

The Ridge, River, Reef (R3) Program: Ecosystems Approach to Management of the Seascape-Landscape



RIDGE
KABUKIRAN



RIVER
KASUBAAN



REEF
KADAGATAN

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9/29/2016

Fellow
Macajalar Bay Development Alliance
Cagayan De Oro River Basin Management Council
McKeough Marine Center Xavier University

Outline of Presentation:

I. R3 Program: Ridge, River, Reef

II. Multi-sectoral Green Alliances

III. Ecosystem-based adaptation
DRRM

IV. Valuing Ecosystems Together



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R3: Ridge, River, Reef (Kalasangan, Kasubaan ug Kapagangan)

Cagayan River Watershed
Watershed Boundary

Legend:
 - Rivers & Tributaries
 - Watershed Boundary
 - Municipal Boundary
 - Provincial Boundary

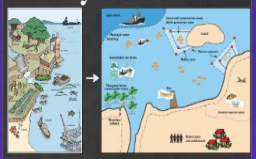
Map Labels: MISAMIS ORIENTAL, OPOL, CAGAYAN DE ORO CITY, LIBONA, BAUNGON, M. FORTICH, SUBILAO, LANAO DEL NORTE, ILIGAN, BUKIDNON, TALAKAG, ANAO DEL SUR, BUBONG, LANTAPAN

Prepared by: Mark Alvin O. Sabines, ICA, ICA/DRM/DRM/DRM

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**Multi-sectorial Green Alliances:
Ecosystems Approach to Management of the Seascap**

Baywide ICM



Macajalar Bay Development Alliance (MBDA)

- 14 LGUs:
- 1 chartered city
- 1 component city
- 12 municipalities
- 1 Province of Misamis Oriental



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Baywide ICM

open water

Municipal water boundary

Sustainable use zones

Mangrove forest conservation zones

Shoreline setback

Coral reef conservation zones
Strict protection zone

Island

Marine reserves

Buffer zone

Pier

Coastal tourism zone

Urban areas and settlements

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Baywide ICM

Mission Statement

THE MANAGEMENT

ENR

M3M Staging

Networking

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Networking with LGUs and National Government Agencies



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MOA Signing



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LGU Representatives:
 Agricultural Officer
 Planning Officer
 Agricultural Technologist
 SB Secretary, etc

TWG FORMATION

Other Stakeholders:
 Line agencies, NGOs,
 private and business
 sectors, etc



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Unsa man ang Kabakhawan?

- kahoy na makita sa baybayon
- Balay sa mga gagmay na mga mananap (kasag, kinason, isda, langgam ug uban pa)
- Sala sa mga hugaw
- Sampong sa kalamidad

M
M
C

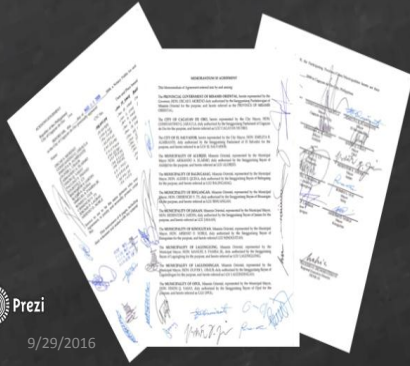
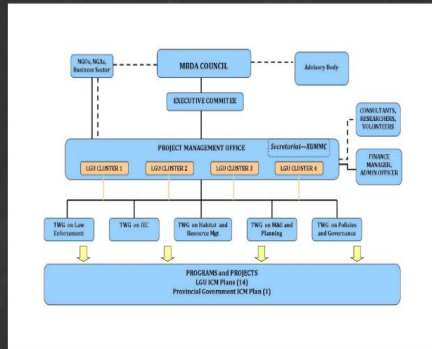
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BASELINE PROFILING AND RESOURCE ASSESSMENT

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Alliance Formation



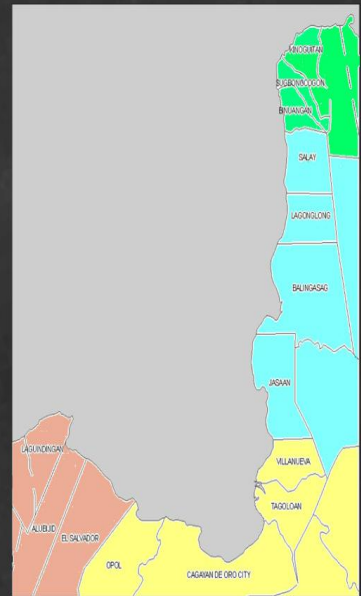
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Baywide ICM

LGU ICM Plans

- Type 1** - 1/14 LGU
- Type 2** - 10/14 LGUs
- Type 3** - 3/14 LGUs

Type 1 - no ICM plan at all
Type 2 - ICM draft for finalization, then adoption
Type 3 - for updating or revision of ICM plan



Baywide ICM Plan with support from PEMSEA



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(ER PROGRAM) Enhancing Resiliency to Climate Change in Macajalar Bay

