited because of lack of private investors, this may however is attributed to the dearth of capital and business interests due to inadequate technical knowledge and skills to operate small-scale enterprise including marketing strategies. Road network and lack of transportation pose as some of the problems.

The investments of most of the people in the identified area is on fishing industry those with enough resources also indulge into farming and fishing and the rest fishing and merchandising.

The presence of beautiful beach situated in the northern part of purok 1 and the waterfalls and forest attractions of the purok are potential for eco-tourism development. Private operators and investors are encouraged to invest in tourism industry to be able to provide employment and other livelihood opportunities.



One of the sari-sari stores of Purok I where the residential house is also the place of their business.

4. Wealth

4.1 Household Income

The 2005 CBMS Survey of the LGU, Brgy. Alimanguan registered an average household income of Php 41,597.54 per annum or Php 3,466.46 per month. Noted also in the same survey that poverty incidence was high at a rate of 71.23% or 416 families were below the poverty threshold.

In the recent HRVA of households of the identified puroks the monthly income ranging from Php 1,000.00 to Php 5,000.00 exhibited the most that is 71% or 128 households and the least is 4 households with a monthly income Php 15,000.00 above.

Aside from the usual economic activity engaged into by the income earning groups of the community they also have other activities as other source of the family income. The data really shows that the households earn their income from fishing and farming.

4.2 Household Amenities

The community has already an access to the recent events and issues happening here and abroad because households already have TV set, radios and mobile phones. Some other amenities that household owns are used in their business like refrigerators, the motorcycles are for hire and the motorized and non-motorized that is used in their fishing activities.

INFRASTRUCTURE

I. Transportation Networks & Public Utilities

1. Roads

Mobility and accessibility remains to be a major problem of this Barangay specifically on road condition. The Barangay has adequate road networks in going to other barangays and/or municipality as it is strategically located at the center of the mainland of the municipality of San Vicente where the provincial road passes through the barangay, both south and north. However, these roads become impassable during rainy season, thus commuters, farmers and merchants experience losses and difficulties in transporting their goods and services where transportation fare usually rises up during this season.

At present, the Barangay has a total road network of 19.84 km, mostly are gravel surfaced.

Purok 1 and 2 are connected to Barangay proper by a provincial road. This major road has a total length of 1.56 km starting from Alimanguan crossing going to Barangay Sto. Nino. Purok 3 on the other hand has an estimated total of 600 m road. This road is sandy, ungraveled and much narrower compared to other Barangay roads due to highly congested area that is more housing structure within a limited area. This road is always affected by floods and is usually submerged into water at three (3) feet high during continuous heavy rains.



A portion of the provincial road of Purok I, is an earth road that becomes muddy during continuous rains.

1.1 Bridges

Alimanguan has five (5) bridges, one (1) concrete bridge and four (4) wooden structures. The concrete bridge is located in purok 4, while wooden bridges are located in purok 1, 2, 3 and 6. These bridges supplement the road network of the hazard prone areas and have a five (5) ton capacity each. To illustrate further, see table below.

Table 26. Bridges by type, location and cost

Bridge	Administration	Location	Load Capacity	Length (m)	Width (m)	Cost (Estimates)
Wooden Bridge I	Barangay	Purok 2	5 ton	16	5	457,000.00
Wooden Bridge II	Barangay	Purok 1	5 ton	12	5	300,000.00
Footbridge	Barangay	Purok 3	5 ton	20	1	571,000.00
Concrete Bridge	Provincial	Purok 4	10 ton	10	6	-
Wooden Bridge III	Barangay	Purok 6	-	-	-	-

1.1.1. Purok 1 and 2 Bridge

The present condition of wooden bridge in purok 1 and 2 both needs repair and improvement particularly on its approaches. Both bridge are with no concrete abutment, which serves as buffer that protects the main bridge. Soil erosion causes damage to its approach area.



Purok I Bridge that connects barangay Alimanguan to barangay Sto. Niño partially destroyed during the last typhoon.

Purok I Bridge
 12 Meters length
 5 meters width
 5 meters height
 The water level in this area rises up to 3 meters during high tide.



1.1.2. Footbridge

The footbridge in purok 3 connects purok 1 to the Barangay proper. It is a newly constructed bridge completed in February, 2006. The old footbridge collapsed due to typhoon that hit the Barangay last December 2005.



Footbridge in Purok I that connects Purok 3 & 1 constructed as short cut to barangay proper 20 meters length & 1 meter width.

1.2 Land and Sea Transportation

Major transportation within the Barangay and to its adjacent barangays are motorcycles and pumpboats and paddleboats. There are also several shuttle buses coming in the Barangay to serve commuters in going to Puerto Princesa City and to its neighboring towns. Trucking services are also available, buyers and merchants seek the service of cargo truck operators for faster and convenient transport of goods and farm products. As to fuel needs, there are two (2) filling station operating within the Barangay and two (2) shops available for motor works services.

2. Communication

Communication system in the Barangay is now faster and economical as compared five years ago. The most common means of communication is through electronic messages via mobile phones. The Barangay is served by two (2) cell sites, one comes from Poblacion and one within the Barangay located in the proposed resettlement site for shelter project. Worthwhile, national and local news can be easily caught by means of transistor radio and cable television networks. There is one (1) operating network in the Barangay serving seventy five (75) households. This system operates daily starting from 8:00 in the morning and signs off at 12:00 midnight. Typhoon occurrence and other natural hazards that will affect Philippine area of responsibility could be easily monitored through this communication system.

3. Water System

There are three (3) classifications of water system in the Barangay, these are the following:

- Level I - public deep tube-wells or shallow tube-wells equipped with hand pumps, spring, river
- Level II - communal faucet system, and
- Level III - water supply to individual houses through pipe networks

The Level III water system is sourced out from So. Ipanganan, through a 24 cu. m. reservoir which is then distributed to the Barangay by water pipelines where households avail water connection through transmission lines. It was constructed in 2004 at a total cost of 7,034,000.00 and managed by San Vicente Water District (SVWD).

Purok 1, 2 and 3 are served by this water system. However, in purok 1 particularly in log pond area, most houses rely on spring water that comes out from the rock on the hilly part of the area. Residents claimed that this water source is safer to drink compared to water pipes aside from its being cost free. Another source of water in purok 1 is shallow well.



Purok I bridge approach area is critical that needs repair. Along the bridge is the water pipe that serves potable water to Purok I residents



The water pipeline traversing the main river of Purok 2 with its steel support structure is also vulnerable to hazard flood

4. Power Supply

Power Supply is generated by NAPOCOR and distributed by Palawan Electric Cooperative. It is a 16-hour power service daily. The HRVA study area is energized by this power supply.

5. Drainage System

Drainage system in the Barangay is generally dependent on its natural drainage system consists of one (1) main river and four (4) other rivers, creeks and streams.



One of the creek located near the CAFGU detachment that rises up to 4 meters during 3 to 4 days of continuous rain.

II. Essential Services

1. Welfare Services

The welfare services of the Barangay where purok 1, 2 and 3 are also the beneficiaries is supported with other programs basically promoting the general welfare of the people such as nutrition, sanitation, health and medical services, likewise the implementation of Comprehensive and Integrated Delivery of Social Services (CIDSS) under the Social Reform Agenda (SRA) in line with provincial and national agencies.

Some of the major programs implemented by this sector involves provision of financial emergency assistance to individual or family under crisis situation, child and youth welfare program where Day Care Centers, supplemental feedings are provided. There is also the program for people with disabilities, senior citizens welfare and other related activities to promote social welfare.

1.1 School Facilities

a) Day Care Center

There is one Day Care Center building located in purok 2. This is the standard Day Care Center made of concrete materials and funding source thru counterparting of the DSWD national funds in the amount of Php 150,000.00 from the LGU's 20% Development Fund Php 100,000.00 and from the community welfare structure counterpart Php 50,000.00 this is for the labor expenses. Total cost of the building is Php 300,000.00. The building is constructed with in the area of 120 meters.

Less vulnerability to the effects cause by typhoon/floods is lesser because it is located 50 meters away from the river/creek.



Purok 2 Day Care Center that can be used as evacuation center during disasters.

b) Elementary School Buildings

The Alimanguan Elementary school facilities is located in purok 6 of the Barangay. The area occupied is Php 10,000.00 square meters. It has 20 classrooms, 13 comfort rooms, school stage, playgrounds and canteen. It also has 1 unit building as the Home Economic Building and 1 unit used as the Principal's office.

The "MARCOS" type building with 6 rooms that was constructed in 1976 is the oldest building of the campus which is not safe to house evacuees during typhoons.

The school site has 3 m elevation and is 5 meters away from the creek that is on the east of the school. Soil erosion occurs during floods as per information from Mrs. Imelda P. Amor, the school teacher and as per survey the same is noticeable since there is a portion near the school fence that is almost two meters away to the creek due to erosion. To prevent the damage, trashes that are biodegradable like leaves, etc, are dumped into this area. Trees are also planted to prevent the soil erosion. As per information, flooding also occurs in the school campus due to water run off because there is no drainage facilities, this is particularly at the main entrance of the school.



Alimanguan Elementary School potential as evacuation center.

c) Secondary School Facilities

Alimanguan National High School is within the jurisdiction of purok 7 occupying an area of 19,028 square meters. The basic school facilities includes 9 classrooms, 1 computer room, school stage. It has 3 comfort rooms but as of survey 2 rooms are out of order. School site and building is safe as evacuation center. Distance from the identified puroks for the HRVA is quite far located in the southern part of the Barangay.



