

GOOD PRACTICES IN LOCAL GOVERNANCE: FACILITY  
FOR ADAPTATION AND REPLICATION (GO-FAR)  
PROMOTING LOCAL ENVIRONMENTAL PLANNING AND  
MANAGEMENT (L-EPM)

## Arming the Waters

*Coastal Resource Management Projects of Gusa*

**Barangay Gusa, Cagayan de Oro City**

## REPLICATION MANUAL



**SAFER RIVER, LIFE SAVER  
FOUNDATION, INC.**



**LICEO DE CAGAYAN UNIVERSITY**  
CAGAYAN DE ORO CITY

**CENTER FOR ENVIRONMENTAL  
STUDIES IN MINDANAO**

Anchor Institution of GO-FAR/L-EPM Project



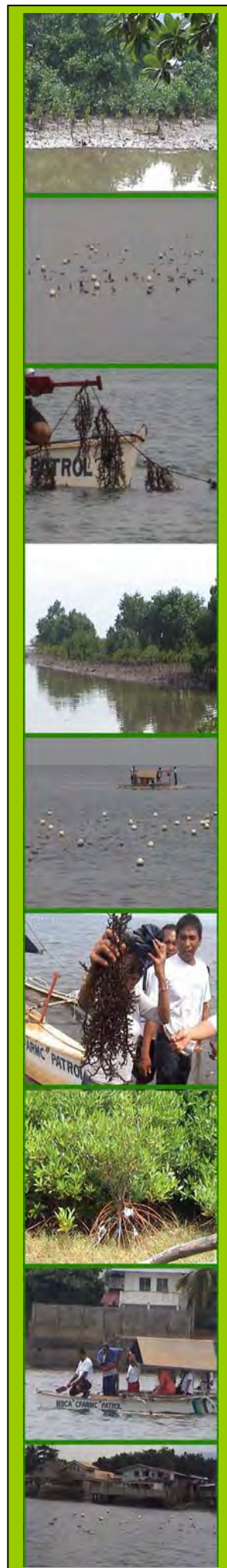
**DEPARTMENT OF THE INTERIOR AND LOCAL GOVERNMENT**  
Region 10  
Cagayan de Oro City



**CITY GOVERNMENT OF CAGAYAN DE ORO THROUGH  
CITY LOCAL ENVIRONMENT AND NATURAL  
RESOURCES OFFICE (CLENRO)**  
Cagayan de Oro City



**UNITED NATIONS  
DEVELOPMENTAL  
PROGRAMME**





**Republic of the Philippines**  
**DEPARTMENT OF THE INTERIOR AND LOCAL GOVERNMENT**  
**Region 10 - Northern Mindanao**

**FOREWORD**

*The Local Environmental Planning and Management Good Practices in Local Governance: Facility for Adaptation and Replication (LEPM-GO-FAR) is a project implemented by the Department of the Interior and Local Government (DILG), Liceo de Cagayan University through the Safer River, Life Saver Foundation, Inc. (SRLSF) and the City Government of Cagayan de Oro through the City Local Environment and Natural Resources (CLENRO).*

*The project is funded by the United Nations Development Program under its (UNDP-Habitad). The aim of which is to document the exemplary performance of the barangays of Lapasan, Gusa and Bugo all of Cagayan de Oro in the field of environmental planning and management. These barangays have proven that the smallest local government unit can effectively implement environmental planning and management with less support from its mother local government unit.*

*The project intends to replicate this exemplary practice in other barangays of Cagayan de Oro City by providing them the basic guide on how to implement effective environmental planning and management at their respective areas of concern. Hence, a replication manual is developed by the Safer River, Life Saver Foundation, Inc. The projects presented in this replication manual are Solid Waste Management and Coastal Resource Management.*

*The replication manual is envisioned to direct the users particularly the replicating local government unit what steps to undertake to effectively implement and sustain their project on Solid Waste Management and Coastal Resource Management at the barangay level. On the part of the DILG, this replication manual seeks to enhance the capacities of our field officers in providing appropriate technical assistance interventions to local government units in the area of environmental planning and management.*

*We are confident that with this replication manual, the best practices of the three barangays will proliferate in other the areas of Cagayan de Oro, Northern Mindanao and other regions for a healthy and clean environment.*

**AUSTERE A. PANADERO**  
Asst. Secretary for Policy Capacity Development,  
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**OFFICE OF THE REGIONAL DIRECTOR**

*Message*

I commend the laudable efforts of the Safer River, Life Saver Foundation, Incorporated of the Liceo de Cagayan University, Cagayan de Oro City, in successfully documenting the exemplary practices on Local Environmental Planning and Management (LEPM) of Barangays Lapasan, Gusa and Bugo, all of Cagayan de Oro City.

The development of this replication manual is another step forward in ensuring that local government units are given the appropriate tools as guide in enhancing their capabilities in the implementation of national and local laws.

The manual gives a detailed procedures in implementing Solid Waste Management, Coastal Resource Management at the barangay level and how the projects were sustained by the implementing barangays.

I congratulate also the City Local Environment and Natural Resources Office (CENRO) and DILG Regional Office Staff for a successful provision of technical guidance to the Safer River, Life Saver Foundation, Inc. in coming out with this replication manual.

Again, Congratulations.