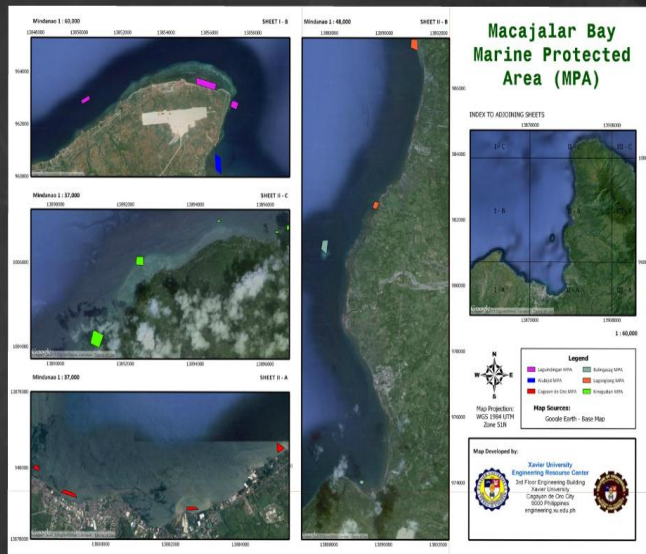
with support from GIZ, Philippines



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MPA Management

MBDA



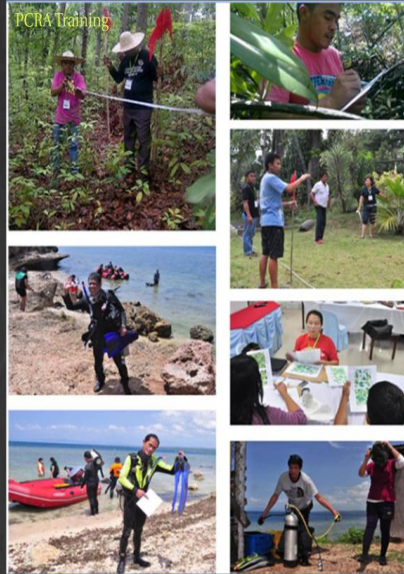
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Monitoring & Evaluation

XUMMC/SAMDHANA



SCUBA Training



PCRA Training



M&E team of MBDA (24 members)



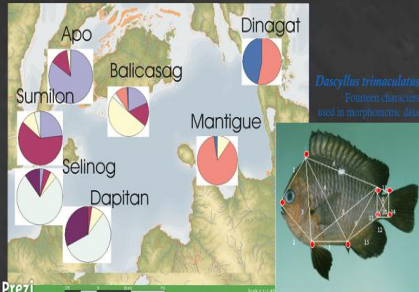
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Interconnectivity

XUMMC/La Salle

Establish MPA network through:
 1. MPA Interconnectivity
 2. Mindanao Sea Connectivity
 3. Vulnerability Assessment to Sedimentation



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Figure 1. Map of Macajalar Bay showing the sites (1-8) and major rivers (A-C).

Policy

XU Center for Legal Assistance

Resolution
A RESOLUTION RECOMMENDING LGU MEMBERS THE REVIEW J RELATING TO COASTAL RESC
RESOLUTION NO. 2012-001

WHEREAS, the MBDA has the T composed of personnel from the members as the Bureau of Fisheries and Aquatic Natural Resources (DENR), Philippine Guard (PCG) and Maritime Industry Auth

WHEREAS, the MBDA in its p management and development with its p local fisheries related legislations;

WHEREAS, in the conduct of it thereby necessitating the updating of local

WHEREAS, the member LGUs Composite Teams whose main task is to es

WHEREAS, the creation of the successful implementation of the fisheries and capable staff in each local govern enforcement operations within the Maraj

WHEREAS, the regular council members are independent and/or on other priority activities before the need to send representatives to their seat.

WHEREAS, it has been expressed over the years that the council hardly meet quarterly, because most of local shall executives were tied up with prior engagements.

WHEREAS, it is imperative that the progress and projects of MBDA must move on with the collective decision of all council members, whether through alternate representatives or regular council members assigned to the same.

Now therefore after due deliberation, secretly moved and unanimously approved by the members of the Technical Working Group (TWG), it was

RESOLVED AS IT IS HEREBY RESOLVED to request the Local Chief Executives of the municipalities, one (1) component city, one (1) chartered city and the Province of Misamis Oriental under the Marajay Bay Development Alliance (MBDA) to designate an alternate who will represent the said in behalf of the MBDA council allowing the same to sign and warrant any instrument and/or document deemed necessary for the development of the projects and programs of the same, and for other purposes.

RESOLVED FINALLY, that the TWG and each member of the Council shall be furnished with a copy of this Resolution.

Unanimously approved this 1st day of OCT 2012, in Cagayan de Oro, CDO

OLIVER L. LIBAR
 Vice-Chairman, MBDA
 Chairman, MBDA TWG
 Misamis, Legazpi



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IEC

XU Development Communication

Enhancing Resilience through Policy Recommendation, Outreach, Governance, Research, Adaptive Management in Marajay Bay to Climate Change

Ang marine sanctuary
AMPINGAN
 alang sa malahutayong
PANGINABUHIAN.