One of the High School building located in an area of 19,028 sq.meters.
Shelter site during disaster.

2. Health Facilities

The Barangay Health Station (BHS) facilities includes microscope, weighing scale, basic medical apparatus, counseling and consultation area, toilet and herbal garden.

This is one storey building used as the barangay hall where the Barangay captain has its office and also as the Barangay session hall. The BHS is occupying an area of 18 sq. m of the building. The said building as per assessment already needs repair and renovation, made up of mixed material with its roof having some leaks and flooring that is submerged into water during heavy rains since there is no drainage in the area, hence a need to elevate the flooring of the building.



At the back of the barangay gym are the barangay hall and barangay health station.

3. Sports and Recreation Facilities

In this Barangay there exist only one place where sports and other recreational activities like basketball, volleyball are often held. The Barangay covered gym that was constructed only last 2004 has an area of 600 square meters. Total cost of the project is Php 3,000,000.00 and this project was financed out of the 20% Development Fund of the LGU. The gym is located in purok 4 in the area where Barangay hall and the Barangay health center is located.

As one of the identified evacuation center, vulnerability to identified hazard is very much lesser. It is 300 meters away from purok 3 and from purok 1 and 2, it will take about 10 minutes walk to reach the said place.

4. Protective Services

Residents claimed that Alimanguan is a peaceful Barangay. This attributed to the active participation of the eighteen (18) Barangay tanods assigned to the different puroks, who are the major implementors in maintaining peace and order in collaboration with Lupon Tagapamayapa. There is no assigned police officer due to limited number of police force in the municipality. Crime incidents are easily reported to the municipal police station since communication facilities are available.

Crime rate in the Barangay and particularly in the identified purok is very low, minor or petty crimes are often settled amicably in the Barangay level or in the purok level.

The presence of the 3rd Palawan CAFGU company DELTA (CADRE) company, 5913,21 D.PA composed of 26 men assists in the maintenance of peace and order of the Barangay. The CAFGU detachment/station is located in purok 4 and occupying an area of 700 sq.m. It is also located 6 meters away of the river/creek but the level of exposure to floods is not much as compared to its exposure when there is typhoon. The impact as to the cost of the damage is also lesser because the structures that houses these enlisted personnel is made of light materials.

The Barangay has no tanod outputs and Barangay jail, it is the purok centers that is used as their station during night patrol. The identified puroks has three purok centers – one for each purok.



CAFGU station of Purok 4 occupying an area of 700 sq.m.

5. Shelter Services

The increasing number of housing units in informal settlements distributed in mangrove zones, salvage zones and houses in critical areas necessitates the realization of the housing program in the barangay.

Aside from its main objective of providing affordable housing units to informal settler, it also provides opportunities to rehabilitate and protect the environment particularly the mangrove area, riverbanks, estuarine and reforestation of the mountainside in log pond area, moreover, it helps reduce the barangay's vulnerability from further exposure to known hazard disturbances affecting the barangay.

The housing site is located in purok 5 on the eastern side of the Barangay. It consists of a total area of 1.78 hectares with 200 beneficiaries for marginalized fishermen and informal settlers. Initial undertaking like land acquisition was already made at a cost of Php 893,300.00 thru Congressional Fund of Hon. Antonio C. Alvarez with the assistance from the National Housing Authority (NHA).

The project site is formerly agricultural area converted under residential classification as provided in the Barangay Comprehensive Land Use Plan (BCLUP) of Alimanguan as the area is no longer highly productive in agricultural aspect.

The proposed housing site is generally flat, with wide expanse open space located in low lying area. The site is 120 meters away from the nearest creek. It is served by a barangay road adjacent to provincial road.

As stipulated on its site Development Plan, initial ground preparation of the site to include are land filling in low portion area, embankment of the sub-base course, provision of macadam type roads and grouted riprap canal as drainage system to drain surface water and to avoid flooding. Likewise, electricity and water is to be provided by SVWD and PALECO.

As to its vulnerability to hazard, it is susceptible to lightning due to its clear open space. The presence of cell site tower within the housing project site poses another threat to lives and properties if the structure weakens. Periodic inspection and monitoring of the cell site tower should be done by the concerned agencies.

III. Community

1. Housing

In the 2005 CBMS survey the total number of households of puroks 1, 2 and 3 is 322 and having a total population of 1620 wherein 857 comprises the male population and 763 females, however during the HRVA survey only 179 households was interviewed whose dwelling units are vulnerable to hazards like floods, typhoon and landslide.

In purok 1, houses are compressed along riverbanks and salvage zone. There are also houses built in mangrove areas that is also prone to flooding. Purok 2 residence are distributed along barangay road and adjacent to the mangrove area. For HRVA purposes only 179 households was interviewed and the same are those whose houses are already in the danger zone or along river banks and is at high risk in case of river flooding. On the other hand, it is purok 3 whose land surface area is diminishing due to soil erosion. Households in this purok particularly those who are in the riverbanks a meters away has this apprehension that in the near future they will be homeless due to soil erosion if no flood control measures is adopted.

For the hazard landslide, a total of 58 household are at risk and these are the residents of purok 1 who are living at the foot of the mountain with 40% slope.

The type of dwelling units are mostly made up of light materials using lumber, bamboo, sawali and nipa with a total of 83 households next to the most in number are those that are made up of strong materials these are good lumber, hollow blocks, cemented flooring and galvanized iron for the roofing and there are 48 households of this type. The mixed materials dwelling units are made up of lumber, hollowblocks, sawali/plywood for wallings a combination of galvanized iron and nipa for its roofings. A total of 41 housing units are of this type in the community. There are only 7 families living in a makeshift structure using bamboo, nipa, plastic materials or mga sirang yero, kapings for their wallings. The makeshift housing describes the poverty level of the households most of which are found in purok I.

As to the tenural status of dwelling units, there are 147 households who constructed their own houses and there are only two (2) who just rent the house. For those living in a house that is rent free there are 30 households and out the said total only 1 household stays in the house without the consent of the owner.

On the other hand, there are 65 households who constructed their units in their own lot, and there are 4 households whose houses are erected in a lot not of their own hence they are renting. There are also households who build their houses in a lot free of charge wherein 40 household constructed their dwelling units without the consent or permission from the lot owner. Most of these households are in the marine zones and those

settlements near the foot of the mountain and this area was once a logging road as an access road to the log pond during the 15 years ago when logging concession of Pagdanan Timber Product Inc. was still operational in the area. This is actually in purok 1 of the identified community. Whereas, 56 households who constructed their houses in a lot free of charge but with the consent of the owner.

Again, as per information supplied by the respondents to this HRVA survey they build their houses in area considered as marine zone some years ago with permission from the Barangay officials. The settlements grow in number having this “gaya-gaya” attitude not being mindful of what will happen in cases of calamities. The rentals paid for the house and lot is quite minimal just within the bracket of Php 100.00 to Php 500.00 per month.

The estimated cost of all dwelling units of the 3 identified puroks is Php 8,960,000.00 with an average cost of Php 100,000.00 for houses made up of strong materials, Php 50,000.00 for mixed materials, Php 2,075,000.00 and Php 35,000.00 estimate cost per house made of light materials and mixed shift houses respectively.



Purok 1 settlements along riverbanks.



Housing condition in mangrove area settlements in Purok I, most are made of light materials



Housing structure at the foot of the hill in logpond area in Purok I.



Water level rises up to 1 meter during high tide (Bukana)

Table 27. Materials used for the Dwelling Units

Materials Used	Purok 1	Purok 2	Purok 3	Total
Strong material	20	11	17	48
Light material	41	10	32	83
Mixed material	21	4	16	41
Makeshift material	5	2		7
Total	87	27	65	179

Table 28. Tenural Status of House and Lot

House	1	2	3	Total
Own house	66	23	58	147
Rent house	1	1		2
House rent free	16	1	10	27
Rent free with consent of owner	18	1	10	29
Rent free without consent of owner	1			1
Lot				
Own lot	24	22	19	65
Rent lot	1	1	2	4
Rent free	58	2	47	107
Rent free with consent of owner	16		9	25
Rent free without consent of owner		2	38	40

2. Lighting Facilities

Lighting facilities that most of the households has is the power generated by NAPOCOR/PALECO wherein a total of 112 houses has electric power connections. The total households with monthly expenses for electric bill below Php 100.00 is 69, and the rest with payments from Php100-500 and Php 500.00 above per month only is 38 and 5 households respectively. Power supply in the community as per assessment is still in adequate, a 24 hour electricity is what the consumers hope to be, but it is the other way around, they are experiencing brown outs and other power disturbances.

Table 29. Lighting Facilities

Source	Purok 1	Purok 2	Purok 3	Total
Electricity (PALECO)	45	20	47	112
Private Generator set			1	1
Others – Kerosene Lamp	41	5	21	67
Petromax				
Total				180

3. Water Source

The water supply of the identified puroks is provided by Level I, Level II and Level III water facilities. Level I facility consists of deep wells, artesian wells, and springs/rivers and a total of 79 households relies on this. The Level II facility which is a communal faucet of the community is serving 46 household whereas for the Level III water facility 60 households are availing this water service. The vulnerability to the effects of flooding of the households relying on the Level I water supply is high. Their accessibility to the water source will be affected water will be polluted making it unsafe for drinking and may expose them to all forms of water borne diseases.