**QUIRINO M. LIBUNAO, CESO III**  
Regional Director



**LICEO DE CAGAYAN UNIVERSITY**  
Rodolfo N. Pelaez Boulevard, Kauswagan  
Cagayan de Oro City



## **OFFICE OF THE PRESIDENT**

### **MESSAGE**

The Liceo de Cagayan University of Cagayan de Oro City is very pleased and greatly honored to have contributed to the development of the modules in MASTER IN MANAGEMENT Major in ENVIRONMENTAL PLANNING AND MANAGEMENT (EPM) in the School of Graduates Studies and Good Practices in Local Governance promoting LEPM. I wish to acknowledge the contributions of the Safer River, Life Saver Foundation, Inc. and the School of Graduate Studies.

This component primarily focuses on the creation of a Center of EPM Studies in Mindanao that shall serve as the repository of knowledge on EPM Process and Projects in Mindanao. The Center is expected to facilitate organizing the Local Resource Institutes (LRIs) in Mindanao to share knowledge and technologies as well as design new tools, curricula, and projects concerning L-EPM. In addition, the Center shall closely coordinate with the Urban Leadership and Management Unit (ULMU) of Local Government Academy (LGA) that manages information on urban developments and concerns, including EPM processes.

In behalf of Liceo de Cagayan University, Safer River, Life Saver Foundation, Inc. the School of Graduate Studies. I commend and congratulate the Project Management Team of this endeavor for a job well done. Also, I express my thanks to the cooperating agencies, namely; the Department of Interior and Local Government through the Local Government Academy and the funding agency, the UN-HABITAT for all their support.

To all our partners and the Project Management Team, keep up the good work. Mabuhay!

A handwritten signature in black ink, appearing to read "Rafaelita", written over a light blue grid background.

**DR. RAFAELITA PELAEZ-GOLEZ**  
President



Republic of the Philippines  
City of Cagayan de Oro

**OFFICE OF THE CITY MAYOR**

**MESSAGE**

As the City of Cagayan de Oro scales new and greater heights on both domestic and international fronts, we cannot and must not lose ourselves in the heady milieu of higher altitudes. For with great progress comes the greater responsibility of maintaining the resources and circumstances that accommodates and supports our growth.

Recognizing and acknowledging this symbiosis, the City Government of Cagayan de Oro works hard – singularly and in partnerships – to protect the integrity and health of the environment that breeds, feeds – and at the same time benefits from – our city's advancement.

It is heartening to know that, although we do not flaunt our efforts, they are taken note of and honored, as in the selection of Barangays Bugo, Gusa, and Lapasan as Model Barangays in the implementation of solid waste and coastal resources management programs under the "Good Practices in Local Governance: Facility for Adaptation and Replication – Local Environmental Planning and Management (GOFAR-LEPM).

The Replication Manual that this project aims to produce through collaboration with the city government, UN Habitat, the Department of the Interior and Local Government (DILG), the Barangay Councils concerned, and Liceo de Cagayan University 's Safer River, Life Saver Foundation, Inc., will not only celebrate the efforts of everyone that has worked hard to achieve implementation success, but also ensure the success of future and further implementation efforts.

As those of us who went before boldly went where none had successfully gone before, so now we must hold up the light and show the way to those who resolutely follow, seeking to achieve the same balance.

**VICENTE Y EMANO**  
City Mayor

# ACKNOWLEDGEMENTS

Saving the waters of the coastal barangays of Cagayan de Oro has been among the prevailing concerns of the city government. The preeminent depletion of coastal resources evidenced by statistics provided by the BFAR is more than enough reason to set the fisherfolks of Gusa along with the L-EPM and the Gusa barangay council in motion. The success of the Coastal Resource Projects of Gusa did not only prove beneficial to the fisherfolks of Gusa but the whole community itself.

In the writing of this manual, the author expresses her gratitude to the unfailing cooperation of the GUSA barangay council through the representatives in the persons of Barangay Kagawad Marlo Tabac and Ms. Teodora Carasco. Their hands-on approach since the very first parts of the process implementation up to its completion hastened the concretization of project results.

Invaluable input contributed by the L-EPM managers, namely, Mr. Edwin P. Dael, Ms. Rayna Lagman, and Mr. Roscoe Masiba is also highly appreciated. Theirs was the common striving to provide all the technical support for the project with their knowledge of the L-EPM process.

The author expresses her gratitude to the unfailing cooperation of the GUSA barangay council through the CRM committee representatives in the persons of Barangay Kagawad Marlo Tabac and Ms. Teodora Carasco. Invaluable input contributed by the L-EPM managers, namely, Mr. Edwin P. Dael, Ms. Rayna Lagman, and Mr. Roscoe Masiba is also highly appreciated. Also, the presence of GUSEAFA president Mr. Rey Galasanay during the series of interviews in the writing of this replication manual is most esteemed.

Also, the presence of GUSEAFA president Mr. Rey Galasanay during the series of interviews in the writing of this replication manual is most esteemed. It is with his exemplary leadership in the maintenance, safekeeping, and implementation of the sanctuary policies that pushed the project to its completion.

Barangay chairman Enrico Salcedo's support in the different courses of action proposed by the working group, his open mindset to the suggestions of his constituents in the ISWM committee, and his belief in what the projects can do for the barangay is also worth noting.

