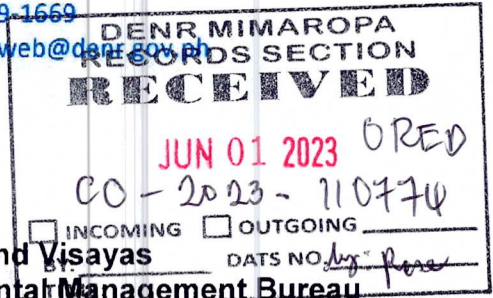




Republic of the Philippines
Department of Environment and Natural Resources
Visayas Avenue, Diliman, Quezon City
Tel Nos. 929-6626 to 29; 929-6633 to 35
929-7041 to 43; 929-6252; 929-1669
Website: <http://www.denr.gov.ph> E-mail: web@denr.gov.ph



MEMORANDUM

TO : The Assistant Secretary for Luzon and Visayas
and concurrent Director, Environmental Management Bureau

The Regional Executive Director
DENR Region IV-B
1515 DENR By the Bay
Roxas Blvd., Ermita, Manila

FROM : The Undersecretary for Policy, Planning and International Affairs

SUBJECT : PROPOSAL OF BISHOP GREPOR B. BELGICA RE:
INTEGRATED ENVIRONMENTAL PROJECT IN ORIENTAL MINDORO

DATE : MAY 29 2023

Referred herewith is a copy of the letter dated 08 May 2023 from Bishop Grepur B. Belgica, addressed to the Secretary, expressing his intention to engage in environmental projects in Oriental Mindoro that aims to promote protection, preservation, and enhancement or development of natural ecosystems in the province.

Please evaluate the same in accordance with existing laws, rules and regulations. Directly inform the parties concerned of the action taken on his proposal, copy furnished this office for monitoring purposes.


ATTY. JONAS R. LEONES

copy furnished:

Bishop Grepur B. Belgica
Suite 107 AIC Burgundy Empire Tower
ADB Avenue cor. Garnett and Sapphire Roads
Ortigas Center, Pasig City

Let's Go Green!!!



Republic of the Philippines
Department of Environment and Natural Resources
Visayas Avenue, Diliman, Quezon City
Tel Nos. 929-6626 to 29; 929-6633 to 35
929-7041 to 43; 929-6252; 929-1669
Website: <http://www.denr.gov.ph> E-mail: web@denr.gov.ph

MAY 29 2023

BISHOP GREPOR B. BELGICA

Suite 107 AIC Burgundy Empire Tower
ADB Avenue cor. Garnett and Sapphire Roads
Ortigas Center, Pasig City

Dear **Bishop Belgica**:

This refers to your letter dated 08 May 2023 addressed to the DENR Secretary expressing your intention to engage/collaborate with the DENR in environmental projects in Oriental Mindoro, that aims to promote protection, preservation, and enhancement or development of natural ecosystems in the province.

Please be informed that we referred your proposal to the Director, Environmental Management Bureau (EMB) and to the Regional Executive Director of DENR Region IV-B for evaluation. Attached is a copy of our Memorandum for your reference. Should you wish to coordinate with said offices, you may contact them at telephone numbers (02) 8539-4378 (EMB) and (02) 7002-3114 (Region IV-B).

Thank you.

Very truly yours,


ATTY. JONAS R. LEONES
Undersecretary for Policy, Planning and
International Affairs

Let's Go Green!!!

278x



12007
ORIGINAL

08 May 2023

✓ **SECRETARY MARIA ANTONIA YULO-LOYZAGA**
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
Visayas Avenue, Diliman,
Quezon City

ATTN: LORMELYN E. CLAUDIO, CESC
Regional Executive Director
Department of Environment and
Region IV-B (MIMAROPA)

POSTAL RECEIPT
RE 771 924 638 ZZ
Post Office
Letter/Package No.
Posted on
Preserve this receipt for reference in case of li
Postmaster/Teller
NO.

RE: INTEGRATED ENVIRONMENTAL PROJECT IN ORIENTAL MINDORO

Dear Sec. Yulo-Loyzaga,

Greetings!

I am writing this letter to formally inform your good office of my intention to engage in projects that will promote the protection, preservation, and enhancement or development of our natural ecosystems in the province of Oriental Mindoro.

Owing to my many years in local and national governance, property development and conservation initiatives, me and my team have gained the unique insight and skills to determine the causes and solutions for the environmental degradation and preservation in key areas of Oriental Mindoro. My family, especially my late wife Dr. Carmelita Banta-Belgica, have had a long history in the province being amongst the pioneer families of Mindoro. We have maintained our humble farmlands, family estates and Christian Community Churches in the province because me, my wife and our children have always treated it as our second home.