Table 30. Water Source

Water Source	Purok 1	Purok 2	Purok 3	Total
Level I	46	1	32	79
Level II	15	12	19	46
Level III	30	12	18	60
Total				185

IV. Resource Base

Potential tourist attractions such as white sandy beaches and inland forest scenic view suited for eco-tourism development are one of the resource base of the Barangay that awaits to be discovered. However, at present, it remains undeveloped and requires big investment to become a well-known tourist attraction that could absorb the increasing number of underemployed individuals in the barangay.



The white sand beach with sea grasses that becomes an eyesore to the beautiful beach of Bgy. Alimanguan due to big waves during the “habagat” – August to December.

ENVIRONMENT

I. Landforms and Geology

Barangay Alimanguan is the 4th Barangay from the northern tip of the mainland of the municipality of San Vicente. Its terrain ranges from flat to gently rolling, to hilly and mountainous moving eastward from the coastal area, with elevation ranges from 0-394 meters.

Purok 1, 2 and 3 are generally flat, except in log pond area in purok 1 where its terrain is steep and mountainous.

II. Waterways

The six thousand three hundred fifty (6,350) meters Alimanguan River cuts across the hills of the Barangay, while on the southern part of the Barangay, Tagpis and Bokbok rivers traverse the coastal Barangay. After meandering through the hills and valleys of Alimanguan, the rivers slide through Imuruan Bay. These rivers are the main players of the 1,025 hectare Alimanguan watershed. The watershed contains more than just the main tributaries, it has ponds, streams, falls and forest which provides habitat for endangered plant and animal species which are endemic to the island of Palawan.

Table 31. Waterways

Watershed area	1,025 hectares
Rivers:	185
Alimanguan	6,350 meters
Tagpis	2,022 meters
Bokbok	1,174 meters
Tributary streams, rivers and creeks:	
Ipanganan I	1,103 meters
Ipanganan 2	1,340 meters
Outlet :	Imuruan Bay

It is the Alimanguan River that traverses the hills of the Barangay down to the coastal area in the northern part of Alimanguan. The strong impact of the water current and erosions during heavy floods are usually observed in the riverside of the settlements in critical areas particularly in purok 3.



Bucana of Alimanguan river, the river serve as part of the Alimanguan river in Purok 2 the border that divides of Purok 1 & 3

III. Flora and Fauna

A rich liana is found in the thick forest of the barangay. The shrub and herb layer is dense only along the river banks. Within the forest, cruciligo species, the tree fern, *Pyurosia longifolia* and *Tactaria irregularities* are common in the area. In purok 1, 2 & 3 common trees include coconut, nipa, bakawan, cogon, hagonoy, banana, etc. while bato-bato, maya are among the common birds.

IV. Land Classification

Barangay Alimanguan has a total land area of 3,350.99 hectares. Alienable and Disposable classification is around 32.74 percent or 1,097.21 hectares while forestlands have 1,853.41 hectares or 55.31 percent of the total area.

Purok 1, 2 and 3 are part of the A & D classification. Purok 1 and 2 has a mangrove area and is classified as protected forest, however, at present situation; it is slowly converted into settlement area as manifested by numerous dwelling units being built thereto, while the log pond area in purok 1 is classified as marine zone.

V. Protected Area

Protection of forests is maintained primarily for their beneficial effects on soil and water and in environment in general, hence, Barangay Alimanguan declared 1,025 hectares of watershed area through Resolution No. 56 of 2005 as one of the protected zones in the Barangay. The said watershed area also forms part of the protected forests of Malampaya Sound Protected Land and Seascape under the management of National Integrated Protected Area Programme.

Except for mangrove areas in purok 1 and 2, there are no other protected zones in the study area as these are part of the Barangay proper.

VI. Timber Resources

Timber resources are still abundant in the Barangay. Dominated specie is apitong, which comprises about 75%, co-dominant are alupag, malasapote, ipil, amoguis, kalantas and kidkiran.

Rattan is the principal minor forest products abundant in the Barangay. Other minor forest products are kawayan and nipa, which can be found in the riverbanks of purok 2.

LOCAL ADMINISTRATION

I. Organizational Structure

R.A 7160 known as the Local Government Code of the Philippines is where the local administration, functions and civil powers is defined and stipulated.

Organizational structure of the barangay is composed of the following:

- a. The Punong Barangay as the Chief Executive
- b. The Sangguniang Barangay as the legislative body
- c. The Barangay Development Council (BDC) composed of members of the Sangguniang Barangay and representatives of non-governmental organization (NGO) and Congressman

Supportive to the local administration are:

- a. The Barangay Secretary who takes the minutes of the Sangguniang Barangay meetings and handles all the correspondence and records of the Sangguniang Bayan.
- b. The Barangay Treasurer which exercise supervision and control, collects and disburse barangay funds.
- c. Lupong Tagapamayapa composed of the Punong Barangay as Chairman and ten (10) to twenty (20) members who shall serve judicial function when there are conflicts.
- d. Sangguniang Kabataaan who shall promulgate resolutions necessary to carry out the objectives of the youth in the barangay. It is composed of a chairman, seven (7) members, a secretary and a treasurer.
- e. Brgy. Alimanguan is divided into 7 puroks having its purok officials elected thru an assembly of the purok residents. It is composed of the purok president, Vice President, Secretary, Treasurer, PRO and Auditor.
- f. Other special bodies of the Barangay
 1. Brgy. Disaster Coordinating Council
 2. Brgy. School Board
 3. Brgy. Nutrition Council
 4. Brgy. Health Board
 5. Brgy. Peace and Order Council

II. Facilities

Facilities of the barangay government is composed of a barangay hall, barangay health station, and a barangay plaza. It has also a one (1) unit typewriter, blackboard and several tables and chairs.

III. Planning Administration

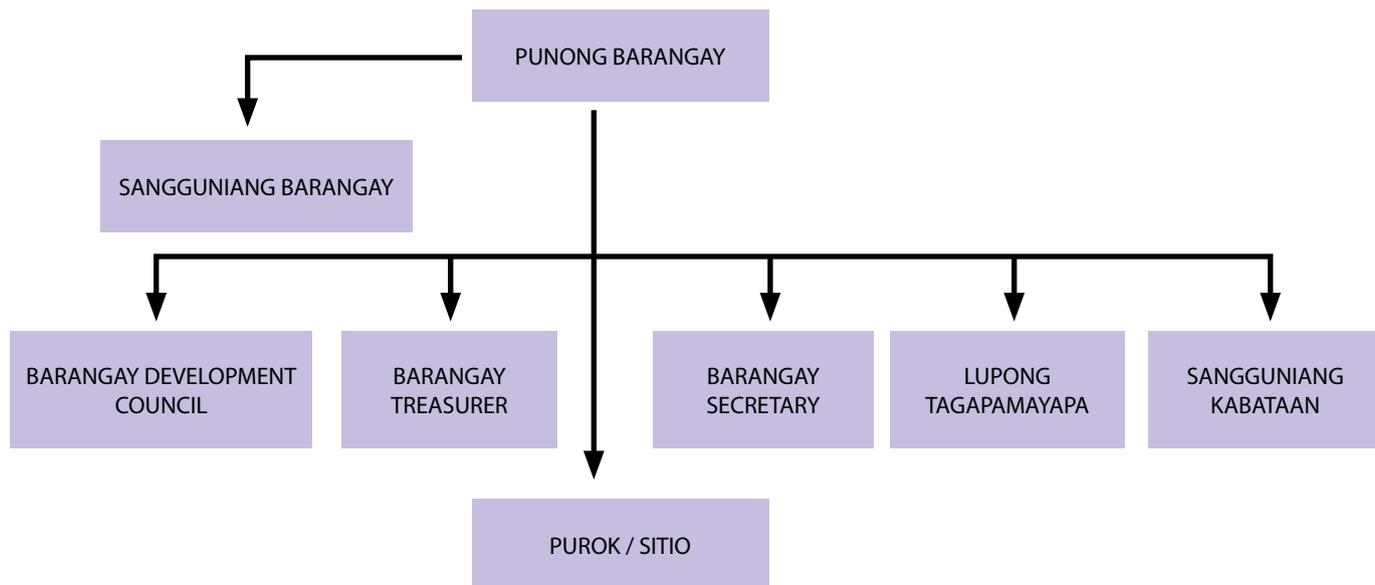
Planning is the function of defining goals, targets, strategies, and integrated sectoral plans that the local government unit adopts through participatory process and optimized use of local resources.

1. Barangay Planning

The official planning document is the barangay development plan where the problems, needs and aspirations of the community are identified, prioritized and implemented based on the available resources within or outside of the barangay. The Barangay Development Council (BDC), is the planning and coordinative body to the municipal level. The members of the Council is headed by the Punong Barangay as the chairman, members of the Sanggunians chosen from among its members and representative of NGO's represented in the council as members. The secretariat of the BDC is headed by the barangay secretary assisted by the Municipal Planning and Development Coordinator.

The responsibilities of the BDC includes mobilization of people's participation in local development efforts, prepare barangay development plans based on local requirements and monitor and evaluate the implementation of national or local programs and projects.

ORGANIZATIONAL STRUCTURE



C. Impact Consequences

FLOOD

Community Name : Purok 1, 2 and 3

EFFECT ON HUMAN SETTLEMENTS

- There will be 115 estimated families in high risk areas that will be homeless and will be displaced.
- The cost of damage to dwelling units is estimated to an amount of Php 3,000,000.00 and would mean a big burden to the affected families.
- Loss of capital investments on land acquisition because of soil erosion, the size of land area is reducing, causing the market value of the land to depreciate.

EFFECT ON GOVERNMENT

Economic loss

There will be more expenditure and less revenue supposed to be received from taxpayers.