The stakeholders and partners to the project, and the concerned people of barangay Gusa are also thanked for their unwavering commitment to the CRM projects. Their faith to the greater impact of the projects for future generations is worth celebrating.

## ***FOREWORD***

The implementation of the Integrated Solid Waste Management System Program in the pilot barangays of Lapasan, Gusa and Bugo in the City of Cagayan de Oro has been more than challenging and overwhelming. Proper waste disposal is a major contribution in dealing inevitable environmental issues. Promoting segregation at source will make ecological awareness climb to its peak.

The realization of this documentation will afford a hope that other municipalities and cities can reflect and replicate the implementation process. Not just as a community, but such consciousness will become part of each individual's personal values. After all there is only going to be one earth and it is everyone's responsibility to take care of it.

**Dr. Rosalina S. Huerbana**  
Project Manager  
GO-FAR/L-EPM Project

# PREFACE

Assigned the challenge of documenting the Good Practices in Local Governance: Facility for Adaptation and Replication (GO-FAR), the Safer River Life Saver Foundation, Inc. (SRLSFI), takes pride in recording the exemplary practices of three Local Government Units (LGUs) of Cagayan de Oro City, namely, Gusa, Bugo, and Lapasan. As a private organization representing Liceo de Cagayan University's thrust towards environmental care and preservation, the SRLSFI is partners with the Department of Interior and Local Government (DILG) and the City Government through the Local Environment Planning and Management Office (L-EPM). Its presence during the initial planning to the implementing stages of the various projects in the abovementioned LGUs therefore grant the SRLSF credibility to put their experiences in writing.

This is replication manual on the Coastal Resource Management (CRM) Projects of barangay Gusa. Their challenges and the steps through which they have overcome it are recorded herewith.



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## Waving by

### Project summary

One of the most note-worthy projects facilitated by the Cagayan de Oro City government through the Local Environment Planning and Management Project (LEPM) are the coastal projects of barangay Gusa. This manual is a concretization of the Good Practices in Local Governance: Facility for Adaptation and Replication (GO-FAR) goal to provide other local government units the rudiments of successful environmental management techniques. Part of this document's intent is to synthesize the nature of the demonstration project.

Among the thirteen coastal barangays lining the east coast of Cagayan de Oro City, Gusa shares the coastal waters of the Macajalar Bay. Thus, it enjoys the myriad of marine and aquatic resources that once made the Macajalar Bay a primary port of call during the Spanish occupation. Come present time, Gusa remains as one of the main sources of fish catch in the city, along with barangays Bulua, Bayabas, Bonbon, Macabalan, Lapasan, Cugman, Tablon, Agusan, Puerto, and Bugo, supplying approximately 16, 843 MT/year. Other than the rich variety of aquatic species such as octopus, milkfish, goatfish, butterfly fish, and white shrimp, the city's coastal and marine ecosystems provide resources such as mangroves, coral reefs, beach sand, and sea grass beds.



LOOKING FOR SANCTUARY LOCATION

Of three model barangays chosen for the Local Environment Planning and Management Project (L-EPM), the local government of Gusa was identified for coastal projects which include a fish sanctuary, artificial coral reefs, and mangrove reforestation. Upon the suggestion of the Bureau of Fisheries and Aquatic Resources (BFAR), the fisherfolks in the area considered the suitability of their immediate environment to the projects. Although there is no denying the

richness of the Gusa coasts, years of dynamite fishing are taking its toll on their corals, thus, the reduced volume of catch. In the years past, the safety of the coral reefs in Gusa was not protected by any strictly enforced law against illegal fishing. The need to repair impending destruction of the corals and refurbish the benefits the coasts extended the fishermen became top priorities.

Accordingly, a series of meetings to plan the program activities was held among the fisherfolks organized as the Gusa Seaside Fisherfolks Association (GUSEAFA). Linkages were also made with national agencies. Technical assistance was provided for by the city agriculture office who is primary partners

with the fisherfolks association and the local government unit. Project priorities and concerns, an implementation scheme, and sources for funds were singled out as well.

Early in 2003, a fish sanctuary with artificial reefing was at ready hand to serve the project objectives. The 8.6 hectare sanctuary remains within the 30% allowable coastal area in terms of Maritime and Fishery Laws provisions. A floating guard is maintained around the area to keep secure the sanctuary. Concrete pyramid corals, 43 of which are lodged within the perimeters which are also marked by stryopore balls. A mangrove reforestation project was later tested in the coastal waters. Though strong currents failed it initially, the working group found a more strategic location. Eventually, they decided to try planting the seedlings along the creek area.

In coordination with the working group of another L-EPM offshoot project, the Gusa Integrated Solid Waste Management Program (ISWMP), the CRM held a monthly clean-up drive. With community participation, an efficient working group, and the support of the barangay council, the project held up to its maximum and beneficent capacity despite the breakdown in the organization in 2004. Still, with a few able and committed members, the project was sustained. A snap election and three presidents later, the Gusa CRM found renewed strength through the leadership of one who has been with the project as member from the very start. Such is proof to tell that a committed working group is a project's best asset.



LOCATING AREA FOR MANGROVE PLANTATION

Presently, the Gusa fish sanctuary remains to be the largest and most sustainable among others put up in the coastal barangays. Only a year after the project was implemented, concrete results already include an increased fish catch around the sanctuary area. Variants of the species already present in the area appeared superior and more numerous than they were before the project. This of course, was to the benefit of the locals who took their living off the sea. More importantly, the project is barangay Gusa's contribution to restoring the glory of the marine ecosystem that witnessed the growth of Cagayan de Oro as a city.

