

# PROVENTION CONSORTIUM

## Community Risk Assessment and Action Planning project

### PHILIPPINES – Camiguin Province, Island of Mindanao



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## Enhancing Local Government Unit Capacities in Disaster Preparedness, Prevention & Mitigation

CRA Toolkit  
CASE STUDY

This case study is part of a broader ProVention Consortium initiative aimed at collecting and analyzing community risk assessment cases. For more information on this project, see [www.proventionconsortium.org](http://www.proventionconsortium.org).

**Bibliographical reference:** “Capacity Building in Community Based Disaster Risk Management in the Philippines” in Education for Sustainable Development: Case Studies and Best Practices, Rajib Shaw and Badaoui Rouhban (eds), Disaster Reduction and Human Security, UNESCO & Kyoto University, Kobe: CDP, 2005 and “Enhancing LGU Capacities in Disaster Preparedness, Prevention & Rehabilitation”, Final Report to Local Government Support Program, Manila: CDP, 2005.

Click-on reference to the **ReliefWeb country file for the Philippines:**  
<http://www.reliefweb.int/rw/dbc.nsf/doc104?OpenForm&rc=3&cc=phl> .

**Note:**

A Guidance Note has been developed for this case study. It contains an abstract, analyzes the main findings of the study, provides contextual and strategic notes and highlights the main lessons learned from the case. The guidance note has been developed by Dr. Ben Wisner in close collaboration with the author(s) of the case study and the organization(s) involved.

## **Philippine Case Study: Community Risk Assessment in Brgy Looc, Catarman, Camiguin Province in the Project “ Enhancing LGU Capacities in Disaster Preparedness, Prevention & Rehabilitation”**

### **Identifying Information**

Project Name	: Enhancing LGU Capacities in Disaster Preparedness, Prevention & Rehabilitation
Project Duration	: April 29, 2002 - May 2003
Partners/Beneficiaries	: Provincial Government and Municipalities of Catarman, Guinsiliban, Mahinog, Mambajao, & Sagay
Funded and Assisted by	: Canada - Philippine Local Government Support Program (LGSP)
Contracted to	: Center for Disaster Preparedness Foundation Inc. (CDP)

### **Introduction**

Camiguin is a small, pear shaped island province at the northern tip of Mindanao. It is the Philippines' second smallest province both in land area and in population at 238 sq.km. and 74,232 persons. Its physical form consists of 7 volcanoes, both active and dormant. Hibok-Hibok last erupted in 1951. The province has prominent rainy season between the months of November to February, with the absence of a definite dry season. From October to January, the province is visited by typhoons.

The province is composed of 5 municipalities and 57 barangays. Mambajao is a 3<sup>rd</sup> class municipality while Catarman, Mahinog, Sagay and Guinsiliban are all 5<sup>th</sup> class municipalities. The provincial economy is predominantly agricultural, with a developing tourism industry. The dependence on agriculture and fishing in a province with limited arable land, low agricultural productivity, dwindling natural resources, and practically no value-adding activities, is one of the factors for a 71% poverty incidence.

The island province of Camiguin was devastated by Typhoon Nanang on 6 – 8 November 2001. Although a relatively weak storm with sustained wind speed and gustiness at 75 kph and 90 kph respectively, heavy rainfall of 517 millimeters poured on November 7, 2002. The associated landslides, debris flow and flashflood claimed 220 lives (including those declared missing), injured 146 persons and affected some 7,000 families. Damage to settlements, agriculture and infrastructure was placed at P201 Million. Camiguin receives 2,300 mm average rainfall and a similar disaster such as Typhoon Nanang has been projected to have a return period of more than 100 years as indicated from the rainfall data from the Mt. Hibok-Hibok Observation Station.

### **Beginning proactive and participatory approach after Typhoon Nanang**

The Typhoon Nanang disaster served as a wake-up call to enhance local and community capacity in disaster preparedness and mitigation. The Local Government Units (LGUs) of Camiguin have undertaken from April 2002 – May 2003 the “Enhancing Capacities in Disaster Preparedness, Prevention and Rehabilitation Project” with the support of the Local Government Support Program (LGSP). One of the key strategies for an integrated, responsive, proactive and development-

oriented disaster management involved the synchronization of improvement of capacity and systematization of the community and local level with the municipal and provincial level, or meeting of the top-down with the bottom-up approach in disaster management (*bibingka* approach - native rice cake cooked just right with charcoal to heat the top and bottom).

The Center for Disaster Preparedness Foundation Inc. (CDP), a resource center committed to the promotion of CBDM was the partner of the LGSP and the LGUs of Camiguin for capability building in community based disaster preparedness and mitigation.

Community risk assessment and counter disaster planning/disaster management planning workshops were undertaken in 1 pilot barangay in each of the municipalities through a Technical Working Group at the provincial and municipal levels. The 4-day Community Risk Assessment Workshops ended with a community validation, a visioning exercise of a developed community and recommendations on necessary and do-able disaster risk reduction measures to undertake.

The counter disaster planning workshops resulted in the reorganization of the local disaster coordinating council/s and an action plan for flood level monitoring, early warning system, safe evacuation centers, and do-able mitigation measures. Aside from training workshops on disaster preparedness and disaster management planning, a study tour to Legaspi, Albay and Guagua, Pampanga to share and learn with local government units which are recognized as the best practices in local and community level disaster management. At the barangay level, community organizations and residents participated in the capability building activities.

Among the 5 municipalities in the province, the Municipality of Mahinog suffered the most damages during Typhoon Nanang, and was prioritized for the disaster preparedness and mitigation activities. Not wanting to experience another disaster, the municipal government has worked with the barangays and community people for preparedness and mitigation. The Community Risk Assessment held in May 2002 in Barangay Hubangon was attended by 80 participants from all the sitios (smaller subdivision of the village). During the Disaster Preparedness Training in Brgy Hubangon in the first week of July, the LGU personnel and community members realized that the flood water level does not rise all at once, and there is opportunity to give an early warning after typhoon and flood monitoring.

Brgy Hubangon's newly designed early warning and evacuation system was put to an initial test during Typhoon Milenyo in August 2002. Continuous ringing of the church bells and sirens meant residents were to evacuate to the Chapel and Mahinog National High School premises. The Barangay Disaster Coordinating Council has been reconstituted and is composed of 135 members. The experience of Barangay Hubangon in community disaster preparedness has been used as a model with 3 other high-risk barangays in Mahinog. A community-based radio communications group has also been formed with 112 volunteers and the LGU has given them a separate physical base for 24-hours operations. Although Barangay Hubangon only placed second during the awards by the Provincial Government for the most prepared barangay in 2003, they take pride that even without sophisticated equipment their strength is in involving and mobilizing community residents in disaster preparedness.

### **Key Project Strategies**

The following project strategies was applied in the project implementation.

- bottom-up approach (local level and community based disaster management)
- synchronization of improvement of capacity and systematization of disaster management of the community & local levels with the provincial level (*bibingka* approach)
- multi-disciplinary and multi-stakeholder involvement in DM

- consideration of perspective and address concerns of all stake-holders (LGUs, community, church, NGOs & POs)
- drawing lessons from emergency responses for typhoon Nanang and previous disasters and building on existing initiatives in rehabilitation
- Strengthening linkage of disaster preparedness, rehabilitation & mitigation to over-all development
- formation of a Trainers Pool from among the provincial and municipal government personnel & NGOs involved in disaster management
- formation of Project Management Team or Technical Working Group
- designation of DM Officers or DM Action Officers
- integrated, responsive, proactive & development-oriented disaster management

The project "Improving LGU Capacities in Disaster Preparedness, Rehabilitation" complements the other capability building and development assistance of LGSP to the Camiguin province such as Executive Agenda and Capacity Development Plans prepared as components of the Local Chief Executive Development Management Project.