Realigned funds

Resources intended for infrastructure, livelihood and other development project of the LGU/Barangay Government has to be re-aligned to be able to respond to the needs of disaster victims and for the reconstruction and rehabilitation of damage properties and other government structures.

EFFECT ON SOURCES OF LIVELIHOOD

Major livelihood opportunities to be affected are fishing activities, and its related trading businesses engaged in the area. Normally, during typhoon and habagat the Barangay experienced fish shortage due to difficulties in fishing during this season. If the area becomes isolated due to destroyed bridges, tiange and sari-sari store owners would also be affected in the acquisition and delivery of goods. Purchasing power then of the consumers would be affected due to add-on cost to the commodities incurred by the store retailers.

EFFECT ON EMERGENCY ORGANIZATIONS

The emergency organization that is usually present and is being looked up into by the populace in cases of emergency and in times of calamity is the Barangay Disaster Coordinating Council (BDCC), who would then seek the assistance from the Municipal Disaster Coordinating Council (MDCC). The Barangay Captain being the chairman leads in the mobilization of BDC members and other volunteer workers to assist in evacuation and relief operations. It is during emergency that this organization will get into asking/soliciting donation in cash or in kind to be able to sustain the needs of the victims.

EFFECT ON LIFELINES

Communications

No major effect on communication facilities as the area is far from the present cell site tower.

Water supply

There will be an interruption of water supply in the barangay due to damaged pipes and water transmission lines. This main water pipelines come from purok 2 serving purok 1 and another main pipe serving other puroks traversing the main river in purok 2 (where the wooden bridge is also located) by a steel support structure. If heavy floods occur, normal water disturbances according to residents in this area include murky water which is unsafe to drink, however, if soil disintegrate and continue to erode, aside from the bridge, the water pipe that traverses the river will collapse and will cause further damage resulting to interruption of water supply in the barangay proper.

Drainage

At present, there is no drainage system in the barangay that will be affected by floods.

Fuel Supply

There is one (1) filling station in the Barangay located in purok 4. The filling station in purok 4 is near the main river at a distance of seventy (70) meters. Though it is adjacent to the said river, it is located in higher place and the area is not prone to flooding. Minimal effects that may be encountered by affected residents are its accessibility to this service if bridges and footbridge will be destroyed.

Electricity

Damage to electricity would be minimal. Usually, during typhoon, electrical power would automatically turned off brought by the sensitivity of its electrical wires. One of its causes is the initiation of strong winds that any falling branches or any falling materials that touches the wires would cause brownouts. Moreover, there are no posts erected near the river or hazard areas, except in purok 3 where there are six (6) posts installed, of these, three (3) are submerged into water during floods which is hazardous to lives and properties.

EFFECT ON AGRICULTURE

There will be damages to agricultural crops grown in the area, rice, coconut and root crops. Production of the said farm products at a lower quantity resulting a lower income and food shortage experienced.

EFFECT ON INDUSTRY

Fishing industry is the one that is mostly affected. Fish producers and traders has to stop its operations, resulting to none income and loss of capital.

Trading of fish and other marine products will be affected causing damage to stored fishes and even stocks of dried fish. None availability of fish products in the market because production capacity of fishermen is affected and marine habitat is also damage due to siltation.

EFFECT ON INFORMAL ECONOMY

The buying capacity of consumers is also affected, prices of commodities increase to a higher level and income is very low. Poverty incidence increase to a higher level and poor living condition.

LANDSLIDE

Community Name : Purok 1

EFFECT ON HUMAN SETTLEMENTS

Major effects on human settlement include the following circumstances:

- About fifty-eight (58) families in log pond area will be homeless and displaced
- The damage to dwelling units is lesser compared to flood hazard as most houses are made of light materials such as nipa shingles, round timber and sawali. If the entire settlements will be buried due to landslide, the damage to dwelling units is lesser compared to flood hazard, estimated at Php500,000.00
- There will be a minimal loss of capital investment on land acquisition as most settlers in log pond area are with no tenure instruments; they are only permitted to squat.

EFFECT ON GOVERNMENT

Government funds will be utilized to respond to the needs of disaster victims and for the reconstruction, relief and rehabilitation works. More damage requires more funds; hence, other government projects will be affected due to fund realignment. Environment will also be affected due to its physical destruction.

EFFECT ON SOURCES OF LIVELIHOOD

Landslide may clog water channels, like in purok 1 estuarine that leads to mangrove area, which is the breeding ground and habitat of crustaceans and fishes. If this happens, the long term effect on fishing being their primary source of income would be less fish catch resulting to low income in effect. Aside from this, siltation and sedimentation also pose a problem to marine resources.

EFFECT ON EMERGENCY ORGANIZATION

The emergency organization that usually exists during calamities is the BDCC chaired by the Barangay Captain. In times of disaster, this organization becomes active and resourceful along with other volunteer workers to conduct rescue and relief operation.

EFFECT ON LIFELINES

Communication

No major effect on communications as the area is far from the present cell site tower.

Water Supply

There is no water pipe connection to this settlement. Residents in log pond area rely mainly to natural spring as their water source categorized as Level I. This water source will be washed out if landslide occurs.

Effect on Drainage, Fuel Supply and Electricity

There is no drainage system in this area, only natural waterways. Further, fuel supply and electricity will have only minimal effect on the disaster due to non-existing electrical post in the area. Most residents in this area use firewood and kerosene as their fuel and lighting facility.

EFFECT ON INDUSTRY

Major effect of the hazard would be felt primarily on fishing industry, where log pond house heads and its members are mostly fishermen. Loss of capital investment on fishing paraphernalias like motorboats, fish nets, lighting facilities among others would bring a great impact to owners. The fishing sector will be affected in terms of employment, fishing gear and quantity of fish catch, resulting to low production that somehow affects its market.

EFFECTS ON INFORMAL ECONOMY

Informal economy would also be affected because all these factors are interrelated to one another resulting to a low income in general.

D. Vulnerability Statement

Community Name : Purok 1, 2 and 3

The following hazards have been analyzed:

1. Flood
2. Landslide

These elements of the community are most vulnerable:

1. Fishermen
2. Infants and children
3. Pregnant women and lactating mothers
4. Disabled persons
5. Barangay Government
6. Senior Citizen/Elder Group

These elements are vulnerable in the following ways:

1. Financial instability
2. Settlements in critical areas
3. Weak infrastructure facilities like bridge
4. Absence of flood control dike

The most urgent actions required are:

1. Flood control dike
2. Relocate dwellers from critical areas to a more suitable area through the shelter project.
3. Conduct tree planting
4. Enforce strict implementation of the following environmental laws and other related laws;
 - a. PD 1152 – Philippine Environmental Code
 - b. Municipal and Barangay Comprehensive Land Use Plans
 - c. National Building Code
 - d. RA 9003 – Ecological solid Waste Management Act of 2000
 - e. PD 1067 – Water Code of the Philippines
5. Improve the wooden bridge in the Barangay
6. Provide livelihood programs
7. Conduct IEC/seminar on disaster preparedness and mitigation program

HRVA PROCESS

PRE-ASSESSMENT

I. Definition of Project

Hazard Risk and Vulnerability Assessment (HRVA) is a comprehensive study conducted in a particular community and processed locally which requires a series of planned activities, strategies and techniques involving key players' commitment community's support in terms of providing concrete/reliable data with the financial and technical assistance from LGU, UN-HABITAT and other concerned agencies to be able to develop an HRVA Guidebook/Toolkit that will serve as future reference for Disaster Management Planning and other related studies of other LGUs and communities.

II. Program Orientation

Objectives:

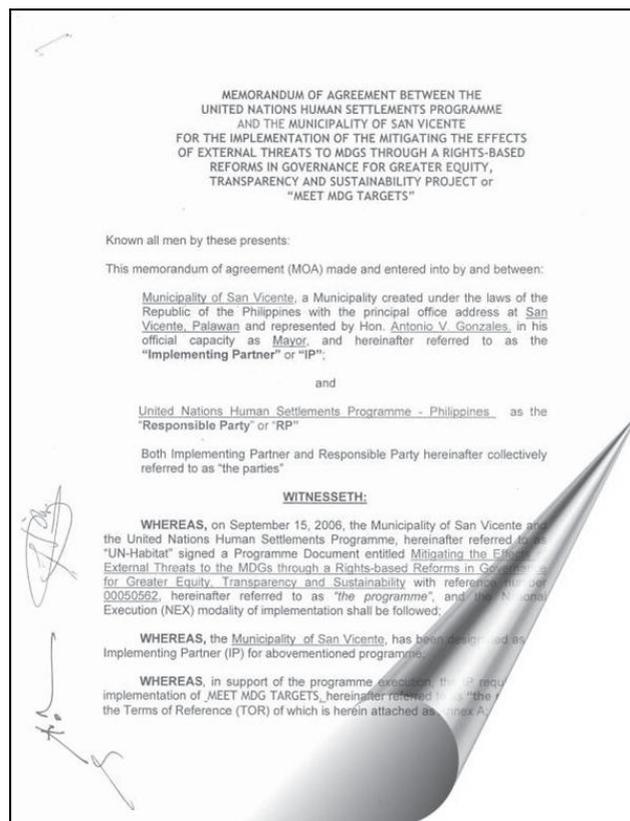
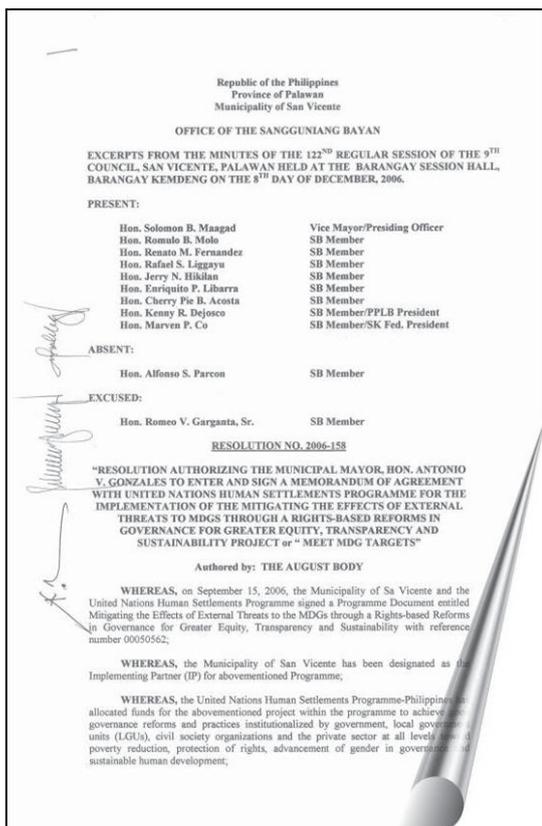
1. To able to discuss briefly the MDGs and its relation to Disaster Management.
2. To provide basic understanding of the different types of hazards, risks and vulnerability assessments of the same in a particular community.
3. To be able to explain the purpose why HRVA has to be conducted.