***Where have all the corals gone?***

### **Gusa Coasts Profiled**

This section aims to provide a profile of the project location, rationale, objectives, and results. This is particularly helpful for the replicator to discover applicability of the Gusa CRM projects in addressing his own locale's environmental management issues.

Depletion in the volume of fish catch in most recent years has been observed. Overall statistics gathered from the L-EPM Office (BFAR,1997) shows that the average fish catch of certain fishermen more than halved from .63 kg. /hr. in the early 90's to .24 kg. /hr in 1999. The culprits to the situation are siltation, direct extraction, and illegal fishing activities like blast fishing, use of poison-like cyanide, and electro fishing among several others. Severely mitigating the case are inappropriate and illegal mangrove conversion, intrusion of Commercial Fishing Boats (CFB's) within 15 kms of the waters and the careless deposition of wastes into the seawaters have contributed to the further depletion of marine resources.

More so, the garbage situation is extremely deteriorated due to heavy population of people who frequent the beaches during the weekend. Because of this, coliforms have reached levels higher than the tolerable 1000 ppm/100 ml to a range of 4000 to 33000.

The Bantay Dagat Association of the City recognized the state of the seas including that in Gusa and others. As one of the stakeholders, it lobbied for issues like marine preservation and reef restoration and spearheaded information campaign activities to educate and instill awareness among the future stakeholders on the protection of marine life. Despite promulgation of Maritime and Fishery Laws, inadequate enforcement still leaves a lot of room for constraints that they had to face up to. These problems include the following:

- Insufficient equipment and personnel to enforce regulations,
- Insufficient operational budget/logistic support for enforcement activities,
- Loose political will by the government and stakeholders to enforce the laws,
- Not enough cooperation/coordination among the LGU and concerned agencies,
- Lack of complementarities in the municipal ordinances along Macajalar Bay, and
- No policy/ordinance anchored on a National Law to prosecute polluters and illegal fishers

Before these constraints, the association needed to intervene. The current status of the coastal sector is evidence of an alarming degradation of the city's coastal and marine resources. If livelihood of the fisherfolks is to be sustained, then it is a must to protect, rehabilitate, and conserve the coastal marine system. Otherwise, the continued destruction of it could endanger the health of the people in the area and worsen the economic situation of the fisherfolks.

The coastal Barangay of Gusa is not far removed from the situation of the city's coastal waters. Similarly, dynamites and fish gears used by the local fisherfolks reduced the fish stock in the territorial waters. Mangroves were illegally cut-off by inconsiderate locales thereby severing reproduction before it even starts.

It was exactly these hard-pressing dangers that prompted the GUSEAFA with the L-EPM, BFAR, the academes, LGU, POs, and the community to identify the CRM project to the coastal area of Gusa. Although the area could not be any more suited to it, the fisherfolks did not immediately extend their involvement. Initially, an instant concern is the probable effect of the sanctuary to their livelihood. Although no instant threat is foreseen by the breadth of the sanctuary area as there was wide enough space to fish, the fisherfolks were adamant to the thought of volunteering without compensation. However, proper convincing through meetings and orientations made them realize the advantages that await them in the future if the coral reefs be fully restored. Thus, the following solutions were recommended:

- Strict Implementation of Maritime and Fishery Laws,
- Provision of appropriate funding for enforcement activities and the acquisition of facilities and equipment,
- Creation of fisheries division office and deployment of additional fishery technical personnel in the barangay level
- Extensive information drive through dialogues and the mass media,
- Strengthening of a regular coastal clean-up drive,
- Continuous skills training and seminars for fisherfolks organizations,
- Establishment of fish sanctuaries and addition of floating guard houses
- Mangrove reforestation campaign,
- Participation of the GUESEAFA in the drafting and approval of unified local fishery ordinances within Macajalar Bay
- Provision of alternative livelihood projects for fisherfolks,
- Strengthening of regular monitoring, control and surveillance of coastal and marine areas,
- Establishment of fisherfolks villages along the coastal waters of CDO
- Establishment of a Fishery Division or Section in the city government under the city agriculture office

After securing the cooperation of the fishing community, the stakeholders and working group were bent at developing the project objectives to

- preserve marine resources
- increase the fish catch of fisherfolks
- rehabilitate/reforest the marine ecosystem

All of which were accomplished through the fish sanctuary, an 8.6 hectare area chosen for its undisturbed environment, considerable distance from households, and mild nature of its currents. The sanctuary houses 43 units of concrete pyramid corals. Orientations for the people also identified for them the endangered state of their marine life. Support for the project was obtained and sustained through regular meetings and planning sessions, information drives, and clean-up activities. In 2004, a mangrove plantation was already set up along the creeks of Gusa. Sustaining these projects through and through is clearly in the collective consciousness of the project implementers.

### ***Through the Sands of Time***

#### **Project History**

The means through which the working group and stakeholders were urged to address the coastal water situations are worth mentioning. Environmental concern and political will played large parts in the implementation of the projects on coastal resource management by the LGU of Gusa; the initial steps which eventually led to material results are recounted in the brief history below.