The recent oil spill that continues to degrade the waters of Mindoro has become a constant source of sentimental pain for many of us who have cared for the province for so long. Nonetheless, that happening likewise served as a wake-up call for me and my family to once again be actively engaged in protecting our beloved Oriental Mindoro.

For this reason, me and my team have prepared a bundle of environmental protection and preservation initiatives and programs for the different land and sea areas of the province. Through these programs I hope to support the government in its environmental protection, preservation and enhancement or development objectives.

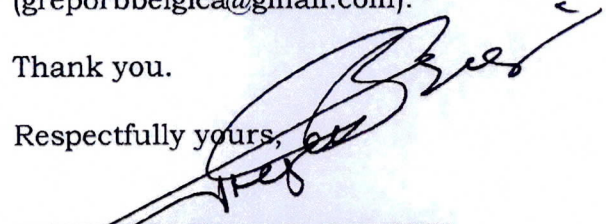
In particular, me and my team from various countries propose to conduct a pilot project based on IMTA Technology for environmental protection, preservation, and enhancement or development in the municipalities of Calapan and Puerto Galera, Province of Oriental Mindoro. This pilot project named IMTA (Integrated Multi-Trophic Aquaculture) includes sewage treatment, flood prevention management, rain harvesting, groundwater recharge and stormwater control. **These projects are to be done at no cost for the government and the people and the government.** *A copy of my report is attached herewith for your perusal.*

In view of the foregoing, I propose a Memorandum of Understanding or Agreement be formulated between us - your Honorable office, Department of Environment and Natural Resources (DENR) and the undersigned. I would like to formally request your good office for a meeting at your earliest convenience. My proposal and recommendations shall be discussed further with you in the said meeting.

The undersigned may be contacted for your availability through its mobile number (+63927.237.1378) and email address (greporbbelgica@gmail.com).

Thank you.

Respectfully yours,



BISHOP GREPOR B. BELGICA
Former Presidential Adviser for
Moral Transformation and Religious Affairs

Enclosures:

- Visit report, information needed and recommendations for a Mindoro project
- IMTA presentation
- Pictures
- Memorandum of Agreement

Environmental upgrade, carbon credit and upgraded livelihood in Mindoro Oriental: Nature-based solutions via land-sea restoration and management

Visit report, information needed and recommendations for a Mindoro project
Butch Belgica and AV Abelson

Visit report

Our tour included the municipalities of Calapan (i.e. the north-eastern region, including Lazareto beach and the vicinity) and Puerto Galera. During the visit we had meetings with the former governor of Mindoro Oriental, the head and forestry officer of PENR (in Calapan) and relevant officers of PG (agriculture and fishery, tourism and environment) as well as the city administrator. Likewise, we had a phone call chat with the governor of Mindoro Oriental.

Overall, all the talks and meetings were in good spirit and the persons showed interest and good will of help. However, very little essential information has been transferred (except the tour with PG's tourism officer). Therefore, the needed data is still missing and we are awaiting the transfer of info from the relevant persons in both municipalities,

Recommendations

The below recommendation are based on our tour impression and the limited information we received, and therefore are dependent largely on further information that will be delivered to us, hopefully soon.

Calapan

The focal area of the proposed pilot project is lacking natural coastal ecosystems, not agricultural areas, therefore our suggested efforts are limited to sewage treatment and flood prevention management. Both elements can serve as carbon offsetting sources via constructed wetlands.

In addition, we propose to promote sustainable fishery to support the local fishing community, which is suffering of a continuing trend of depleted yields. The proposed fishery yields is by implementing fishery management combined with deployment of fish aggregating devices (FADs) and artificial reefs (ARs).

Puerto Galera

In PG there the upgrading options are much more diverse, mainly due to the wider areas of high value natural ecosystems, notably coral reefs, mangrove forests and seagrass meadows.

Therefore, in addition to the restoration-management actions proposed for Calapan, we suggest a significantly broader approach, which will include coastal marine ecosystem (i.e. coral reefs, seagrass meadows and mangrove forests) restoration and

management, sewage treatment (by constructed wetlands), shift of agricultural practices towards regenerative and precision agriculture, water management, including rain harvesting, groundwater recharge and stormwater control (via retention ponds and constructed wetlands), sustainable aquaculture (notably seaweeds, oyster/mussels and sea-cucumbers as water infiltration agents, as well as IMTA – integrated multi-trophic aquaculture methods).

Sustainable agriculture in Baco and/or San Teodoro.

In addition to the proposed projects in PG and Calapan, we suggest a limited-scale pilot project in the rice fields (paddy-fields) within the jurisdiction of either San Teodoro or Baco municipalities – A pilot project of shifting agriculture practices, which are harmful for the environment and climate, in order to reduce their environmental impact and create carbon credit source of livelihood.

Required information/data

- Specified details of information have been requested during a chat with the province official (who have been directed to us by the governor), and during the meeting with the PENR representatives.