Process: Getting the commitment of the LCE

- a.) LGU representatives to the MEET the MDG training, discuss and request LCE as chairperson of the MDCC to convene the MDCC members
- b.) Coordinate/arrange exact date of meeting for the HRVA orientation with the UNDP representative as the resource person
- c.) Facilitate issuance notice of meetings to MDCC members
- d.) Venue preparation, materials and equipments needed

Output:

1. LGU's commitment to support the project in terms of institutionalizing the HRVA-CT and appropriation of funds.
2. Memorandum of Agreement entered into between the LGU and the UNDP for funding requirements and project implementation.



III. Planning Group Formation

1. Criteria of choosing the members
 - a. Members of the MDCC (if possible)
 - b. With expertise or have undertaken similar activities
 - c. Willing and committed to take additional responsibilities

2. **Process**
 - a. Identification and selection of members to the CT
 - b. Creation of the Hazard and Risk Vulnerability Assessment Core Team (HRVA-CT) thru Executive Order to institutionalize its existence
 - c. HRVA-CT composition
(Composed of a chairman, vice chairman and ten (10) members)

IV. Re-orientation of the HRVA Project

Duration: ½ day activity

Objective :

To have a thorough understanding of what has to be done to come up with the HRVA Guidebook.

Preparatory Activities:

Step 1 Facilitate Notice of meeting

Step 2 Prepare reading materials and hand outs on HRVA strategies and techniques

- a. HRVA Worksheet
- b. Reading materials on Vulnerability Assessment- MEET the MDG DM Workshop

Step 3 Meeting of HRVA-CT Chairman and resource persons/facilitators to discuss the flow of the HRVA Re-orientation

During meeting:

- Provide CT Members copy of the Executive Order
- Provide reading materials and handouts
- Discussion and open forum
- Seek Core members' full support and commitment to the project

V. Hazards and Community Identification

Duration: 1/2 day

- Step 1 Identification of natural and man made hazards and identification of communities/area that is/are vulnerable to hazards based on the common knowledge of the HRVA-CT.
- Step 2 Based on the identified hazards and communities, decide or agree on a particular area or community for the conduct of HRVA.
- Step 3 Criteria set in choosing the area or community.
 - a. Previous occurrences of disasters
 - b. Environmental characteristics of the community/area
 - c. Potential and harmful effects of the identified hazards to the people property and environment

Output:

The team agreed to conduct HRVA at Purok 1, 2 & 3 of Brgy. Alimanguan and identified the hazards flood and landslide, and further agreed that validation has to be conducted thru actual survey of the identified community/area.

VI. Work Program and Financial Preparation

Duration: 1/2 day

- Step 1 Tasking of different activities.
 - a. Assign specific concerns for vulnerability assessments and analysis to HRVA-CT members.
 - b. Consider the following community characteristics for the conduct of research, evaluation and assessment of assigned member
 - b.1 DEMOGRAPHY
 - Population age
 - Mobility
 - Useful skills
 - Hazard awareness
 - Vulnerable groups
 - Health status
 - Educational level
 - b. 2 CULTURE
 - Traditions
 - Ethnicity
 - Social Values
 - Religion
 - Normal food types

b.3 ECONOMY

- Trade
- Agriculture
- Livestock
- Investments
- Wealth

b.4 INFRASTRUCTURE

- Communication & Transportation Networks
- Essential services
- Community
- Resource base

b.5. ENVIRONMENT

- Landforms
- Geology
- Waterways
- Flora & Fauna

- c. Assign Core Team members who will act as the secretariat and will do the documentation process of the HRVA.

Step 2 Design and agree on the format of the HRVA Work and Financial Plan.

- a. Determine desired activities and sub-activities and assign the persons responsible to do it.
- b. Assess the required materials supplies and equipments and other logistic support in the implementation of the project.
- c. Schedule activities and determine the resource/financial requirement for the cost of supplies & materials, traveling expenses and other incidental expenditures.

Step 3 Submission of Work & Financial Plan to UNDP and LGU finance committee for funding allocation.

VII. Tool Development

Objective:

To come up with a community profile through data gathering of the identified Puroks that will serve as basis for analyzing the situation of the community, and to be able to determine the capacities and its vulnerability to identified hazards.

1. Formulation of HRVA Household Survey Questionnaires

Core Team meeting to frame up questions to obtain family's demographic data, social condition, educational, social services, manpower and facilities, cultural practices and the economic status of the households.

2. HRVA HH survey and tabulation forms preparation

- a. Determine number of survey and tabulation forms for printing
 - Form 1 - HRVA HH Questionnaire
 - Form 2 - Tabulation Sheet
- b. Refer to other data/sources of information of the identified area (e.g. Mun/Brgy Profile, HH Masterlist of the brgy/purok)

3. Plan for the conduct of HRVA HH Survey

Objective:

To be able to orient/familiarize the survey questionnaires and acquire techniques/approach in the conduct of survey

- a. Identify household survey enumerators (HRVA-CT members and some of their office staff)
- b. Orient enumerators on HRVA HH survey
 - b.1 Purpose of the survey
 - b.2 How to fill up survey forms
 - b.3 Role Playing (interview each other)
- c. Plan the route in the conduct of the survey
 - c.1 Survey team started in purok 3, then purok 1 & 2
 - c.2 Factors considered in route planning
 - c.2.1 maximize time and effort
 - c.2.2 to see to it that all HHs had been enumerated/surveyed
 - c.2.3 avoid/minimizes duplication

Reference as guide of enumerators: CBMS Spot Maps & HH Masterlists

VIII. Area Preparation/Social Preparation

- Step 1 Facilitate sending of letter to the Brgy Captain informing that purok 1, 2 & 3 of the barangay was identified for the HRVA, and that there is a need to call for an assembly of the residents of the identified puroks
- Step 2 Two days before the scheduled assembly, core team member personally contact the barangay officials to make a follow-up on the communication sent and confirmation for the conduct of the community assembly
- Step 3 Community assembly

Duration: 2 hours

- a. Barangay Officials, Tanods and other volunteer workers of the barangay were mobilized to inform and notify purok residents to attend the assembly.
- b. Prepare venue, and materials needed like sound system, blackboards, and attendance sheets.
- c. Team Chairman as the lead facilitator of the assembly explained purpose of HRVA and why there is a need to conduct survey.
 - c.1 acknowledge the purok residents
 - c.2 give purpose
- d. Encourage the people to ask or raise comments reactions about the activity.

ATTENDANCE
HRVA Outreach Assessment - Brgy. Alimangyan
Sept. 15, 2006

Pangalan	Purok	Signature
1. Rufina C. Salazar	6	[Signature]
2. Elizabeth R. Cometa	6	[Signature]
3. VICTORIA G. COMBIA	4	[Signature]
4. BUNHO B. ESCANO	5	[Signature]
5. [Name]	6	[Signature]
6. TRISA [Name]	7	[Signature]
7. [Name]	1	[Signature]
8. Jimmy S. Solana	1	[Signature]
9. Maria Arzala	1	[Signature]
10. Charita [Name]	1	[Signature]
11. Isidro B. Rempilas	3	[Signature]
12. [Name]	2	[Signature]