The project was initiated by the L-EPM project in coordination with the Barangay council and the GUSEAFA. Before the project implementation on March 3, 2001, activities were planned and programmed during meetings among the fisherfolks. Discussions and decisions were made on the priorities and concerns of the coastal marine sectors. Talk was focused on improper disposal of domestic/commercial waste and the ineffective anti-pollution devices of industries. This is a contributory factor to the degradation of coastal marine habitats and depletion of marine resources.

Another issue the meeting group addressed was the poor socio-political and environmental direction that resulted to unequal distribution of economic opportunities, particularly prevalent poverty among the fisherfolks. Talk also centered on the lack or ineffective public information drive for the protection and conservation of marine life. This was primary factor to the resistance from volunteer work that was initially observed among the people. The enforcement of maritime and fishery laws for coastal protection, conservation and rehabilitation was also identified.



THE MANGROVE PLANTATION

Consequent to the planning stage, linkages were also made with national agencies for technical assistance. In coordination with the barangay council, the Fisheries Sector of the L-EPM tapped the BFAR and the City Administrator's office. As a result of the prioritization of environmental issues, these agencies were identified as most suited to the project CRM. From the academe, the Xavier University Marine Biology Department also aided the stakeholders in identifying the sanctuary location.

Based on the strengths of the immediate community, in terms of people participation and the organization among its fisherfolks, a location for the sanctuary was identified. The spot was chosen since it was the least disturbed by strong currents, farthest from the barangay's residential area but only business establishments. Having studied the sanctuary location of a neighboring coastal barangay Lapasan, the stakeholders knew better than to build a sanctuary that is proximal to people. As in the case of Lapasan, a trail was built towards the area for fishing boats which disturbed the peace of the sanctuary.

The choice of location was further consulted with the City Planning Office by the L-EPM. This was in order to align the sanctuary with the city development plans. The working group found out that plans for development have been laid out up to Lapasan. Gusa comes only right after Lapasan and so it does not overlap with anything that the city planned for. Finally, the XU Marine Biology Department and the BFAR confirmed the location as strategic. Basically, they considered the observed depletion of the fisherfolks' catch which has been reduced to less than half what they usually caught. From this was formulated the objective to rehabilitate and preserve the marine resources of coastal Gusa.

Project implementation started on March 3, 2001. Already, a strong association of fisherfolks has been manning the preparations for implementation. The fish sanctuary was handled just as efficiently by the GUSEAFA who distributed the tasks of maintenance like taking charge of the floating guard, among themselves. The floating guard, raft-like equipment with barrels and silver sheeting as floaters, was acquired through the BFAR. Maintaining the sanctuary equipment was also handled by the GUSEAFA members. Styropore markers were routinely checked for security. Forty three units of concrete pyramid corals were also dropped to the sanctuary bottom. Each one was carried out to sea on two rafts which were parted in the middle to drop the pyramids. This was done so



the artificial corals would drop with its pyramid base flat on the ground. This method was borne from one near-accident.

At one time, the members floated the corals out to sea on one raft. They were to drop the pyramid onto one side of the raft and into the sanctuary when the raft lost its balance and almost toppled over. The artificial reef was dropped and one of the men was brought along by the weight. The sanctuary was at a deep end of the Gusa coasts and he would have easily drowned. Apparently, a part of his clothing was stuck to the pyramid and so the mishap. Had not the members dived to his rescue, the GUSEAFA would have lost one man.

Simultaneous with the development and maintenance of the fish sanctuary was the cultured guso the GUSEAFA started out at the sanctuary. Though the business proved to be very lucrative, the project implementation required the members to be on call for the recorda, clean-up drives, meetings, and other activities that responsibility for the business could not be taken by anybody anymore until much later.



PROJECT PARTNERS-THE SRLSFI AND  
BRGY. COUNCIL REP'S

A year later, a mangrove plantation was carried out in August 27, 2002. The GUSEAFA president at that time attended a seminar in Osamis City on the proper growth of mangroves. The working group first attempted to plant the seedlings in the sanctuary. However, the bamboo railings were not strong enough against the currents. The seedlings were washed off and caused the group a major loss. Eventually, the fisherfolks found a new location along the creeks of the area. This new

mangrove plantation flourished and now serves both the neighborhood along the creeks as protection from floods.

Throughout the implementation of these coastal projects, the Gusa CRMP was hand in hand the Gusa ISWMP in the information and clean-up drives. Loud speakers in the garbage trucks were installed to increase awareness among the households who contribute to 70% of the refuse that find its way into the marine sector. In support of the ISWMP, wastes gathered in the monthly clean-ups are automatically segregated and the biodegradable ones sent to the ISWMP Materials Recovery Facility (MRF).

In 2004, the GUSEAFA partially disintegrated to the detriment of the projects. Despite this, the members maintained their coordination and meetings with various stakeholders were kept up. Dwindling interest and changing of priorities among some of the members might have affected the association, but it



did not impair the sanctuary and mangrove plantations. A number of the original members decided to keep up with the sanctuary maintenance to the best they can. In several instances, the sanctuary guards were compelled to pool in their own individual compensation of PhP 150.00 from the city government to make manageable repairs in the floating guard or the sanctuary markers.