giz IEC



9/29/2016



XU Development Communication



9/29/2016



XU Development Communication



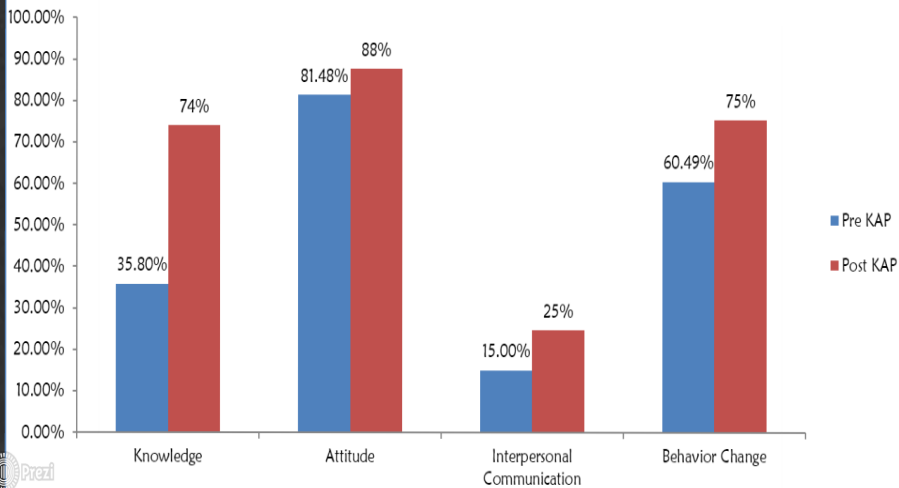
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Enhancing Resiliency through Policy Recommendation, Outreach, Governance, Research, Adaptive Management in Macajalar Bay to Climate Change



XU Development Communication

ALUBIJID Pre- and Post-KAP Survey



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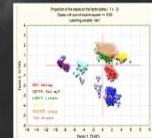
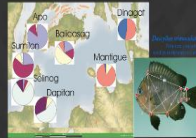
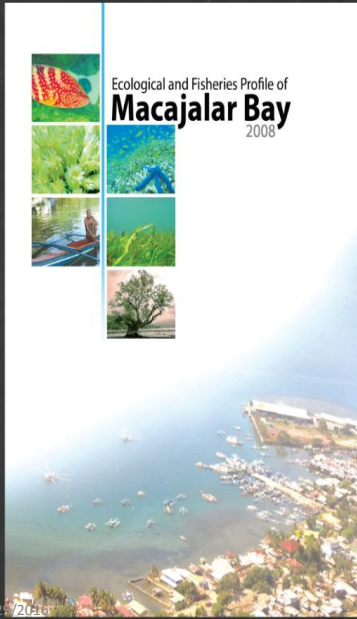
Law Enforcement

PCG, MARINA, PNPMG, BFAR, DENR



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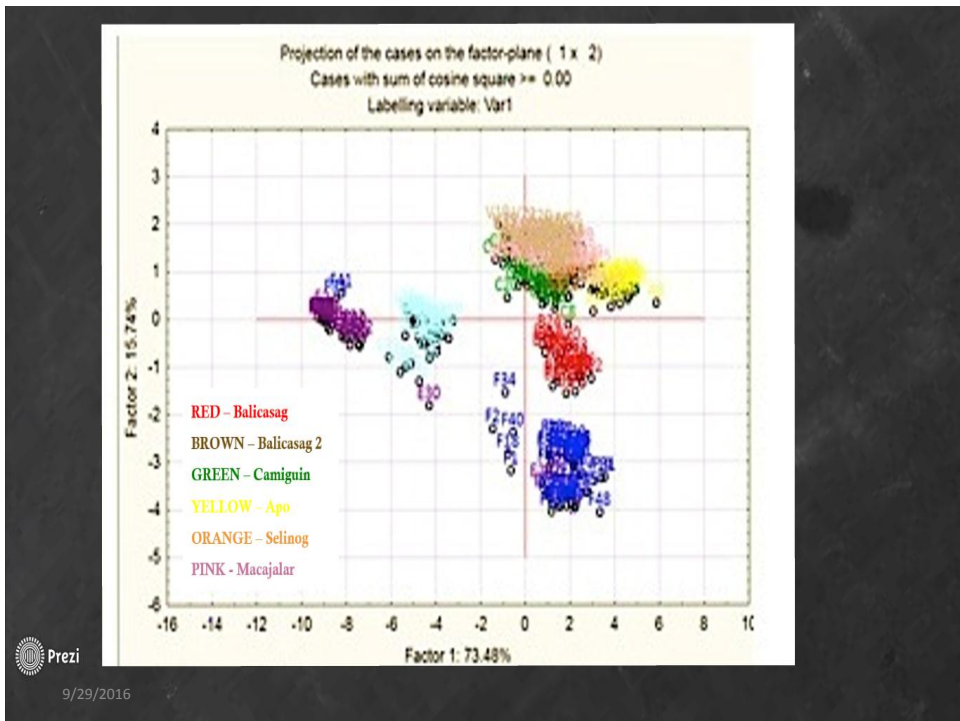
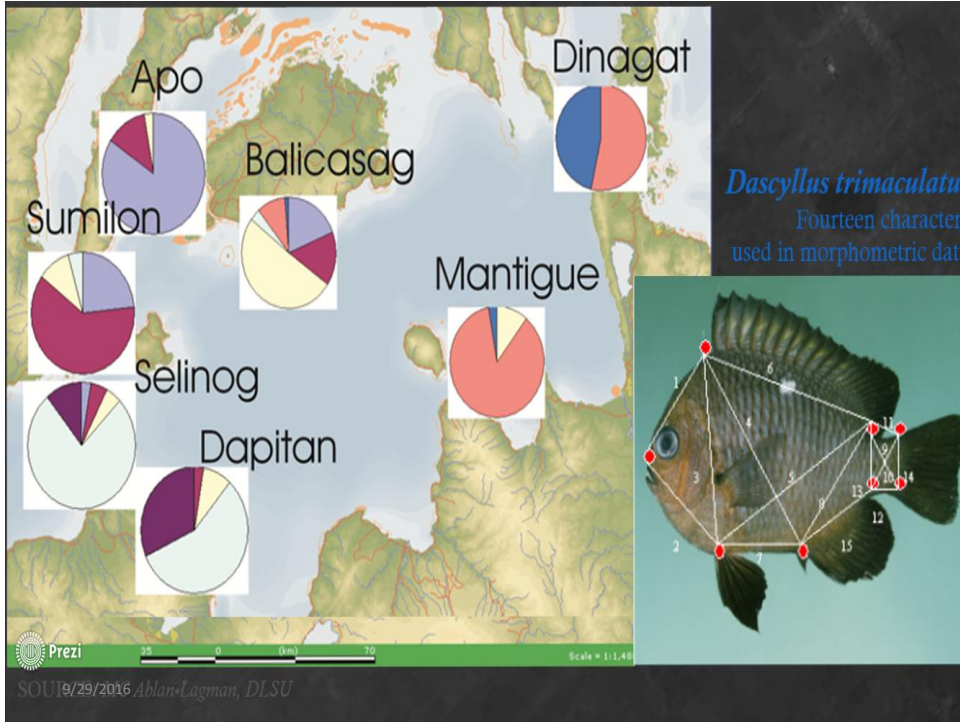
Resource Ecological Assessment 2008