**HAZARDS RISK AND VULNERABILITY ASSESSMENT
UN-HABITAT MEET THE MDGs PROJECT**

COMMUNITY ASSEMBLY
Barangay Alimangyan, San Vicente, Palawan
September 15, 2006

PROGRAM OF ACTIVITIES

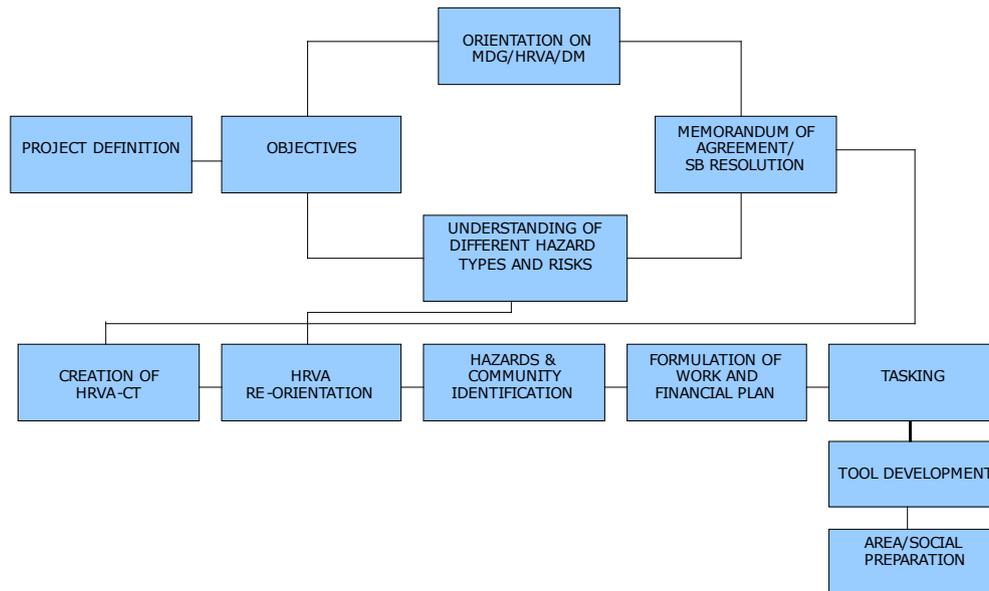
10:00 - 10:30	Introduction/Overview of the Project	Honorio Alejano
10:30 - 11:00	Objectives, Benefits and Legal Basis	Veneranda B Parcon Catherine T. Manlavi
11:00 - 11:30	Questions & Answer Portion	
11:30 - 12:00	Lunchbreak	
1:00 - 5:00	Actual HH survey	

Documentor:
Lucylyn F. Panagsagan
Cesar A. Par



Scene during the orientation of the HRVA to be conducted in three puroks, held at the barangay covered gym on September 15, 2006

IX. Flowcharting of Pre-assessment process



ASSESSMENT

X. Conduct of HRVA HH Survey

Duration: 3 days

- Household survey was conducted by 15 enumerators. The interview for household respondent lasted from 3-5 minutes.
- An average of 59 households surveyed in a day.
- Actual survey starts from 9:40 A.M. to 11:45 P.M. then 1:00 P.M. to 4:30 P.M.
- The team leaves station at 8:30 A.M. for the fieldwork and arrives at the area 9:30 in the morning.



A trip back home aboard a dumptruck HRVA Core Team & some household enumerators with happy moods after the survey.

Stories from the field:

The 3-day household survey could have been done in two (2) days only, however, the team was not able to have it done due to bad weather, and the in availability of the requested jeeps, hence, the team opted to use a dump truck.

After the program at the assembly area, some members of the CT already conducted survey in the gym taking the advantage of the availability of the respondents, however it did not help a lot because the enumerator could not make justifications to other data to be gathered, example of these are the type of dwelling units, water facilities, its proximity to the river/danger zone, etc. To counteract the events, the surveyed households in the barangay gym were re-checked in the actual house-to-house survey.

At the survey area, some respondents were hesitant to be interviewed, we have to spend time to explain thoroughly the purpose of the survey to convince, particularly those who were not able to attend during the assembly meeting.

Economic indicators particularly HH income was difficult to obtain from the respondents, most are afraid to give exact information on this.

Out of 200 targeted HH only 179 HH were able to be interviewed because during the survey, some of the HH heads were not around, others attending school meeting, some are in the farm while others refused to be interviewed.



HRVA CT member Cathy Manalvi on the one on one household interview at the gym that was conducted after the Purok assembly on September 15, 2006.

XI. Data Consolidation

- Step 1 Edit accomplished HRVA HH survey Form 1.
 Duration: 1/2 day
- Step 2 Consolidate data by Purok using Form 2 to summarize the results by purok level and total by whole study area.
- Step 3 Prepare in table forms of collated data/information as per survey (Done in seven (7) days by two (2) persons).

Table 1. Household Population by Sex

Location	Male	Female	Total
Purok 1	235	235	439
Purok 2	67	67	128
Purok 3	159	159	323
Total	461	479	890

Table 2. Population and Number of Household

Purok	Total Population	No. of Household	Average HH size
1	439	86	5
2	128	25	5
3	323	68	8
Total	890	179	18

Table 4. Population Distribution by Age Group

Age Group	Number of Population			Total
	Purok 1	Purok 2	Purok 3	
0 - 2	34	9	15	58
3 - 6	32	7	20	59
6 - 12	80	24	59	163
13 - 17	74	17	45	136
18 - 24	53	22	54	129
25 - 59	156	40	107	303
60 above	10	9	23	42
Total	439	128	322	890

Table 12 Materials used for the Dwelling Units

Materials Used	Purok 1	Purok 2	Purok 3	Total
Strong material	20	11	17	48
Light material	41	10	32	83
Mixed material	21	4	16	41
Makeshift material	5	2		7
Total	86	27	65	179

Table 15 Water Source

Water Source	Purok 1	Purok 2	Purok 3	Total
Level I	46	1	32	79
Level II	15	12	19	46
Level III	30	12	18	60
Total				185

Samples of collated data

XII. Ocular Survey of the Community and Mapping

Objective:

To be able to identify the exact location of critical sites likewise to be able to determine the level of exposure, vulnerability of government and private structures, infrastructure networks, crops and other elements likely to be affected by the impact of hazards.

Duration: Activity was conducted for two (2) consecutive days by five (5) persons from the following offices:

Municipal Engineering Office
Municipal Assessor's Office
MENRO
MPDO/MCRO – Documentor

Step 1 Inventory of existing government and private structures, infrastructure networks of the barangay.

- a. Listing of identified structures potential for shelter sites/evacuation centers.
 - a.1 School Building (Elementary & HS)
 - a.2 Barangay Covered Gym
 - a.3 Barangay Hall
 - a.4 Day Care Centers
 - a.5 Religious Chapels/Church
 - a.6 Bgy Health Center
 - a.7 Protective Services/CAFGU Detachment
- b. Infrastructure Networks
 - b.1 Roads & Bridges
 - b.2 Water Facilities
 - b.3 Electricity
 - b.4 Communication Facilities
- c. Environmental Elements
 - c.1 Landforms
 - c.2 Waterways
 - c.3 Flora & Fauna

Step 2 Ground/Area Validation

- a. Assessment & inspection to know the existing condition/status of buildings, bridges, road networks, critical sites and other elements (eg. GPS, camera, tax & cadastral maps of the barangay)
- b. Conduct interview with barangay officials, residents, school authorities and other concerned authorities to get reliable data, comments and suggestions
- c. Conduct Geographical Positioning System (GPS) reading
- d. Picture taking



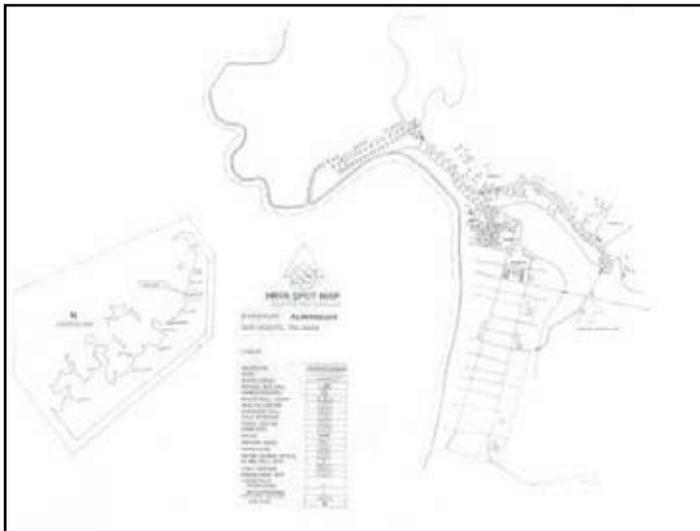
The entrance to the Elem. School submerge into water due to absence of drainage facilities. Picture taken during the ocular inspection.



Wooden bridge of Purok 2 that needs repair on its approaches that was damage due to erosion caused by flood.

Step 3 Spot mapping/spot map preparation

- a. Determine exact location of households and to come up with the household master list of the identified Puroks.
 - a.1 names of household head
 - a.2 assign number for each household
- b. Prepare color coded spot maps to identify households located in critical areas to hazard flood and hazard landslide



- c. Make available the following reference maps
 - a. Spot Maps
 - b. Alienable & Disposable Maps
 - c. Slope Maps
 - d. Road Network Map
 - e. Topo Map
 - f. Suitability Map
 - g. Soil Map
 - h. Barangay Land Use Map

XIII. HRV Assessment & Analysis

Objective:

To be able to come up with a narrative/descriptive analysis of identified hazards, its effects and impacts and the analysis of the community, as to the vulnerability, capacity of the community, environment and other elements at risk.

1. Analysis as the cause and effects of identified hazards flood and landslide was based on the characteristics of the hazard.
 - a. Frequency
 - b. Extent of the area that it may effect
 - c. Timeframe (duration, time, day/month/year)
 - d. Intensity
 - e. Manageability/controllability

2. Analysis of the community's and environment's vulnerability.

Note:

Consider the following questions:

- a. What elements are at risk?
- b. Which one is the most at risk?
- c. What constitute capacities?

3. Conduct analysis to determine the vulnerabilities
 - a. Societal analysis – deals with people of different ages, income levels, ethnicity, capabilities and experience to hazards.
 - b. Environment analysis – pertains to natural resources (water, mountains, critical habitats).
 - c. Economic analysis - analysis on economic sector of the community (agriculture, mining, fishing, retail, transport).
 - d. Critical facilities analysis – evaluation of existing service facilities in the community such as roads, bridges and other structures.
 - e. Built environment analysis – determining the vulnerabilities of non-critical structures like business establishments, residences.