A change of president in 2004 was what the project needed to restore the level of accomplishment it had for the past years. Effective rapport with the members was restored within the association. A new ordinance to attain the project objectives was drafted, passed, and approved by the city government. With the project results, the Gusa coastal resource projects are indeed worthy of replication in other coastal barangays in the city.

### ***The Waters Give Back***

#### **Project Results**

In four year's time, the fish sanctuary and artificial reef projects show positive results that go beyond the group's expectations. Marine life preservation was initially hinted by the visibility of fish within the sanctuary and surrounding areas. The implementers could not contain their excitement about the abundance of fish everywhere. *"Dili gyud manghawa ang mga isda bisan naa ra mi sa dool!"* (The fish won't go anywhere even if we were nearby!) Having been oriented about the advantages of keeping fish safe to propagate in a sanctuary, the GUSEAFA president explained this development with a comparison. He said fish are like people. In as much as people stay away from unsafe environment, so do marine animals. Fish like people, stay where they are unharmed and at peace.

This is owed by the commitment of all GUSEAFA members to the cause of preserving their source of livelihood. The formal coming together of their fellow fisherfolks also encouraged them to contribute their services to guarding the corals from external constraints. A year after the realization of the sanctuary, the fisherfolks cast their nets just outside the sanctuary perimeters. Though fish are kept safe within the sanctuary, they are free to come and go beyond the area. For their first catch, the fisherfolks caught large varieties of *bagis* weighing around 3 kilos each. The barracudas they netted were, in their own words, *"dako pa sa tawo!"* (Bigger than a grown person!)

Another indicator to the improved variety is the increased volume of fish catch. Before the sanctuary was created, the fisherfolks experienced slow days when there is very little or no catch at all. *"Kulob gyud ang kaldero usahay."* (Literally, there's simply nothing to place in our pots day to day.) In contrast, with sanctuary and artificial corals set-up, the fisherfolks never beached with nothing. In other words, fish catch average to 10 kilos every day. In addition, new recruits of precious and semi-precious corals also existed where there used to be none.

Positive results were also evident in the mangrove plantation. Well-rooted since the reforestation, the mangroves along the creek were nested with birds. Crabs and seashells can also be found in the area. Most especially, erosion along the banks has also been prevented.

In the beginning, the community people showed apprehensions regarding the proposed sanctuary project. They felt threatened by the idea of a preserved part of the waters that might lessen their usual catch. The coastal resource projects however, with the full support of the barangay council and the L-EPM partners, made attitudinal change possible. Information, Education, and Communication campaign activities which included barangay level meetings evoked certain degrees of environmental consciousness among the people. Since then, the community has become more organized and involved in the project activities. An organization was organized among all the five cluster presidents of purok 5. Due this, mobilization of project partners and stakeholders especially in outsourcing for project funds, was more convenient.



GUSO IN THE SANCTUARY

Most importantly, the impact of the project encompasses environmental, social, and economic aspects. In the increased monitoring and clean-up activities that have become part of the community's culture, the fisherfolks are more assured of their livelihood. Other than that, although coastal Gusa is only a spot considering the long stretch of the Macajalar Bay, its contribution to preserving marine life and keeping the beach clean cannot be taken for granted.

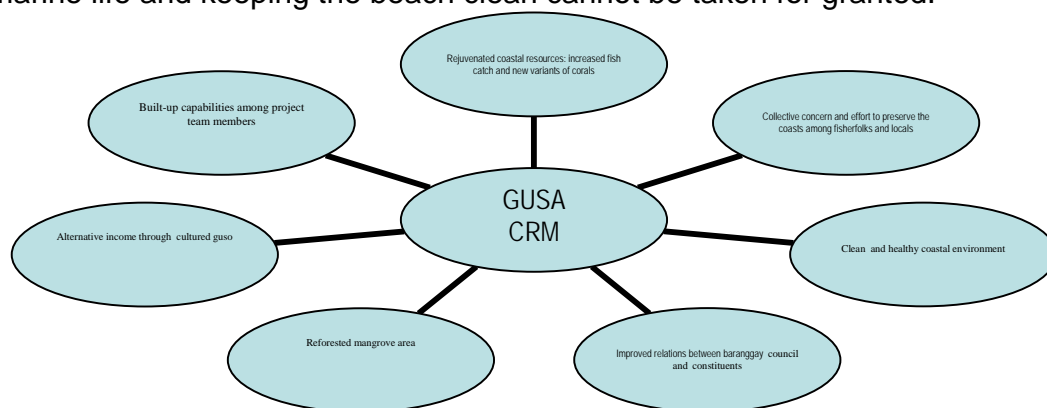


Figure 1. Fruits of their Labor: Visible Results of the CRM projects

### ***Stepping on the Sea Stones: The Key Implementation Steps***

City level activities preceded the implementation of the CRM.

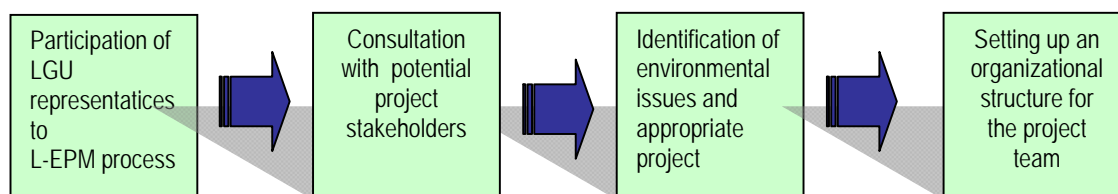


Figure 2. Preliminary Steps to the CRM

The working group and stakeholders, familiar with strategies and techniques provided for by the L-EPM, went through a six-fold agenda to meet the project goals. The following are key implementation steps to the Gusa CRM.