### **Disaster Preparedness Activities Undertaken and Highlights**

#### **◆ Ocular Visit and Consultation/Meeting (*April 3 - 5, 2002*)**

After the ocular area visit and the consultation/meeting with the Provincial Administrator, Provincial and Municipal Planning and Development Officer (PPDO/MPDO) of five (5) municipalities, Social Action and Philippine Rural Reconstruction Movement (PRRM) the project strategies were discussed, project management teams or the technical working groups were formed, major activities were identified and came up with a tentative schedule.

#### **◆ Project Orientation And Rehabilitation Project Update (*April 29, 2002*)**

A brief background of the project was shared by LGSP. Memorandum of Agreement (MOA) on the capability building program was signed by the Provincial Government of Camiguin and LGSP. Philippine Institute of Volcanology and Seismology (PHIVOLCS) shared their reports on Typhoon Nanang, PPDO presented the provincial disaster situation.

Social sector rehabilitation project plan and update on rehabilitation activities were presented by PPDO. The rehabilitation project was not yet fully implemented, the province was waiting for the reports from the LGU and the different concerned agencies involved in the implementation of the project. It was also noted that the governor conducted series of disaster preparedness consultation and campaign before typhoon Nanang hit the province. Although, the barangay, municipal and the provincial disaster coordinating council (DCC) was formed as mandated by law, the disaster management system in the province was not yet fully in placed. There was lack of contingency or emergency plan. Tasks and functions of the DCC member were not well discussed to the concerned person and agencies.

Project design and strategies on the implementation of capability building project were discussed.

Representative from the provincial government line agencies, the five (5) municipalities of Camiguin and NGOs (Social Action, Philippine Rural Reconstruction Movement, Philippine National Red Cross and HIRED Foundation) attended the activity.

#### ◆ Risk Assessment Training/Workshop (April 30 - May 7, 2002)

Risk assessment training of trainers for representative from the Provincial Government and five (5) municipalities of Camiguin, and NGOs (Social Action and PRRM) was conducted by the Center for Disaster Preparedness so the LGU personnel together with the NGOs could facilitate community risk assessment..

The risk assessment training/workshop was divided into three modules. Module 1: Updates on Disaster Management Concepts, Module 2:Community-Based Risk Assessment, Module 3: Initial Identification of Risk Reduction Measures. Barangay Baylao in Mambajao was the first pilot community for the risk assessment.

Please refer to Annex 1 for the Training Module used and to Annex 2 for the Checklist for Community Risk Assessment made by the LGU participants.

#### ◆ Barangay Disaster Risk Assessment (June 16 – 28, 2002)

Before the actual barangay risk assessment, the risk assessment team per LGU had a briefing and tasking on the activity.

The overall objective of the community risk assessment was to provide baseline information which could be used to further develop and strengthen the Disaster Management Program of the community, LGUs and Camiguin Province.

Specific objectives:

1. To identify local needs and obtain people's perspectives of their current realities regarding the nature and impact of natural disasters in their community and strategies to cope with and respond to these disasters.
2. To assess:
  - Community/barangay development planning, particularly in terms of disaster preparedness, mitigation and prevention
  - Quality of community participation in barangay development planning and the nature of collaborative partnership between LGUs, NGOs, and community organization
3. To make a specific recommendations to LGUs and NGOs in terms of developing or designing risk reduction plan for the province.

An average of 50 to 80 people per barangay participated in the activity. Participants represented the different peoples organization, barangay council (appointed and elected official) and the community people. Each barangay risk assessment and initial identification of the risk reduction measure was three days.

Pilot Barangays for the Risk Assessment:

- Brgy. North Poblacion, Guinsiliban
- Brgy. Hubangon, Mahinog
- Brgy. Bonbon, Sagay
- Brgy. Looc, Catarman
- Brgy. Baylao, Mambajao

The TWG/ trainer pool per municipality and CDP facilitated the activity. Please refer to Annex 3 for sample of Community Risk Assessment results of Brgy Looc, Catarman.

◆ **Disaster Preparedness Training in Barangay Hubangon, Mahinog**  
*(July 29 - Aug. 2, 2002)*

The need for disaster preparedness training was surfaced during the Community Risk Assessments. LGSP, the LGU of Mahinog, Social Action, CDP and the barangay council committed to conduct the training for the community.

The objectives of the training were to organize the barangay disaster coordinating council (BDCC), systematize the disaster management plan as well as the structure, policy, task, function and activities before, during and after the disaster, and to involve more people from the community.

The major output of the training was a draft of the Hubangon Counter Disaster Plan. LGU of Mahinog assisted the BDCC to finalize the counter disaster plan.

When Typhoon Milenyo hit Camiguin Province in August 2002, the community reported that they already use their counter disaster plan.

BDCC members and the community members attended the training. Technical working group/trainers pool of the municipality of Mahinog, LGSP and CDP facilitated the training.

**Annexes**

Annex 1 - Risk Assessment Training/Workshop Module







Annex 2 - Checklist for Community Risk Assessment

Annex 3 - Community Risk Assessment Results in Brgy Looc, Catarman, Camiguin,

## **Training on Community Risk Assessment for the Provincial and Municipal LGU Officers and Personnel**

### **Module 1: Updates on DM Concepts**



At the end of this module, the participants should be able to:

-  discuss the nodal points in the development of the community-based disaster management orientation and practice
-  describe the strengths and weaknesses of the various disaster management models
-  cite “new” concepts and trends in community-based disaster management
-  explain disaster risk management
-  explain the disaster crunch model and release model: progression of vulnerability and progression of safety
-  describe the community-based risk reduction process



### **Module 2: Community-Based Risk Assessment**

At the end of this 7 session module, the participants should be able to:



#### **Session 2.1: Introduction to the community risk assessment/HCVA**

-  explain what community risk assessment is
-  explain the purpose and importance of risk assessment/HCVA




#### **Session 2.2: People’s Perception of Risk**

-  explain the importance of considering people’s perception of risk
-  explain how people’s perception of risk is related to socio-economic and cultural factors such as gender, class, age, ethnicity, profession, etc




#### **Session 2.3: Hazard Assessment**

-  explain the process of hazard assessment
-  describe the nature and behavior of several hazard types (natural and human-made)

#### **Session 2.4: Vulnerability Assessment**




-  explain the process of vulnerability assessment using the ‘crunch model’
-  describe per hazard type which elements are at risk and why
-  enumerate which tools to use for vulnerability assessment

#### **Session 2.5: Capacity Assessment**




-  explain per hazard type how people cope with adverse effects
-  identify the available capacities/resources which can help in risk reduction
-  explain how to conduct capacity assessment



### **Session 2.6: Tools for Community Risk Assessment/HCVA**




-  enumerate the different tools for community risk assessment
-  match tools with information needs
-  explain the sequence of how tools should be used

### **Session 2.7: Synthesis of the Risk Assessment**

-  discuss the usefulness and limitations of new models/concepts
-  stress what information is gathered through a HCVA
-  synthesize the HCVA process

### **Module 3: Identification of Risk Reduction Measures**

At the end of this module, the participants should be able to:

-  use HCVA results to identify risk reduction measures
-  explain the process of identifying and selecting risk reduction measures
-  explain how to consider gender, class, age, culture, environment while selecting risk reduction measures