4. Data based Analysis thru:
 - a. HRVA HH Survey – with questions that will give information on the respondents’ awareness of the hazard, their vulnerability and the effects and impact of the hazard.

Example:

1. Anong mga sakuna/panganib ang maaaring mangyari sa komunidad ninyo?
2. Anong maaaring idulot nito sa inyong samba-hayan?

- b. Ocular inspection of the area for the evidence of previous disaster and existing vulnerability analysis based on the recommendation/ suggestions made by the inspecting team composed of 5 members of the HRVA-CT:
 - b.1 Engineer II of the Mun. Engineering Office
 - b.2 Mun. Environment & Natural Resources Officer
 - b.3 Local Assessment Officer of Mun. Assessor’s Office
 - b.4 Municipal Civil Registrar – Documentor
 - b.5 Project Evaluation Officer II of MPDO - Documentor
- c. Consultation/dialogue with theBarangay Captain, Purok Leader and residents whose dwelling units are located in critical areas.
- d. Research at PAG-ASA weather station in Puerto Princesa City by CT member to gather information on typhoon occurrences.
- e. Reference maps of the barangay

XIV. Validation of HRV Assessment & Analysis

Objective:

To be able to present result of the HRV analysis of the identified community for approval of the Brgy. Officials and residents of Purok 1, 2 & 3.

Duration: HRVA Core Team chairman, and four (4) other members conducted the data validation in a one-day activity

Preparatory Activities:

- Step 1 Seek advice from Barangay Secretary acceptable date and venue thru telephone.
- Step 2 Facilitate sending of letter to Punong Barangay.
- Step 3 Planning and program preparation on how to conduct data validation.
- Step 4 Seek assistance of Brgy Officials & Purok Leaders to disseminate information.
- Step 5 Assign speaker, presenter and documentor.
- Step 6 Prepare blow-ups tabulated data and other materials for the presentation.
- Step 7 Venue preparation (Brgy Officials & Purok Leaders to take charge).

Assembly Proper:

- Step 1 Acknowledge presence of Brgy Officials & the purok residents.
- Step 2 Give purpose of the assembly.
 - a. Recall project objectives, household interviews, ocular inspection and mapping done
 - b. Emphasize that the data came from them and will be one of the basis for HRVA analysis and planning
 - c. Outline the flow of activity
 - d. Set time limit
- Step 3 Present the Purok Profile and HRV Analysis Worksheets.
 - a. Introduce visuals appropriately (e.g. cite Labels/symbols, mention what it contains)
 - b. Avoid acronyms
 - c. Use dialect and conversational language
 - d. Break technical terms by defining them
- Step 4 Ask for comments/suggestions and recommendations.
- Step 5 Take down comments and suggestions from the assembly for the necessary adjustments and correction on presented data.

Stories from the Field:

a. Data validation of Purok 3 residents alone was conducted from 10:30 A.M. – 12:00 noon of Nov. 11, 2006 at the Purok Center – 30 residents have registered in the attendance sheet.

b.) Purok 1& 2 residents assembly conducted at 1:45 P.M. to 2:30 P.M. at the Purok Center of Purok I. 59 residents attended as per attendance sheet.

Quoted comments/reactions from the residents:

“Puro nalang plano/pag-aaral wala namang proyekto.”

“Kahit na binabaha at mapanganib ang lugar namin,
‘di kami aalis dito.”

“Alam naming nasa kritikal na lugar kami, pabor kami sa programang pabahay, kaso wala kaming kakayanan sa mga bayarin.”

“Payag kaming paalisin pero dapat bayaran ng gobyerno ang halaga ng aming bahay.”

The Purok assembly at the Purok center was conducted for data validation of the result of HRVA Household survey

CT Leader Honorio Alejano acknowledge the presence of Puroks 1 & 2 residents at the start of the validation process held in purok center I.

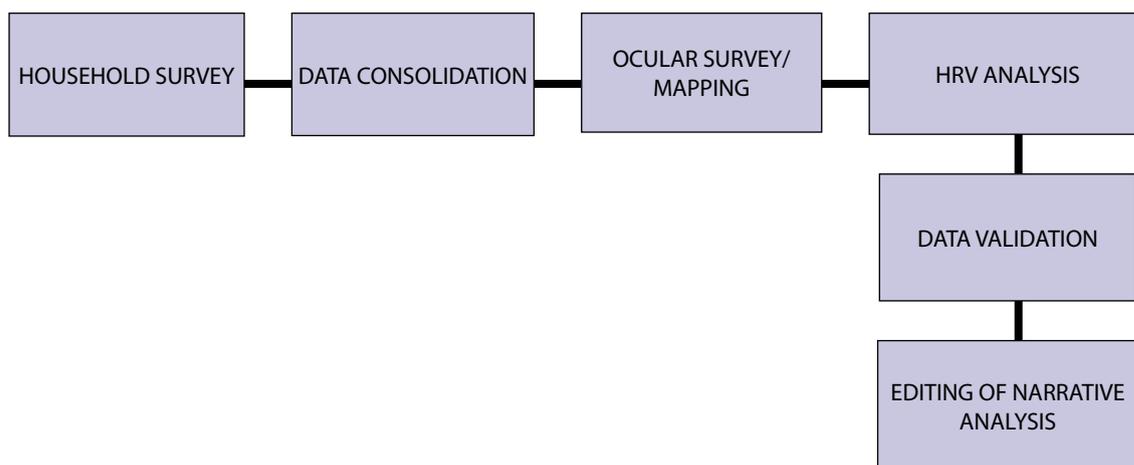
Data validation of Purok, with Lucy F. Panagsagan presenting the result of the Household Survey.

Purok assembly of puroks 1 & 2 residents were made to register in the attendance sheet

XV. Editing of Narrative Analysis and Results of Gathered Primary and Secondary Data

Duration: 1 week

XVI. Flowcharting of Assessment process



POST-ASSESSMENT

XVII. Finalization of the Validated Draft

Duration: 1 day

- Printing of the final draft
- Compilation of the documents

XVIII. Formulation of Local Government Reform Agenda

Duration: 2 hours

- Meeting called for this purpose to gain support for conclusions and recommendations

PRESENTATION OF HRVA GUIDEBOOK/TOOLKIT
Conference Room, MGC
December 4, 2006

ATTENDANCE SHEET

Name	Address/Office	Signature
<i>Amorio, Rey Am</i>		<i>[Signature]</i>
CEESIE C. VELETE	MPDO	<i>[Signature]</i>
LUCYLN F. PANACSAGAN	MPPM - PED-II	<i>[Signature]</i>
LILIBETH N. CAMBIA	MBO, Representative	<i>[Signature]</i>
ANABENE V. GUELLERA	MCA, Representative	<i>[Signature]</i>
VENERANDA B. PARCON	MERO - MCR	<i>[Signature]</i>
Alfredo V. Tan	MUSTO/AMA	<i>[Signature]</i>
A. ABUJAMAN, JR	MEMPLA	<i>[Signature]</i>
CATERINE T. PENLONJI	SWD - III	<i>[Signature]</i>
Magellan M. Nolasca	SPP	<i>[Signature]</i>
ERWIN G. FORTIN	MTO	<i>[Signature]</i>
Cecilia R. Tan	MA	<i>[Signature]</i>
FRANICA M. COMBIT	UNADOR	<i>[Signature]</i>
SOLOMON B. MANGAO	SB MEMBER	<i>[Signature]</i>
BENATO M. FERNANDEZ		<i>[Signature]</i>
ANTONIO V. GONZALES	MUN. MAJOR	<i>[Signature]</i>



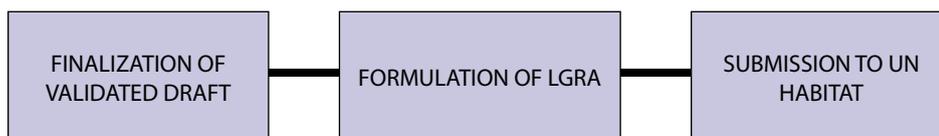
HRVA Chairman acknowledging presence of the Municipal Mayor & Vice Mayor before explaining the purpose why the final draft of the HRVA process is presented to the body. December 4, 2006