#### I. Mission Preparations

- *Identify barangay environmental problems with the L-EPM and other possible stakeholders.*

In 1999, four community organizers with the LGU of Gusa participated in the seminar workshop organized by the L-EPM unit under the city government in partnership with the CLENRO as future stakeholders of the EPM methodology, the organizers were given an orientation briefing. Issues and concerns were identified in their barangay. The EPM Fisheries Sector through the BFAR became primary partner agency to the coastal barangay of Gusa.

- *Identify and organize members for a working group.*

A core group of organizers was identified among the fisherfolks of the barangay. The GUSEAFA was formed to serve the purpose of a working group to implement the coastal projects.



MORE AREA SURVEILLANCE

- *Evaluate a sanctuary location based on certain criteria.*

An evaluation of the coastal area was made. Upon the recommendation of the BFAR and the XU Marine Biology Department, an 8.6 hectare location was identified based on specific criteria.

- *Consult the City Planning Office before implementing the projects.*

The L-EPM staff and the GUSEAFA consulted the City Planning Office to align the project specifics to city-wide plans.

- *Plan for actions and strategies for project implementation.*

Upon approval, the barangay council, L-EPM staff and the identified core group of organizers held an action and strategy planning for the CRM projects.

- *Delegate specific tasks among working group members.*

GUSEAFA members were assigned specific tasks as warden, maintenance men and others in the sanctuary and artificial reefing projects.

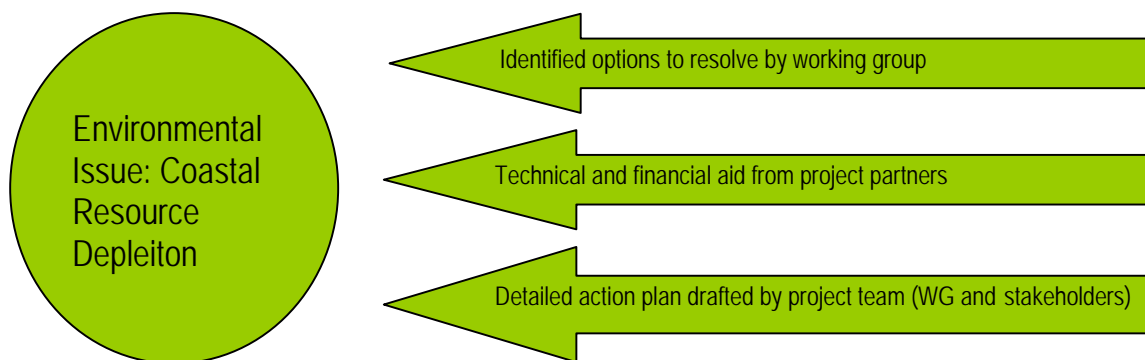


Figure 3. Immediate Actions Taken on CRM

## 2. Information, Education and Communication

- *Hold extensive recoreda and IEC.*

The CRM project work group tied up with the ISWMP IEC activities. Word on the project cause and objectives were announced through recoreda amplifiers in the garbage collection trucks.

- *Send work group members to trainings and seminars.*

Technical trainings and workshops were held for the working group to equip them with the necessary skills in maintaining the sanctuary.

- *Hold echo seminars throughout the immediate areas of the projects.*

Information drive was strengthened and sustained through the organization of cluster presidents. Led by the GUSEAFA, consultation and orientation seminars were re echoed to the different puroks along the coastal areas.

### 3. Financial and Equipment Acquisition

- *Tap project partners for financial and material support.*

The L-EPM coordinated with the LGU for financial support on the project implementation. The BFAR was also tapped for the technology and materials to sustain the project. Honorarium and financial assistance was provided by the city government for the nine caretakers of the different projects.

- *Acquire basic security equipments and facilities for the project staff.*

A floating guard and patrol boat were purchased for the sanctuary. GUSEAFA members were also equipped with rubber boots and raincoats. Project supplies were also acquired like flashlights, batteries, rakes, and shovels.

- *Improve physical infrastructures of the project.*

A meeting hall was renovated for the core group. Simultaneously, a footbridge to the mangroves area was also constructed.



GUARDIANS OF THE SEA

### 4. Sanctuary Construction, Protection, and Maintenance

- *Prepare identified location for the project.*

A clean-up of the identified location and the surrounding area is done. Garbage at the sanctuary bottom is picked by divers to prepare the bottom for artificial reefing.

➤ *Mark the sanctuary peripheries.*

With the sanctuary location identified and the necessary materials at ready hand, the GUSEAFA marked the sanctuary borders with styropore balls.

➤ *Place artificial reefs in the sanctuary bottom.*

Forty three units of concrete pyramid corals were dropped into the bottom. Two rafts were held together in the middle and pulled apart to sink the artificial reefs.

➤ *Station security persons in the sanctuary.*

The implementers worked out a schedule for alternating stations at the floating guard. At times, the project partners like the barangay council representatives took time to enjoy the placid waters while monitoring the sanctuary.