## Community Risk Assessment Design

Aspect/Key Area of Inquiry/Questions	Method To Use	Facilitator	Documentator
<p>A. Community profile</p> <p><b>1. Economic well-being</b></p> <ul style="list-style-type: none"> <li>Ano ang ikinabubuhay o pinagkakakitaan ng mga tao? (What are the sources of income/livelihood?)</li> <li>Anu-ano ang mga alternatibo o dagdag na kita ng mga tao? (What are the alternative or additional sources of income?)</li> <li>Ano ang porsyento ng niyog, palay, gulay at iba pa sa kabuuang produksyon (output) ng komunidad? Ranking ng economic activities? (What are the main and secondary crops/products in the community?)</li> <li>Anu-ano ang katangian ng mga kalagayang pang-ekonomiya (tulad mahirap at mayaman)? (How do people distinguish between varying household economic status in the community e.g. rich, middle, poor?)</li> </ul>			
<p><b>2. Bio-physical well-being</b></p> <ul style="list-style-type: none"> <li>Anu-anong mga likas na yaman ang mayroon sa komunidad? (What are the resources in the community?)</li> </ul>			
<p><b>3. Socio-political assessment</b></p> <ul style="list-style-type: none"> <li>Anu-anong mga organisasyon ang nagkakaugnayan? (What are existing organizations within the community?)</li> <li>Anu-anong mga aktibidad nagkakasama-sama? Ano ang kalidad ng relasyon? (What are</li> </ul>			

<p>projects or activities which encourage people to participate and become involved? What is the quality of their participation/involvement?)</p> <ul style="list-style-type: none"> <li>Anu-ano ang mga services ng naturang organisayon? May training component ba ang mga services at ano-anong mga training? (What are the services being offered by various organizations within the community, e.g., socio-economic projects, training, organizing?)</li> <li>Alin sa mga serbisyong ito ang pinahahalagahan ng mga tao at bakit? Ano ang batayan(criteria) nila ng pagsasabi ng mahalaga at hindi mahalaga? (How do people assess these services? What criteria do they use in assessing services?)</li> </ul>			
<p><b>4. <i>Assessment of Disaster Situation</i></b></p> <ul style="list-style-type: none"> <li>Ano ang pakakaunawa sa komunidad? (What are the people's perceptions of disasters? How do they define disasters?)</li> <li>Ano-ano ang mga kalamidad na tumatama sa komunidad? Ano-ano ang epekto sa komunidad (pamilya, kabuhayan, psycho-social)? Kailan nila sinasabing "grabe" ang epekto ng isang kalamidad; ano ang kanilang batayan (criteria) batay sa karanasan? (What are the disasters that people have experienced in the community? What are its effects on life, livelihood, psycho-social well-being? What are their indicators for assessing impact of disasters?)</li> </ul>			
<p><b>5. Assessing Local DM practice</b></p> <p><b>a. <u>Coping strategies of people</u></b></p> <ul style="list-style-type: none"> <li>Anu-ano ang ginagawa sa pre-disaster, warning period, during</li> </ul>			

<p>disaster at post-disaster (per disaster event-Rosing, Loleng, etc.) (What are people's responses in pre, during, and post disaster phases-per disaster event?)</p> <ul style="list-style-type: none"> <li>• Alin sa mga ito ang may kakayahan o mas epektibo ang mga tao? Alin sa mga ito ang wala silang kakayahan? Bakit? Set indicators. ((During which phase do people feel that they are most capable and effective in responding to disasters? What are their strengths and weaknesses in each phase?))</li> <li>• Sa panahon ng evacuation, saan sila/kayo pumupunta, ilang tao ang nagsasama-sama, gaano katagal tumitigil sa naturang lugar, anoa ang health facilities available? (During evacuation, how many people are gathered in one area, for how long, and what are the health facilities available (if any)?)</li> <li>• Ano-ano ang konsiderasyon sa pagtatayo ng bahay in relation to hazards na nararanasan sa komunidad? Ano-ano at saan kumukuha ng resources para maipatayo ang bahay kung pag-uusapan ang "tibay" ng bahay laban sa kalamidad? (What are the people's consideration in building houses and where do they get materials for construction of houses?)</li> <li>• Ano-ano ang materials na available at ginagamit sa pre, during at post disaster response? (What resources/ materials do they need in the pre, during and post disaster phases and where do they get these resources?)</li> <li>• Saan kumukuha ng resources para sa post disaster survival? (Where do they get resources for post-disaster survival?)</li> </ul>			
<p><b>b. Local knowledge and warning</b></p>			

<p><b>indicators</b></p> <ul style="list-style-type: none"> <li>• Ano ang pinagbabatayan na may darating na disaster/kalamidad? Alin ang pinaka reliable, epektibo, na pinakamadalas gamitin? (What are the hazard warning signals used within the community? How reliable and effective these warning signals? How often do they get information/ use these information sources?)</li> <li>• Other sources of information (ie. Radio, t.v.)? Assess availability/accessibility and timeliness of information .</li> </ul>			
<p>c. DM Organizations (non-government)</p> <ul style="list-style-type: none"> <li>• Ano-anong organisasyon, sino ang tumulong sa emergency response noong 2001? Ano-ano ang mga responses nila? (What organizations provided assistance to the community in 2001 during typhoon Nanang? What were the responses?)</li> <li>• Alin sa mga responses ang nakatulong o hindi nakatulong? Ano-ano ang criteria para sabihing ito ay nakatulong o hindi nakatulong? (Which of these responses did they consider helpful? What criteria do people use in assessing effectiveness of disaster responses of these organizations?)</li> <li>• Batay sa indicators/criteria, alin ang pinakamahalaga sa kanila? (Which of the criteria is most important to people?)</li> </ul>			
<p><b>6. Process of Barangay Development Planning</b></p> <p><b>a) Process of BDP/decision making</b></p>			
<p><b>b) Community Development Initiatives.</b></p>			

<ul style="list-style-type: none"> <li>• Gaano ka-effective o ka-responsive ang mga ito sa kanilang kalagayan at sitwasyon/needs? Bakit o ano ang kanilang criteria ng pagiging effective/responsive/appropriate? (How responsive and/or effective are these community development activities? What criteria are used to assess effectivity and responsiveness of interventions?)</li> </ul>			
<p>8. Vision of developed community</p> <ul style="list-style-type: none"> <li>• Ano ang larawan ng komunidad na gusto nilang makita sa kanilang barangay? (What is their vision of community development? What would they like to see in their barangay?)</li> <li>• In discussing their vision, ask how they plan to actualize their vision, Who will be involved, what would be their participation and contribution. What resources would be needed and where would these come from?</li> </ul>			

**Community Risk Assessment  
Barangay Looc, Municipality of Catarman, Camiguin  
June 24 - 27, 2002**

**Objectives:**

The overall objective of the community risk assessment is to provide baseline information which could be used to further develop and strengthen the Disaster Management Program of Camiguin Province.

**Specific objectives:**

1. To identify local needs and obtain people's perspectives of their current realities regarding the nature and impact of natural disasters in their community and strategies to cope with and respond to these disasters.
2. To assess:
  - a) community/barangay development planning, particularly in terms of disaster preparedness, mitigation and prevention
  - b) quality of community participation in barangay development planning and the nature of collaborative partnership between LGUs, NGOs, and community organization.
3. To make a specific recommendations to LGUs and NGOs in terms of developing or designing risk reduction plan for the province.