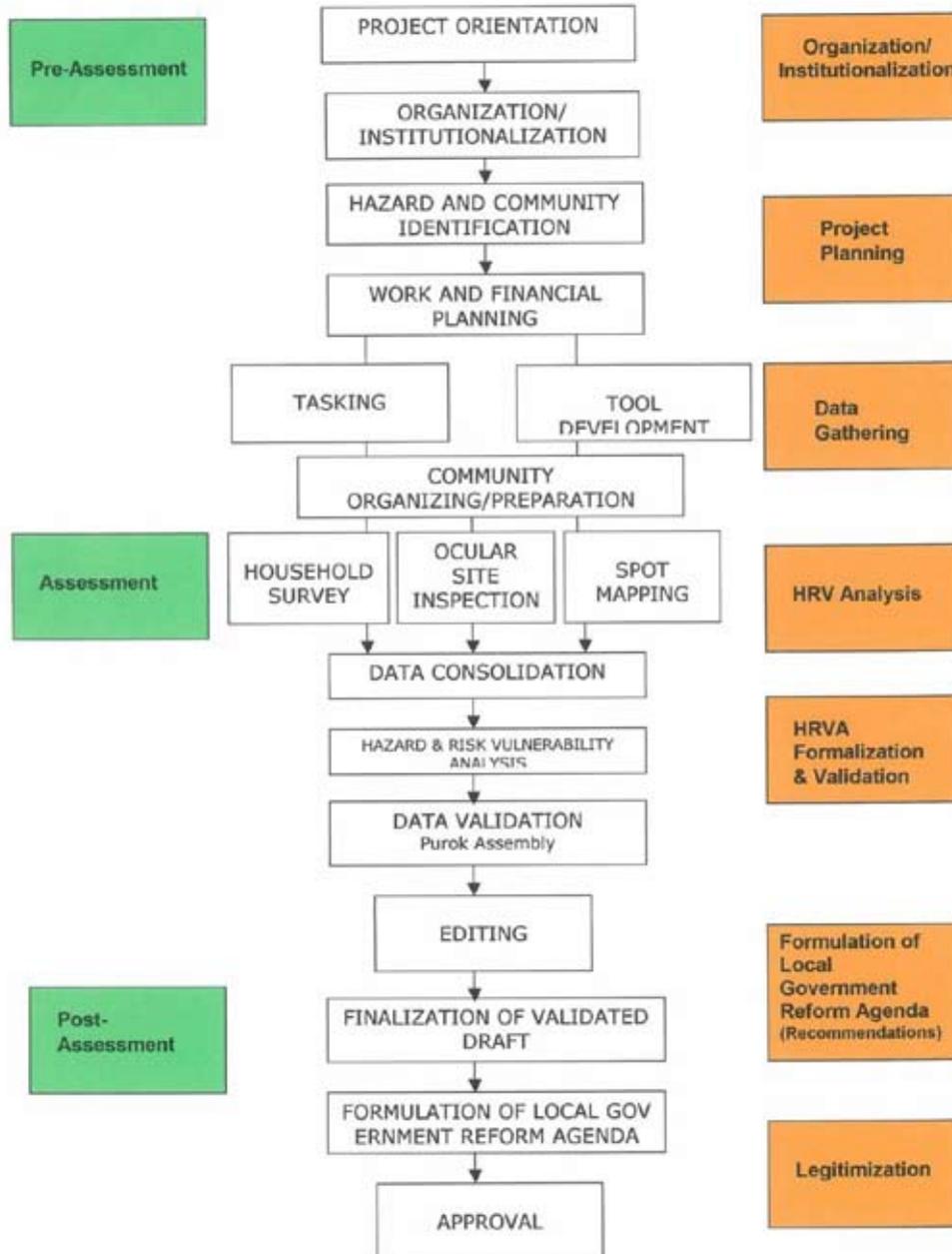
The very attentive audience to the HRVA guide book presentation to be able to come up with the LGRA of the municipality. Lucy F. Panagsagan and Benny B. Parcon facilitates the presentation

XIX. Submission of Final Draft to UN-HABITAT

XX. Flowcharting of Post-assessment Process



HRVA PROCESS FLOWCHART



LOCAL GOVERNMENT REFORM AGENDA

I. Definition

LOCAL GOVERNMENT REFORM AGENDA (LGRA)

LGRA is a statement of purpose and direction of planned activities and projected output based on HRV Analysis encompassing economic upliftment, enhancement of social and general public services and preserving environment with the objective of increasing the capacity of the community both tangible and intangible aspects.

LGRA defines the development vision and goals for development of the municipality. It is an articulation of images, values, strategies, directions and goals that will serve as guide in disaster management and increase the municipality's capabilities and perhaps to become a resilient community in the future.

II. Assessment on Critical Indicators

Based on information, HRVA survey result and data validation conducted in three communities affected by hazards flood and landslide, the following assessments and analysis were made on some critical indicators:

ECONOMIC

- Low income
Poverty incidence is high with 71% surveyed household are with income ranging from Php1,000 – Php5,000 a month
- Low agricultural produce
- Commercial activities are very limited due to lack of investors
- Insufficient irrigation facilities

SOCIAL

- Participarion rate in college is very low due to financial incapacity of parents
- 21 households do not have access to sanitary toilet facilities
- BHS needs repair, no regular supply of medicine
- 37% of the interviewed respondents in critical areas are not willing to avail the Shelter Project
- 58 households are vulnerable to hazard landslide and 107 households are vulnerable to hazard flood

INFRASTRUCTURE

- Roads are mostly graveled and are in deplorable condition particularly during rainy season
- Wooden bridge in purok 1 & 2 needs repair & improvement, both are with no concrete abutment
- Level III water system is unsafe to drink during rainy season
- Both Elementary & Secondary schools needs drainage facilities
- The rear portion of Alimanguan Elementary School campus which is 2 meters away from the creek needs control measures to prevent further soil erosion

ENVIRONMENT

- Soil erosion & siltation along river banks – usually occurs during habagat and heavy rains due to typhoon
- Forest denudation – illegal kaingin still occurs in some forested areas
- Dwelling construction in mangrove areas
- Sand quarrying
- No flood control
- Dumping of trash along river banks

The vision is broad in scope that encompasses all aspects of the municipality’s development, which summarizes in addressing improvement of natural resources, human resources and financial resources, accordingly the formulation of San Vicente’s LGRA focused on this vision and goals.

Vision

“By 2010, San Vicente will be a progressive and self-reliant municipality as a center of trade, commerce and industry in northwestern Palawan and a well-known and favorite tourist destination on ecological tourism with a balanced and sustained environment and natural resources and good participatory governance that provides timely, effective and efficient social services and goods”.

II. Strategic Directions & Policies

Strategic directions and polices on the other hand shows the path to get to the municipality’s vision. These are the stepping stones towards achieving the municipal vision and the realization of the findings of the assessment.

- Establish and implement participatory type of governance
- Increase production and marketing of quality agricultural products
- Manage a balanced ecology
- Prompt delivery of effective and efficient social services, programs and project
- Provide and improve support infrastructure facilities and utilities for industry and social development
- Revolutionize resource-based industries
- Strict adherence to Zoning Ordinance of both Barangay & Municipal Comprehensive Land Use Plans to avoid/prevent complex hazards brought by man-made and natural calamities
- Strict implementation of environmental laws, barangay/municipal ordinances and other related policies and directives
- Integrate sustainable development
- Replication of HRVA study to other sites such as Caruray, Port Barton, Poblacion and other barangays
- Conduct IEC/seminar on Disaster Management
- Strict implementation and enforcement of EOs and Barangay Ordinances regarding migrants and settlers

IV. Priority Development Programs, Projects and Activities (PPAs)

The enumerated PPAs below are among the development agenda embodied in the Barangay Comprehensive Land use Plan (BCLUP), 2007 Municipal Annual Investment Plan (AIP) and Medium Term Development Plan which are applicable to barangay Alimanguan based on the assessment and analysis made on hazard and risk vulnerability.

PPAs	DESCRIPTION	COST	FUND SOURCE
ECONOMIC SERVICES			
1. Increase grains, vegetable and other crops & livestock production	Agricultural support services to produce hi-breed grains, high value crops and livestock	3M	On-going project Agriculture/LGU
2. Construction of mini-irrigation system (Alimanguan)	To augment rice production and increase income benefits	3M	NIA/Congressional Fund
3. Coastal Resource Mgt. (Alimanguan)	On-going project to preserve & protect marine resources through operation of Bantay Dagat Force	300,000.00	AIP/MTDP
4. Strengthening of Cooperatives	Provision of capital investments/training & capability building	1M	LGU
5. Implement livelihood activities Mariculture Projects Fish & Dried Fish Trdng Provision of fishing Paraphernalias	To augment income of shelter beneficiaries	2M	LGU/DA-BFAR/ Congressional Fund
6. Identify and develop tourist attraction spots (Alimanguan)	Tourism promotion to attract more private investors	10M	Private Investors
7. Development of agriculture promotion and marketing linkages (Alimanguan)	Strategy to promote dynamic agricultural trading	30,000	LGU

SOCIAL SERVICES			
1. Repair of BHS in 10 barangays (Alimanguan)	To provide effective & efficient health services	200,000	AIP LGU/DOH
2. Construction of school buildings (Alimanguan)	Provision of additional school building	1.2M	DEP-Ed/ thru Congressional Fund
3. Construction of public and communal toilets (Alimanguan)	To be constructed in purok 1 & 3	100,000	LGU
INFRASTRUCTURE SERVICES			
1. Dike Construction	Flood control program for Alimanguan River made of stone walls or sand bags)	1M	Congressional Fund with counterpart from landowner
	Site Development Plan	5M	LGU
2. Housing Project (Alimanguan)	Alimanguan Resettment Project	3.3M	LGU
3. Repairs & Maintenance of Roads & Bridges	Repair of purok 1& 2 bridges	200M	Prov'l/Mun/DPWH/ Cong'l Fund
4. Construction of Drainage System (Alimanguan)	To be constructed in low lying areas and in elementary & secondary schools	100M	-do-
ENVIRONMENT SERVICES			
1. Tree Planting	To avoid soil erosion/ Serves as protection	500,000	MUN/BGY/DENR
2. Implementation of clean & Green Program	Promote cleanliness/ beautification and nature preservation	50,000	-do-
3. Management of Watershed Areas (Alimanguan)	Protection of watershed areas	100,000	MUN





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Presentations

The Philippine Disaster Management System. Presentation by Dr. Anthony T. Golez, Jr., Deputy Administrator, Office of Civil Defense, Department of National Defense



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| 7. Nemesio Macabale | Member |
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