➤ *Make use of sanctuary area to culture seaweeds for additional income.*

The association also started culturing *guso* within the sanctuary. It was lucrative business however; priorities of the GUSEAFA members did not allow room to handle the business. It was discontinued but later on revived as a family business.

➤ *Pass an ordinance to protect the project cause.*

To remedy the random cases of illegal fishing, barangay ordinance Ordinance No. 2001-06-02 was passed. It is stipulated in the ordinance that fishing, bathing, or the passing of motor boats are sanctioned with a PhP 50.00, PhP 100.00, and PhP 200.00 penalties for the first, second, and third offenses. Previous to this was another ordinance that only sanctioned a first violator with PhP 500.00 per 25 kilos of his illegal catch. The old ordinance also did not require that the fish be surrendered to Gusa. It was exactly this loose sanction that the new ordinance tried to prevent.

## 5. Mangrove Plantation and Maintenance

- *Earn technical knowledge and skills in mangrove plantation.*

The GUSEAFA president attended a seminar on mangrove plantation in Osamis City for a carry-over of input learned to the coastal barangay of Gusa.

- *Find a suitable location for mangrove reforestation.*

The implementers tested the mangrove seedlings inside the sanctuary with bamboos. However, the attempt failed due to the strong underwater currents. They had to look for another location and decided on a shrubby creek area. Another clean up ensued before the new seedlings were put in place. Carelessly uprooted or cut by some locales, what's left of the old mangroves were taken away and replaced by new ones.

## 6. Projects Sustainability

- *Uphold schedule of regular meetings, maintain clean-up activities, and coordinate with project partners.*

Meetings are still held on a regular basis. The monthly clean-up involves the community by taking volunteers for the diving and sack clothing of the creeks, rivers, and the sea. Coordination with the project partners is constant especially with the hands-on approach of the L-EPM and the City Agriculture Office.

<h3><b><i>Seeing Through Clear Waters</i></b></h3>
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The implementers have as much to say about the importance of cooperation in a group and more to say about how years of hard work can be destroyed by a single pursuance of personal interest. In years past, the GUSEAFA has had more presidents than any organization might have in one year. The varying degrees of commitment the members started out with did not particularly sustain the group through the tough times. The group actually went defunct in 2004.

During this time, the old GUSEAFA president quit his post to work as an employee at the City Agriculture Office. While he has just taken his responsibilities to the environment a step up, some of his former mates in the association were feeling left out. This development caused some of the original members to withdraw their support. Even with a new president, the group

steadily fell apart. There was no rapport among the members and attendance to meetings was the worst.

Only recently did the implementers learn the value of selflessness under a new leadership. It was their present president's initiative to stop expecting a large payback and just do what should be done for the good of the projects. At times, minor repairs had to be done in the sanctuary. Immediately, instead of waiting for outside funding, they pool in their own resources and get things done. Thus, the members learned the values of commitment and self-sufficiency.



Figure 4. Elements of Survival: Core Values of a Successful CRM

Further, the group realized the need for a sufficient financial support to ensure project sustainability. Funding from the city government was extant but could not really cover all the expenses of the activities. As a solution, the group solicited financial aids from the many business establishments near the area. Volunteerism was also an option they found useful. Coastal clean-up and project monitoring were done by community people with the project implementers. Maintenance activities were shared by the direct beneficiaries themselves.

They also learned how projects like this one should be appropriately budgeted. In year 2000, artificial coral reefs and styropore balls alone cost PhP 150, 000. In the next years, with the purchase of a floating guard and other additional equipments, project cost ran a total of PhP 300,000. Technical planning is also necessary so to avoid mistakes like their first attempt with the mangrove plantation. The financial liability it entailed was more than any LGU can afford. Fortunately, the technical support provided by the BFAR was sufficient and allowed the implementers to correct their errors.

Another valuable lesson that the project taught the implementers is a change in their fishing methods. Because of their attitudinal change towards the environment, the fisherfolks are more conscious of correct fishing methods, careful not to ruin the chances of the fish stock surviving in the sanctuary.



Within the GUSEAFA, the project gave the fisherfolks a better understanding and appreciation of the sea from whence they take their bread and butter. A certain level of diplomacy has also developed in their dealings with each other. In other words, the fisherfolks grew in terms of attitude and perspective through the association.

Overall, the Gusa CRM projects are worthy of replication especially among the neighboring coastal barangays in the city. A key factor that allowed Gusa their successes is the tight-knit society of fisherfolks called GUSEAFA. The organization, despite its pitfalls in the last two years, basically worked as a working group because theirs is a concern for the sea which is also their livelihood. If the CRM projects be replicated in other LGU's, a society of fisherfolks has to be organized first and foremost.

## Appendix A

## **GUSEAFA Officers**

**President:** Rey Galasanay  
**Vice President:** Alipio Ballentos  
**Treasurer:** Lino Alba  
**Secretary:** Christopher Durban  
**Auditor:** Everet Cirus  
**P.I.O.** Carlito Mahinay  
Pablo Monilar

**Board Members:**  
Diosdado Durban  
Sergio Durban  
Pepi Torion  
Celso Caderao  
Narciso Iyana

**Members:**  
Allan Sabellano  
Err Oser  
Danny Lim  
Nanding Cabalda  
Jaime Pilo  
Pablo Hinayon

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### ***MS. ZAIDA TAN NERY***

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