**Flow of Activities:**

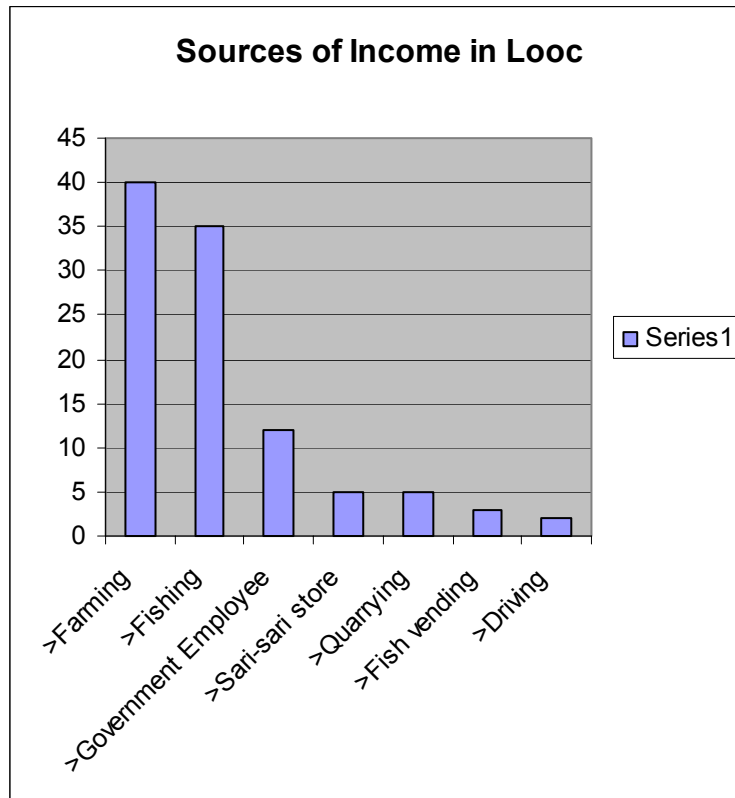
- |                    |   |
|--------------------|---|
| Day 1:             | Municipal Disaster Coordinating Council Orientation<br><br>Community Risk Assessment Design<br>Planning /Tasking                        |
| Day 2 & Day 3:     | Actual Community Risk Assessment  |
| Day 3 (3:00 p.m.): | Preparation for the presentation of the community risk<br>assessment result   |
| Day 4:             | Presentation/Validation of community risk assessment result<br>Community Visioning<br>Identification of Initial Risk Reduction Measures |

## Community Risk Assessment Results

*Barangay Looc, Municipality of Catarman, Camiguin*  
June 24 - 27, 2002

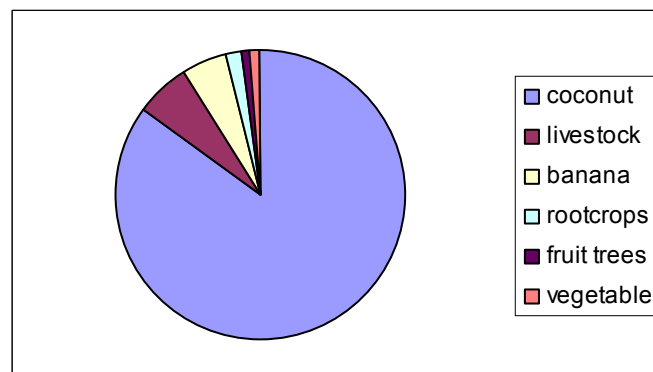
### Key Areas for Community Risk Assessment:

#### 1. *Economic well-being*



People of Looc are mainly involved in agricultural production with coconut as the primary product and source of income. Secondary source of income is fishing since Looc is a coastal area. Fish, livestock, fruits, root crops, and vegetables provide income as well as food for the people of Looc. Other sources of income are derived from employment in the government, in quarrying sites, and construction sites and other skilled labor for men while women earn by selling agricultural products and fish and by other small enterprises.

### Main and secondary crops/products in the community

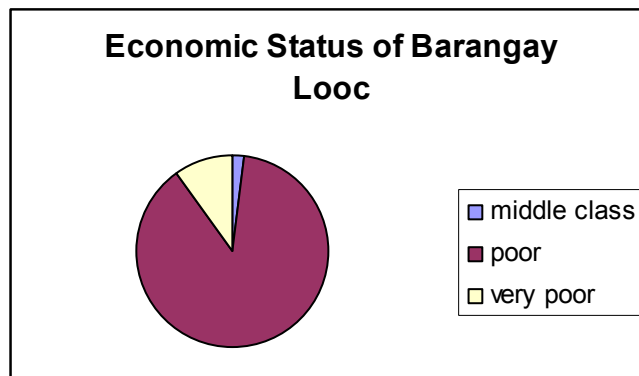




Quarrying become more and more popular since the rice land was already devastated by the typhoon.

<b>Alternative or Additional Sources of Income</b>	
>Quarrying	>Business
>Sari-sari store	>Copra
>Farm laborer	>Tuba Gatherer
>Construction worker	>Jeepney/tricycle drivers
>Hollow block making	

Though they have different sources of income, the people of Looc consider themselves poor. According to the criteria they have set, 88% of the villagers belong to the poor status.



***Economic Status Criteria***

**RICH**

**MIDDLE CLASS**

- can afford to send their children to College

**POOR**

- can at least eat 3 meals a day
- can afford to buy medicines when illness occur
- can send their children until Secondary level
- can afford to buy basic needs for their children
- living in a comfortable house

**VERY POOR**

- not eating 3 meals a day (usually)
- cannot afford to send their children to High school
- cannot afford to buy nice/ good clothing for their children
- children are prone to sickness



The table below sums up the economic problems of Looc and the suggestions on how to solve them.

PROBLEMS AND SOLUTIONS:

PLANTS	PROBLEM	SOLUTION
Crops	1. Cutting of old coconut trees, mango trees & other trees	Replanting; avoid cutting of young coconut trees
	2. presence of crops pests & diseases	Adoption of appropriate technology
	3. Killing of rats	Rat poisoning
	4. Low price of copras	To raise the price of copras through the government agencies.
	5. High price of basic commodities	To decrease consumption/budget
	6. High price of fertilizer	Use organic fertilizer
	7. Stealing of coconut trees, banana, and other crops	None
	8. Rice fields totally devastated	Alternative livelihood to affected farmers
FISHERIES	1. Poisoning of fish in the water	Information drive
	2. Presence of commercial fishing boat	Provision of bantay dagat Deputize fish warden
	3. Illegal fishing e.g. tubli, dynamite, lagtang, fine mesh net, compressor and super light	None
	4. Fisherman's tradition e.g. catch small fishes, even those who carry eggs	None
	5. Capital deficiency	Fund sourcing
	6. Small amount of fishes	Implement capturing of illegal fisherman
LIVESTOCK	1. Expensive animal food, "feeds"	Price control
	2. Low selling price	Look for a good buyer
	3. Expensive animal meat	Price control
	4. Presence of disease in pig and chicken	Vaccination
	5. Lack of pasture land	Sow seeds for animal consumption
	6. Lack of appropriate pig pen/ septic tanks	Look for appropriate pasture land

## 2. **Bio-physical well-being**

\*See also Hazard Map

Looc is rich in natural resources from which their sources of livelihood are mainly derived. They have marine resources, gravel and sand, coconut trees, vegetables, fruit trees, fresh water and fresh air.

\*HISTORICAL TRANSECT:



Historical Transect Map of Brgy Looc

The historical transect shows the process of environmental degradation.