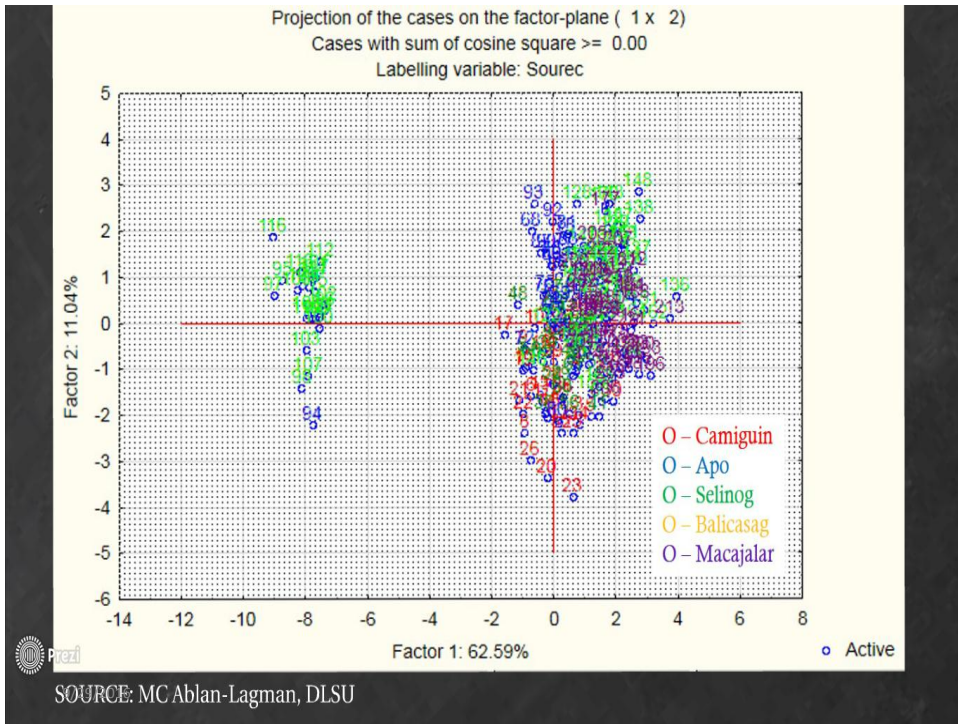


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Macajalar Bay Development Alliance (MBDA)

14 LGUs:
 1 chartered city
 1 component city
 12 municipalities
 1 Province of Misamis Oriental

Cluster 4

Cluster 3

Cluster 2

Cluster 1

Cluster PRCA Team

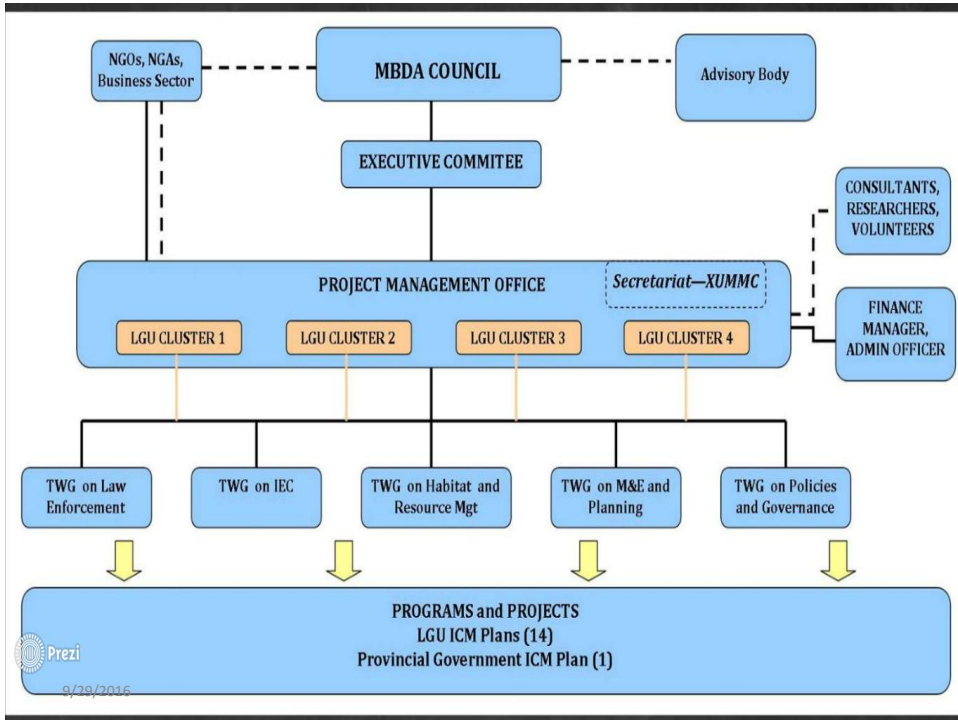
Cluster CLE Team

LGU MPA Managers

ANORHITA
 SUBANWALOGON
 BHELANGAN
 SALAY
 LADONGLONG
 BALINGASAG
 JASARI
 VILLARUEVA
 TAGOLOAN
 OPOL
 CAGARIAN DE ORO CITY
 LARURONGAY
 ALUBUJID
 EL SALVADOR

Prezi

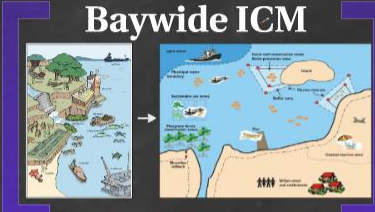
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Multi-sectorial Green Alliances: Ecosystems Approach to Management of the Seascape


Baywide ICM




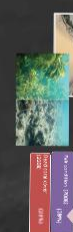
Macajalar Bay Development Authority (MBDA)


14 LGUs:
1 chartered city
1 component city
12 municipalities
1 Province of Negros Oriental












Multi-sectorial Green Alliances: Ecosystems Approach to Management of the Landscape



Chairman
Hon. Mayor of Cagayan de Oro


Members

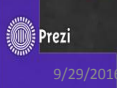
- 1. National Government Agency (NGA)
- 2. National Government Organization (NGO)
- 3. National Government Organization (NGO)
- 4. National Government Organization (NGO)
- 5. National Government Organization (NGO)
- 6. National Government Organization (NGO)
- 7. National Government Organization (NGO)
- 8. National Government Organization (NGO)
- 9. National Government Organization (NGO)
- 10. National Government Organization (NGO)

Cagayan de Oro River Basin Management Council

Vision
A rehabilitated, sustainably protected and preserved, and well-managed CDO river basin in 2020

Mission
To oversee and catalyze multi-stakeholders for the rehabilitation, protection, preservation, and management of the CDO River Basin





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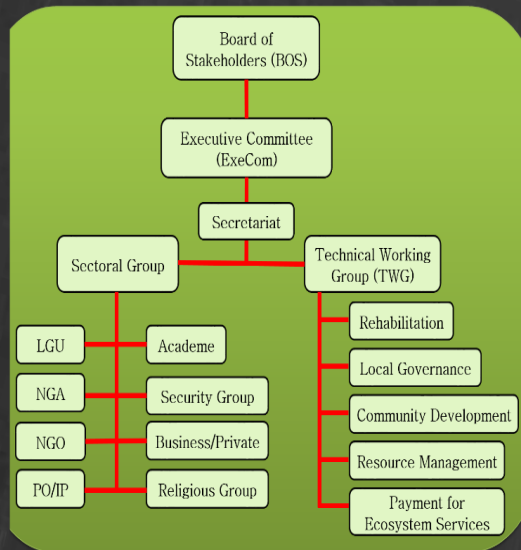
Cagayan de Oro River Basin Management Council (CDORBMC)

Co-Chaired by:
 Archdiocese of Cagayan de Oro,
 DENR 10,
 DILG 10,
 and City of Cagayan de Oro

- 90 members from 8 sectors:
1. National Government Agency (NGA)
 2. Local Government Unit (LGU)
 3. Non-Government Organizations (NGO)
 4. Security
 5. Religious
 6. Academe
 7. Private/Business
 8. Indigenous People/People's Organization (IP/PO)



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Ecosystem-based adaptation on DRRM

Recipe for Disaster

The diagram illustrates the 'Recipe for Disaster' through a series of interconnected elements:

- Convergence of huge rivers:** A satellite image at the bottom showing a network of rivers.
- Map of a river basin:** A map showing a river basin with a red line indicating a specific path or area of interest.
- Topographic map:** A map showing terrain elevation with a red line.
- Disaster scene:** A central image showing a flooded area with buildings and infrastructure.
- Satellite images:** Three satellite images on the right showing different views of the river and flood areas, with red highlighting flood zones.