1960's - Many fishes & sea foods

- With different kinds of trees around the ocean

- Houses are few

- The Dinanggasan river (\*\*with illustration) were far from Looc proper and it was so small

- The river were surrounded by coconut trees

- 2 residents were destroyed by typhoon Ining since 1964

- The ocean river were far from the National road

- The land Looc were extensive
- Only one school building

- 1970's - the Dinanggasan river became bigger
- The river were widened
  - More and more residents in the Barangay
  - started to construct the Looc dike
  - There were many fishes in the ocean and in Dinanggasan River

- 1980's - More and more residents in the Barangay are living.
- started to construct a Dinanggasan bridge due to flood and river expansion
  - No fishes in the river

- 1990's - fishes became few in the ocean
- The ocean were widened, approaching the national road
  - Looc dike were extended
  - started to expand quarry area

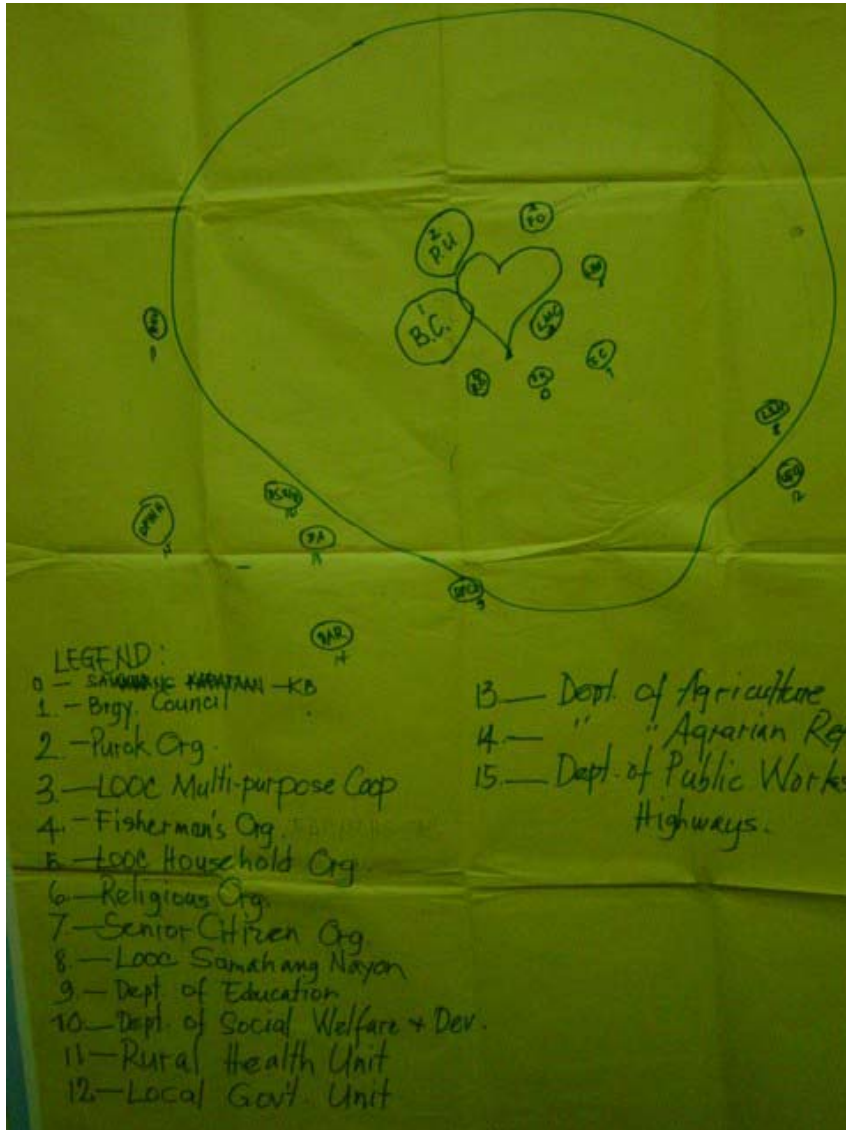
- 2000 - trees, crops and fields in the Dinanggasan river were destroyed due to typhoon "Nanang"
- The Dinanggasan river was widened
  - The Looc dike was different and the foundation was weak due to typhoon "Nanang"
  - The other approach of Dinanggasan Bridge was destroyed due to typhoon "Nanang"
  - more and more people resorted to quarry because the crops and fields were washed out and not suited for planting, due to typhoon Nanang. The fields were transformed into areas of gravel and sand

### **RESOURCE MAP:**

#### Resource Map Discussion Results:

- The whole barangay of Looc is a disaster prone area, even in any part of north, east, south and west.
- In the eastern area, when typhoon comes, the creek overflows to the middle part of Looc's residential area until it reaches the sea. That's why additional funds are needed to control the floods. The barangay council started this fund raising.
- In the northern area, there is Dinanggasan River that could destroy the whole barangay because of flash floods brought by typhoons. The whole rice fields and other crops were totally damaged. Rehabilitation of crops and fields will no longer be possible due to the rocks, gravel and sand deposits brought about by the flood.
- The only dike which controls the overflowing of water to the residential area has been destroyed. This will be the biggest problem for the people of Looc because they will need a large amount of money to reconstruct their most important dike.
- In the western area, there is the huge Looc Dinanggasan Bridge which is also the tallest bridge in the island of Camiguin. A part of the bridge was damaged by Typhoon Nanang. This is another problem for they have not started reconstruction until now.
- While in the southern part, there is the coastal area facing Mindanao Sea. All of the houses in this area are in great danger every time there is typhoon and great waves. Particularly these days, the sea water has the tendency to reach the national highway during typhoons, because the small sea wall was destroyed by Typhoon Nanang.

### 3. Socio-political assessment



Venn Diagram of organizations in Brgy. Loooc

- The existing organizations within Loooc have different focus.

\*Note: Venn Diagram See Picture 7

- |    |                                 |
|----|---------------------------------|
| 0  | Sangguniang Kabataan            |
| 1  | Barangay Council                |
| 2  | Purok Organization              |
| 3  | Loooc Multi-purpose Cooperative |
| 4  | Fishermen's Organization        |
| 5  | Loooc Household Organization    |
| 6  | Charismatic Movement            |
| 7  | Senior Citizens Organization    |
| 8  | Loooc Samahang Nasyon           |
| 9  | Department of Education         |
| 10 | DSWD                            |
| 11 | Rural Health Unit               |
| 12 | Local Government Unit           |

- 13 DA
- 14 DAR
- 15 DPWH
- 16 CVO
- 17 Looc Seaweed Culture Association
- 18 RIC
- 19 Farmer's Association
- 20 Looc Quarry Organization
- 21 Legion of Mary
- 22 Dinanggasan Multi Purpose Coop

Services and Activities of Organizations within/linked with Looc

<b>Organizations</b>	<b>Activities and Services</b>
1. Dinanggasan Multi Purpose Cooperative	- commodity credit, commodity sales
2. Senior Citizen Brgy Looc Chapter	- cash assistance to all members in times of illness and death
3. Looc Seaweed Culture Association	- seaweed production, DA, BFAR ("guso" seaweed production)
4. Fisherman's organization	- awareness of legal fishing and self-sufficiency / self-reliance
5. RIC	- cooking, nutrition, family planning
6. Purok Organization	- cash assistance, beautification, peace and order
7. Looc Quarry Organization	- supply of gravel and sand, solving livelihood problems, proper quarrying location and practice, financial assistance to the youth
8. Looc Youth Organization/SK	- coastal clean up, sports
9. Legion of Mary	- prayer meeting, family visit
10. Charismatic Movement	- prayer meeting, vigil services
11. Community Volunteers Organization	- security during affairs, warning, volunteer work
12. Farmer Association	- fertilizer distribution
13. Looc Multi-purpose Coop.	- sari-sari store, prime commodities, education for member, sell catch fish at reasonable price
14. Purok Household Organization (Health)	- proper food preparation, literacy program care, first aid assistance to neighborhood
15. Barangay Council	- implementing the Barangay Development Plan
16. Looc Samahang Nayon-	
17. Department of Education	
18. Department of Social Welfare and Development	

19. Rural Health Unit	
20. Department of Agriculture	
21. Department of Agrarian Reform	
22. Department of Public Works and Highways	
23. Local Government Unit	

The people assess the services of the organizations through the benefits they receive from the organizations. There are several development programs implemented in the community, however they are limited usually with livelihood projects.

There are several civic organizations such as youth, religious, elderly, health organizations providing opportunity for camaraderie.

The people of Looc see that the following are the basic services which the people needs:

- Money lending
- Livelihood project
- Dole out system (Grants)

For the people, basic services can be equated with acquiring money. The table below shows the result of the discussions about the needs of the people of Looc that can be addressed through the socio-political organizations within the community.

<b>PROBLEM</b>	<b>SOLUTION</b>
1. Attitudes and values	Education
2. Lack of funds	Ask aid from the local, Provincial and National government and agencies through barangay resolution
3. No technical knowledge and skills	Conduct seminars and training
4. Too much politics	
5. Lack of disaster preparedness components in different programs	Include in different programs
6. Barangay disaster coordinating council are not organized	Organize and undergo training
7. Construction and reconstruction of river and coastal control	Send barangay resolution to different agencies concerned
8. Lack of livelihood projects	Education, information and organization
9. Construction of health center	Request funds for Local, Provincial and National agencies
10. Environmental degradation	Info. education (DENR)
11. No land to plant	Request landed individuals to lend vacant lands
12. Lack of capability in accessing funds from foreign funding institutions	Information education

Among the problems, it was identified that the construction and reconstruction of river and coastal control as the number one problem that needed an immediate solution. It is also interesting to note that their Barangay Disaster Coordinating Council is not organized. This would explain the fact that the community has no collective disaster preparedness.



#### 4. Assessment of Disaster Situation



Looc is a flood-prone area as can be seen from the Hazard Map. It is surrounded by the Mindanao Sea, Dinangasan River, and 2 creeks.

The people's concept of disaster is based on the knowledge of hazards affecting their community, like flash floods, coastal flooding, earthquake, drought, and volcanic eruption. For them disasters can be defined by the statements below:

- dark and gloomy environment
- crops/ plants and properties are washed away by flood
- heavy rains, big waves, floods.

The people experienced various types of disasters:

DISASTER TYPE	EFFECTS
Typhoon	<ul style="list-style-type: none"> <li>- damaged dikes, rice fields, banana, plantations, and water work system</li> <li>- land slides</li> <li>- houses were torn apart and flooded</li> <li>- damaged appliances</li> </ul>
Drought	<ul style="list-style-type: none"> <li>- plants die of lack of water</li> </ul>
Volcanic eruption	<ul style="list-style-type: none"> <li>- resort to evacuation</li> </ul>
Overflowing of waters/Flood	<ul style="list-style-type: none"> <li>- small boats were washed away</li> </ul>

>Ranking of calamity

<u>CALAMITY</u>	<u>RANK</u>
Flash floods	1
Coastal flooding	2
Volcanic eruption	3
Earthquake	4
Drought	5

Events	Effects
1. Flash flood	Bridge destroyed, G.I. pipe washed out, rice fields washed out, roads damaged, Diseases, people were flooded
2. Big waves	House washed out, sea wall damaged, coconut trees destroyed, coastline erosion
3. Coastal flooding	Possessions got wet and floated on the water
4. Cloud burst	G.I. sheets flown away, electric posts damaged, big trees destroyed, plants damaged

The number one disaster that affects Barangay Looc is flash flood which affects the following resources:

- plants/ crops ( coconut, banana, sweet potato, rice fields)
- animals ( cow, pig, chicken)
- boat ( materials and equipment)
- houses and different kinds of appliances
- Infrastructure (dike, foot bridge)
- Creek (overflow, not passable)
- Sand and gravel (quarry, washed out)

Whenever disaster strikes the economy is affected and worsens the people's living condition. There is usually scarcity of food. It also results to increased unemployment.

## 5. *Assessing Local DM practice*

### a) **Coping strategies of the Barangay Council**

Since the Barangay Disaster Coordinating Council is not operative, the Barangay Council answers the need of the community during and after disaster.

EVENTS	BARANGAY COUNCIL	COMMUNITY	Effect	Effective Response
A. Pre-disaster	- committee on barangay disaster preparedness created - Disaster preparedness Training - Installed communication (telephone)	- unpreparedness		
B. During-disaster	- emergency meeting - calamity fund use - rehabilitation of river - coordinate with line agency	- helping evacuees transfer to school or neighborhood - rehabilitation of river	- Used in Rehabilitation - Restoration of WWS	Okay for those not affected directly

	- reporting - pictorial	- make their own personal preparation - create 2 volunteer teams (males)	partially	
C. After disaster	- resolution asking assistance - letter of donation - fund raising (Theme: Caroling) - Relief distribution	-house reconstruction caused by flood - inspection of crops / plants and animal - reporting of damages - rehabilitation of river	On going construction of riprapping of canal	

### b.) Coping strategies of the people

The people of Looc have their own coping mechanism however their efforts are not organized.

EVENTS	WEAKNESSES	STRENGTHS	POSSIBLE RECOMMENDATION
A. Pre-disaster	- too much confidence, unawareness, unpreparedness,		- Trainings on different disaster management
B. During disaster	- people are in chaos - no alternative measures on what to do. - nowhere to go - wait and see attitude - manana habit - reluctant to evacuate	- prepared for evacuation - willing to help	- Community training on disaster preparedness - Assistance for not affected area - Assistance from near barangay
C. Post disaster	- no funds for rehabilitation - lack of resources for recovery	- willing to help - Bayanihan spirit	- make use of bayanihan spirit

The need for a community training on disaster preparedness was recognized by the people. They also understand the importance of the Bayanihan spirit, as well as the assistance of the nearby barangays like Poblacion.

During Typhoon Nanang disaster, 40 households were evacuated (with the average of 3 days stay in the evacuation center). Twenty five households were from the river side while, 15 were from the seashore.

Common diseases when there is typhoon and flood are Fever, Cough, Colds, and Diarrhea.

Location	Number of Evacuees	Number of stay	Facilities available	Problem/issues encountered
High School	4 HH	1-4 days	-Water and toilet (not in all rooms) -lighting(CAMELCO) table, C.R. (communal), chairs, rooms, kitchen (communal)	- keys not available on time - none availability of bedding - first aid kit not available - not all rooms

				are in good condition - Place is not safe.
Central School	3 HH	1-4 days	same as above	Same as above
Chapel	4 HH	1-4 days	table, chairs, lighting	- small place - not safe for evacuees - no toilet - no water system
Neighbors / Relatives	30 HH	1-4 days	beddings, C.R., lighting	- small place - not safe for evacuees
Barangay Hall	2 HH	1-4 days	table etc., lighting, utensil, thermos	- small place - not safe

#### Recommendations for the Evacuation Center

1. There should be adequate lighting (with “stand by” generator).
2. There should be emergency lights (petromax, candles, flashlight, and kerosene lamp).
3. There should be complete bedding (folding bed, pillows, mats, blanket, etc.).
4. There should be First Aid kits.
5. There should be an Evacuation Administrator.
6. There should be enough cooking stove or a complete mini-kitchen.
7. There should be adequate emergency food supply.
8. There should be enough toilet and abundant water supply.
9. Rooms must be in good condition.
10. There should be a Security guard.
11. An evacuation center must be a safe place.
12. It should be near to the community.
13. There should be a medical staff present.