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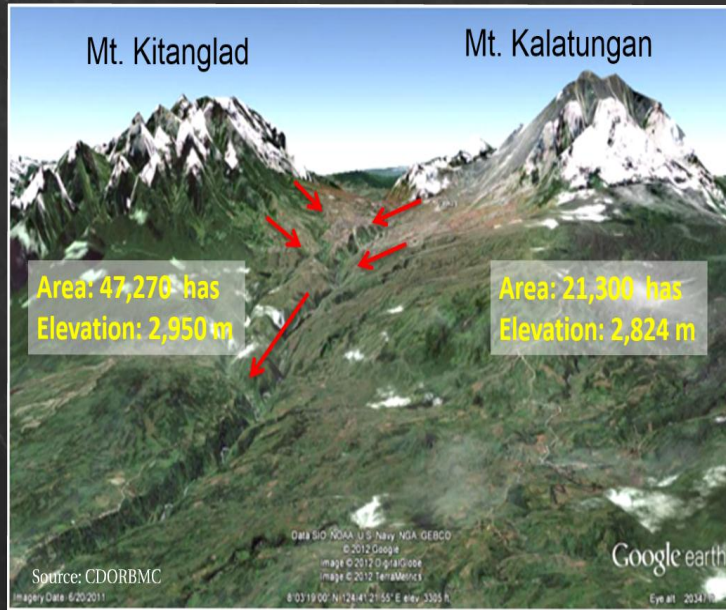
Recipe for Disaster

The diagram illustrates the 'Recipe for Disaster' through a series of interconnected elements:

- Convergence of 8 huge rivers:** A satellite image at the bottom showing a network of rivers.
- Map of a river basin:** A map showing a river basin with a red line indicating a specific path or area of interest.
- Topographic map:** A map showing terrain elevation with a red line.
- Disaster scene:** A central image showing a flooded area with buildings and infrastructure.
- Satellite images:** Two satellite images on the right showing different views of the river and flood areas, with red highlighting flood zones.

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High and steep embankments



Vulnerable degraded headwaters



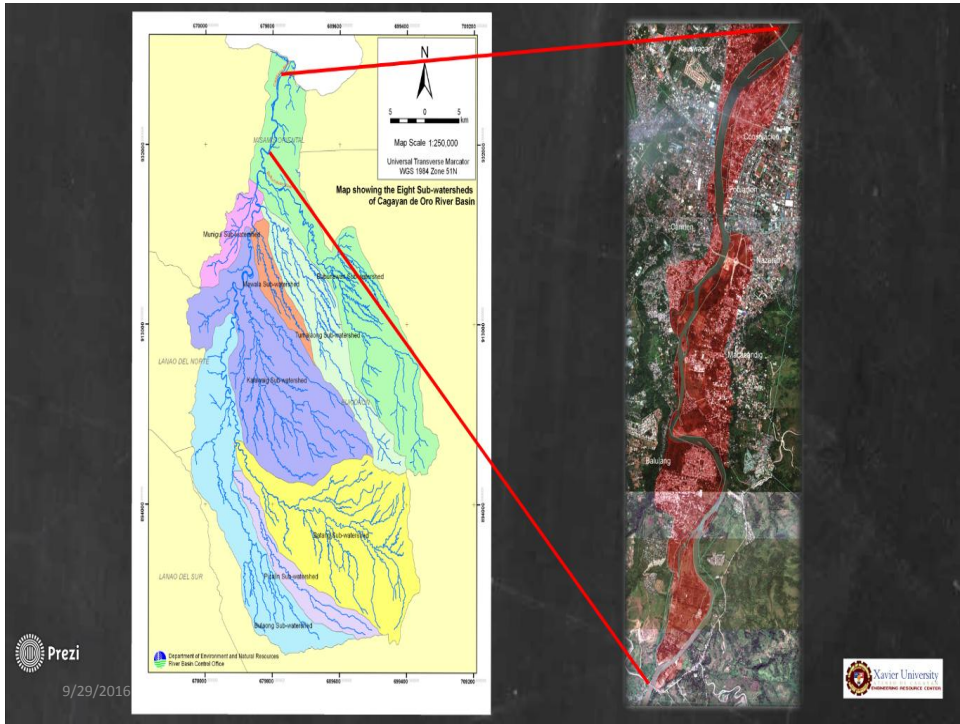
Convergence of 8 huge rivers



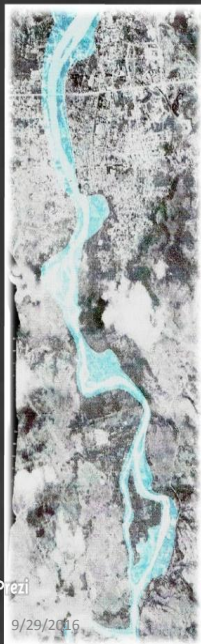
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Typhoon Washi (Sendong)





River Metamorphosis (1999)



Simulation (November 2011)



Actual affected areas (December 2011)



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Xavier University
PIONEERING HUMAN DEVELOPMENT

Ecosystem-based adaptation on DRRM

Recipe for Disaster

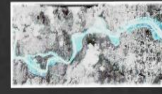
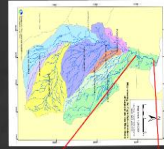


Photo: Wikimedia Commons (1990)
Simulation (December 2011)
Actual affected areas (December 2011)



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VEST

Valuing Ecosystem Services Together



9/29/2016

CAGAYAN DE ORO RIVER BASIN

THE RIDGES
 Mt. Kolabungan
 Mt. Kitanglad
 Absorption of rainwater
 Habitat for wildlife
 Irrigation of farms
 Domestic use
 Home for aquatic animals