- Ranking for the better evacuation center

Evacuation Center	Rank Number
>Central School	1
>High School	2
>Neighbor / Relative	3
>Barangay Hall	4
>Chapel	5

- Criteria used in giving shelter assistance for Typhoon Nanang Rehabilitation

Description	Agency	Target Beneficiaries
Complete material	Provincial Government	totally damaged
Labor	Municipal Government	totally damaged
Cash assistance	NGO / Private Individual	totally damaged

- **Resources needed as identified by the people.**

Event	Available Materials
A. Pre-Disaster	bags, petromax, flash light, sacks, emergency light, candle, matches, radio transistor
B. During Disaster	canned goods, rice, clothing, gas, blanket, pillow, mat, thermos, milk, coffee, sugar, gas stove
C. After Disaster	canned goods, rice and water

- b. **Local warning knowledge and warning indicators.**

Event	Information / Warning	Other Warnings	How Effective
A. Pre – disaster	- radio and TV - by nature	- weather forecasting ( observation through experience - migratory birds ( heron and seagull )	- prepared
B. During disaster	- Municipal Government - PNP Catarman ( house to house ) - Barangay Official ( house to house -Police warning and Barangay Captain -Public announcement	- neighbors information ( panic ) - house to house	- houses belong to hazard area ready to evacuate, others are in evacuation center - for readiness evacuation, effectively
C. Post - disaster	- radio	- by nature	

### Timeline of Disasters Experienced in Looc

Year	Events / Activities	Situation
1941	- war against the Japanese	- fled to mountains
1948	- first volcanic eruption	- evacuated to safer places, some has returned but some did not after the incident
1951	- second volcanic eruption	Same as above
1952	- typhoon	- rice fields, crops / plants flooded - big waves - fruits washed away
1964	- typhoon “ Ining “	- big waves, floods, strong winds
1970	- typhoon	- heavy floods, water changed direction to houses
1988	- typhoon “ Nitang “	- floods, big waves - sea wall and houses destroyed
1991	- typhoon “ Rufing “	- seashores shattered - big waves - strong winds

		- house roofs wrecked
1992	- El Nino	- plants, crops and coconuts died
1996	- typhoon	- two children missing
1980	- typhoon	- two teachers got drowned and died
2001	- typhoon "Nanang"	- some houses washed out - river dike destroyed - rice fields flooded - people evacuated

### Disaster Responses of People

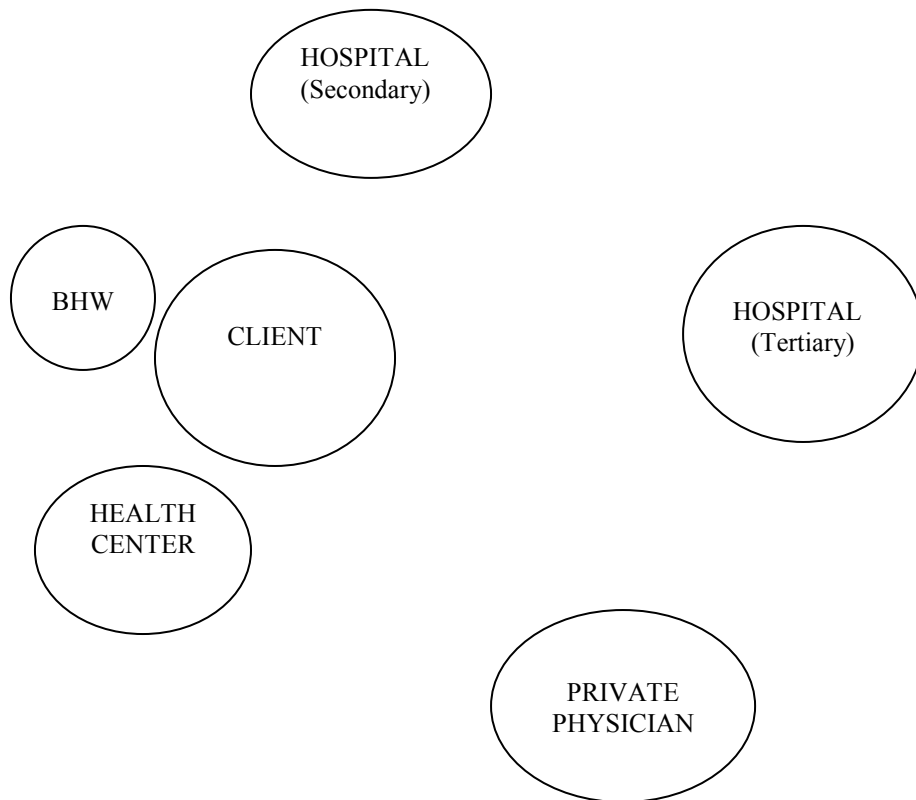
Year	Event	Response
2001	*Nanang – property damaged	*Evacuation – gathering of logs in different sizes for fuel / lumber
1990's	*Rufing – properties destroyed	-repair damaged property
1989	*Drought – 7 months	- repair damages - fetched water - not able to plant rice
1980	*Nitang – properties are destroyed	*Evacuation – to safer place
1951	*Ash fall – Hibok-Hibok eruption chickens were poisoned due to ash fall	
1948	*Ash fall – poisoned chickens and animals	- affected animals were slaughtered - evacuation to safer place
1942 – 43	*First flooding – due to conversion of forest areas to farmlands	- evacuate or transfer to safer place
Dec 24, '42	*Japanese Occupation – captured young people to help building the airport	- go to mountains to hide
1871	*Ash fall	- other people from the barrio evacuated to Looc while Looc people evacuated to the mainland

### Assessing Problems in Local Disaster Management

Event	Problems	Solutions
A. Pre – Disaster	1. No signal / warning device 2. Barangay Disaster Coordinating Council (BDCC) is weak 3. Number of families prone to hazard area	1. Put up signal / warning devices in our barangay 2. Re-organize and strengthen BDCC 3. Seminar on disaster awareness and preparedness
B. Post - Disaster	1. Damaged river dike and sea wall 2. Damaged water system 3. Damaged rice land	1. Reconstruct , repair , rehabilitation 2. Rehabilitation of water system 3. Alternative livelihood to affected farmers



**VENN DIAGRAM of WHERE the SICK People of Looc "GO TO"**



**Causes of common illness:**

1. cough and colds/ fever
  - dust
  - getting wet with rain
  - excessive sweating
  - too much work/ exhaustion
  - sprain
  - colic
  - lack of nutrients
2. Diarrhea
  - indigestion
  - over eating
  - imputable drinking water
  - eating spoiled foods
3. Headache
  - no money
  - problems
  - cough and colds
  - hunger
4. Stomach ache
  - parasites
  - over eating
  - indigestion
  - uncleanliness



5. Toothache
  - tooth decay
  - excessive sweets intake
6. Flu
  - over fatigue
  - "binat"
7. Chicken pox
  - virus
8. Arthritis
  - climate/ weather
  - too much meat intake
  - too much alcohol
  - age
9. Skin itchiness
  - weather
10. Hypertension
  - over indulgence to alcohol
  - too much animal fats intake
  - too much salt intake
  - life style/ hereditary
11. Tuberculosis
  - over fatigue
  - low resistance
  - virus/ transferable
  - smoking
12. Sore eyes
  - weather/ airborne
  - virus
13. Diabetes

**Where do the People get their Medicine:**

1. *Self medication*
2. *Health center*
3. *Hospital*

**Causes of diseases:**

1. *Unbalanced diet*
2. *Contaminated water*
3. *Changes of weather*
4. *Smoking/ drinking*
5. *Mosquito*

**Where the people go for health services within the community:**

1. Health center in Poblacion
2. Hospital
3. Private (Mambajao) physician
4. Herbal – garden
5. Pseudo massage (hilot)
6. Barangay Health Workers

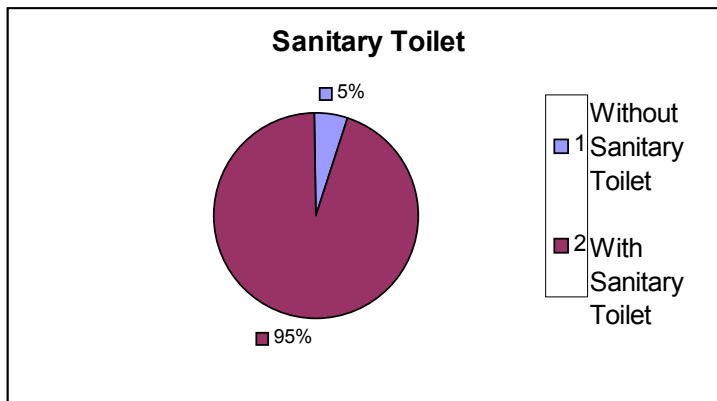
Health services:

1. Immunization
2. Health Counseling
3. Family Planning Motivation
4. Prenatal campaign
5. Purok household project

Health center services:

1. Dental services
2. Maternal Child Health
3. Family Planning
4. Counseling
5. Herbal garden and synthetic drugs
6. National Tuberculosis Program
7. Community Base rehabilitation Services
8. Nutrition Program
9. Medical check-up
10. Operation Tuli (circumcision)

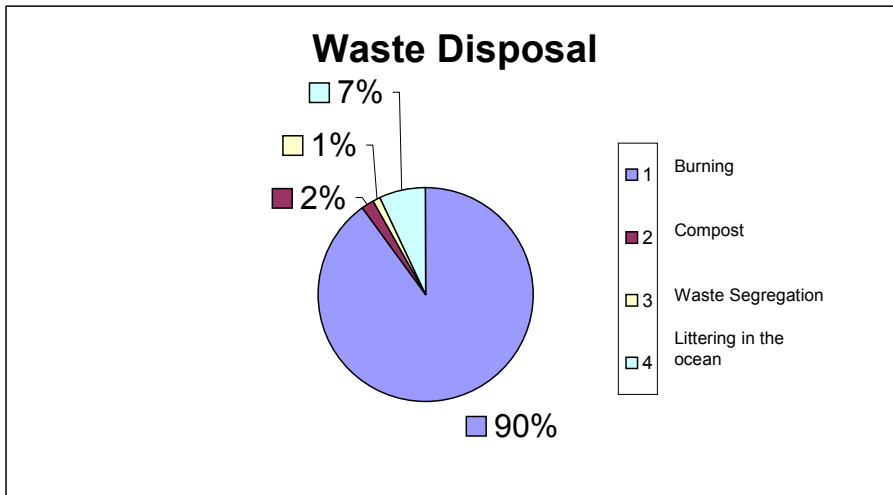
Sanitation toilet



Out of 188 Household, only 10 are without toilet

Waste Disposal

- Burning - 90%
- composting - 2%
- "Labay", littering (in the ocean etc)- 7%
- Waste segregation - 1%



Water sources

- "Baksanon" - potable water, level 3
- "Liloan" (Tubod)
- from spring with chlorine, but can be dangerous due water leakage.

**Health Problems and Solutions**

<i>Problem</i>	<i>Solution</i>
1. Lack of medicine	- there must be adequate budget for medicine - to seek assistance from different agencies specially abroad
2. No enough assistance provided by BHW agency	- seek the assistance of the council and ask from BHW to provide necessary resources.
3. No health center in the Barangay	- suggest to the Barangay council to construct and provide a health center. - to seek assistance from different government and non-government organization.
4. Improper disposal of waste	- every household must have a garbage pit (proper segregation of waste) - Barangay council should provide an ordinance for proper waste disposal - Impose penalty charges to households who does not have garbage pit and to individuals throwing their garbage anywhere.

**7. Process of Barangay Development Planning**

Existing Development Initiatives within the Community

A. Infrastructure

1. Concreting Provincial Road to Sto. Nino
2. Barangay Road - 500 meters not concreted
3. Sea wall - 500 meters not accomplished
4. Dinanggasan dike - 400 meters damaged
5. Rip rap - 350 meters accomplished
6. Construction of Looc Liluan bridge

7. Multi-purpose Hall - second storey not yet constructed
  8. Mini – Ice plant
  9. Improvement of Day-Care Center - 70% completed
  10. Rehabilitation of Barangay Water System - household without water connection
  11. Construction of Market Stalls - not yet constructed
  12. Pathway cementing
  13. Installation of Additional Street Lights
  14. Road railings
  15. Communication System
  16. Office Improvement
- B. Livelihood Program
1. Farm inputs - mango, lanzones seedlings distribution
  2. Replacements of coconuts - coordinated by PCA
  3. Bio-incentives gardening - MAKP Program
  4. Livestock production - coordination with MAO
  5. Hollow block making
  6. Sea weeds production - accomplished
  7. Fish shelter sanctuary - not accomplished
  8. Baby ring net
  9. Small trading promotion
  10. Motorized small banca
- C. Environment
1. Tree planting - maybuyo
  2. Coastal clean-up - every year
  3. Organizational management
    - COOP Management accomplishment
    - Value formation
    - Youth encountered
  4. Technical skills
    - Computer Literacy
    - Basic electricity
    - Décor making
    - Self-defense / CVO
- D. Social Services
1. Feeding program for pre-schoolers
    - 1 school year
    - purchasing notebook
  2. Rice assistance

**Process involved in identifying effective development initiatives:**

**Process flow / Projects identified by Community Development Plan**

Steps - Project initiatives

1. SB Council - Project Conceptualization
2. Project Proposal of Program of Work
  - Barangay Captain
  - SK Chairman
3. Approval - Funding within barangay budget
4. Implementation

\*Rule of SB Council

\*Rule of BDC

\*Project

1. Flood Control - After "Nanang"
2. Based on Needs

**Process: New Projects**

1. Community clamor / Actual observation
2. SB evaluation - General consensus
  - a. Funding
  - b. Needs
  - c. Priority
3. SB decides
  - A. Funding - re-allocation savings
  - b. Implementation
4. Information / Ratification  
BDC
5. Implementation

**Process: Counter Disaster Plan Projects**

1. Disaster mitigation
  - Protection of lives and properties
2. Projects supposedly
  - Funded by NLA - but not started / implemented
3. Funding sourcing
  - 20% funding
  - Savings
  - Donations
  - Approval of Sangguniang Barangay
4. Implementation

**8. Vision of a developed or a prepared community**

- Community Vision of Development
  1. Construction of dike.
  2. To live a satisfying, peaceful and progressive life.
  3. To have a continuous source of income to provide all the basic needs.
  4. To have a clean, green and beautiful environment.
  5. To be united in a common goal.
    - These visions will be attained under the guidance and blessing of the Divine God in heaven.
    - A paradise, able to live a peaceful and meaningful life.