THE RIVERS
 Talakog
 Boungon
 Libona
 Cagayan de Oro
 Alternative source of energy
 Alternative source of food
 Livelihood for fishermen
 Home for fishes & other sea animals

THE REEFS
 Tourism & other recreational activities

The Importance of the River

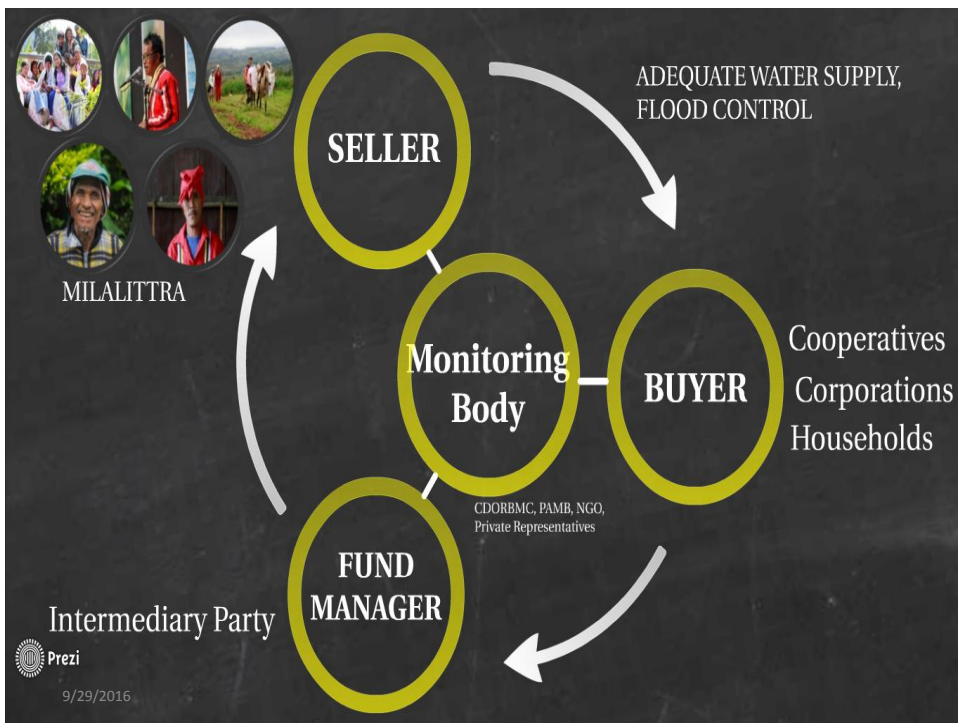
Causes of DESTRUCTION of WATERSHEDS
 NO PROPER DISPOSAL OF SOLID AND CHEMICAL WASTES
 SMALL SCALE OR LARGE SCALE MINING
 ILLEGAL LOGGING OR DEFORESTATION
 UNSUSTAINABLE FARMING PRACTICES
 KAINGIN

What is a RIVER BASIN?
 It is an area of land drained by a river and its tributaries.

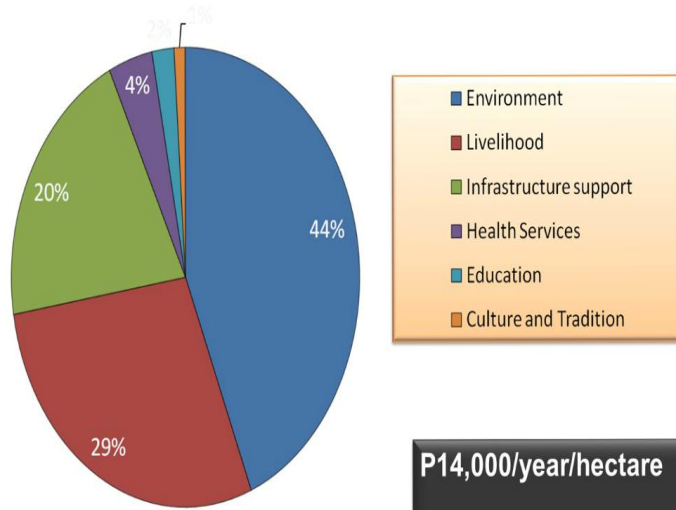
What can you do to protect & preserve our RIVER BASIN?

- CONSERVE ANY RESOURCES
- PRACTICE THE 3R: REDUCE, REUSE AND RECYCLE
- MAINTAIN A CLEAN AND GREEN ENVIRONMENT
- DISPOSE SOLID AND CHEMICAL WASTES PROPERLY
- BE AN ADVOCATE AND TEACH OTHERS ON THE IMPORTANCE OF THE RIVER BASIN

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inVESTing on Nature

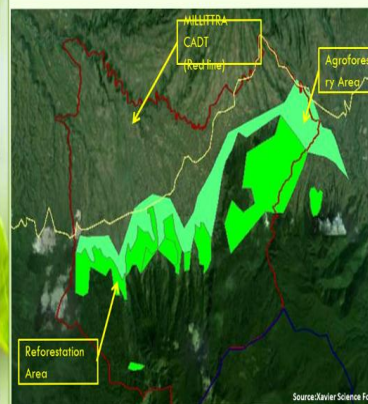


- Environment
- Livelihood
- Infrastructure support
- Health Services
- Education
- Culture and Tradition

P14,000/year/hectare
P38.00/day/hectare

Based from DENR-MILAGRO-CPP plan

DENR-NEWCAPP



Geotagged PES seedlings

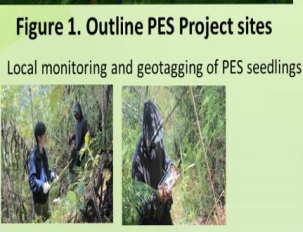


Figure 1. Outline PES Project sites

Local monitoring and geotagging of PES seedlings

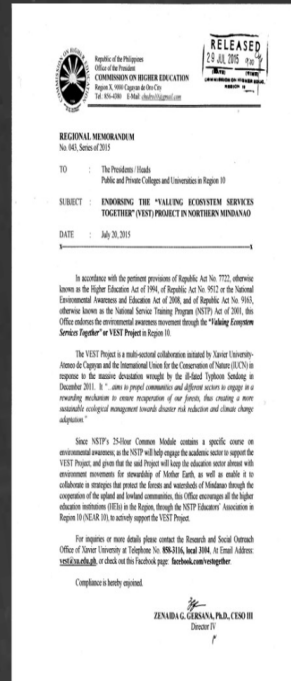
Source of Photos: Xavier Science Foundation

**Commission of Higher Education
Regional Memorandum No.043, Series of
2015**

Endorsing the “Valuing Ecosystem Services Together” (VEST) project in Northern Mindanao. NSTP will engage in the academic sector to support the VEST project on environment movements for stewardship of Mother Earth.....



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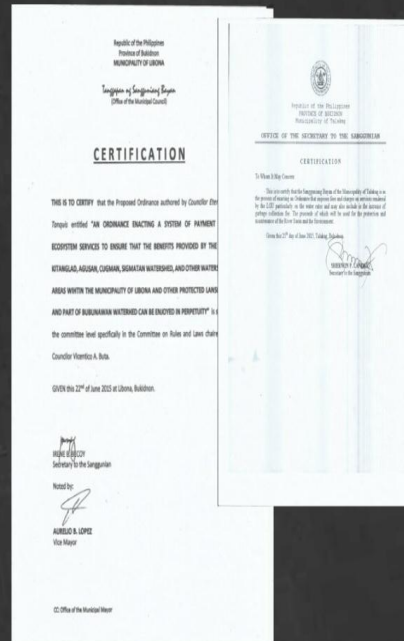
Proposed Water Fee Ordinances

LGU-Libona (committee level hearing):
“Am Ordinance enacting a system of Payment for Ecosystem Services to Ensure that the benefits provided by the Mt.Kitanglad, Agusan, Cugman, Sigmatan watershed and other watershed areas within the municipality of Libona....”

LGU-Talakag:
“In the process of enacting an Ordinance that imposes fees and charges on services rendered.....used for the protection and maintenance of the River Basin and the Environment....”

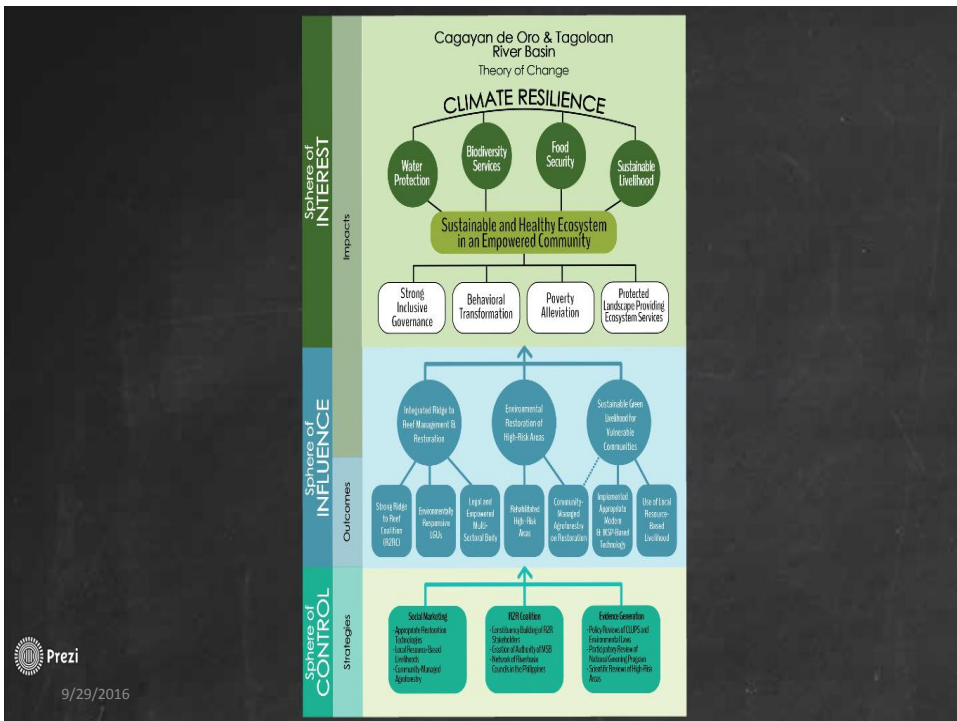


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"Our fathers were evil men, all of us here. They left the world worse than they found it. We're not going to do that. We're gonna leave the world better than we found it."
- Daenerys Targaryen, Game of Thrones



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