In general, we need as much info as possible of all the livelihood sources, all relevant natural ecosystem statuses and all the known significant stressors (e.g. sewage, logging/deforestation, agriculture areas and practices, fishery data and development projects that turn natural environments into human-controlled areas). Using this information is critical for sound planning of protection, restoration and livelihood sources development and management.

Calapan

- The needed information is of all the potential stressors within the relevant watershed, notably sewage capacities and outlet locations, deforestation areas and agriculture locations, culture types and yields; as well as historical trends of forest areas, fishery yields and number of fishermen and boats and fishing practices.

Puerto Galera

- The potential upgrade of PG is higher than in Calapan, and therefore the information needed is more extensive
- The needed information is of all the potential stressors within the relevant watershed, notably sewage capacities and outlet locations, deforestation areas and agriculture locations, culture types and yields; as well as historical trends of forest areas, fishery yields and number of fishermen and boats and fishing practices. Also needed future plans for development of agriculture and aquaculture projects – locations and capacities.



Perimeter ?

723 m ▾

Area

33,021 m² ▾

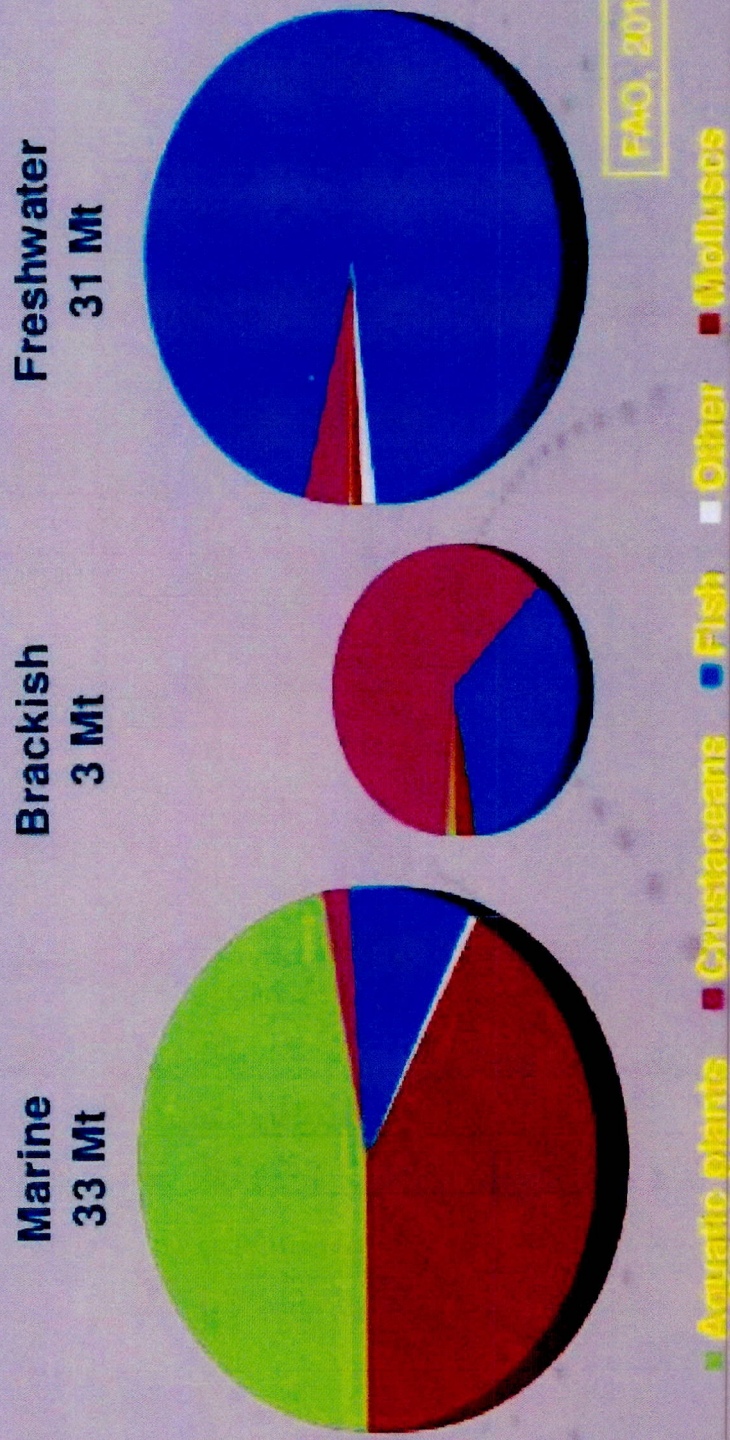
Ph IMTA

2023



WHAT IS AQUACULTURE

AQUACULTURE PRODUCTION BY SPECIES GROUP & ENVIRONMENT

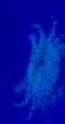
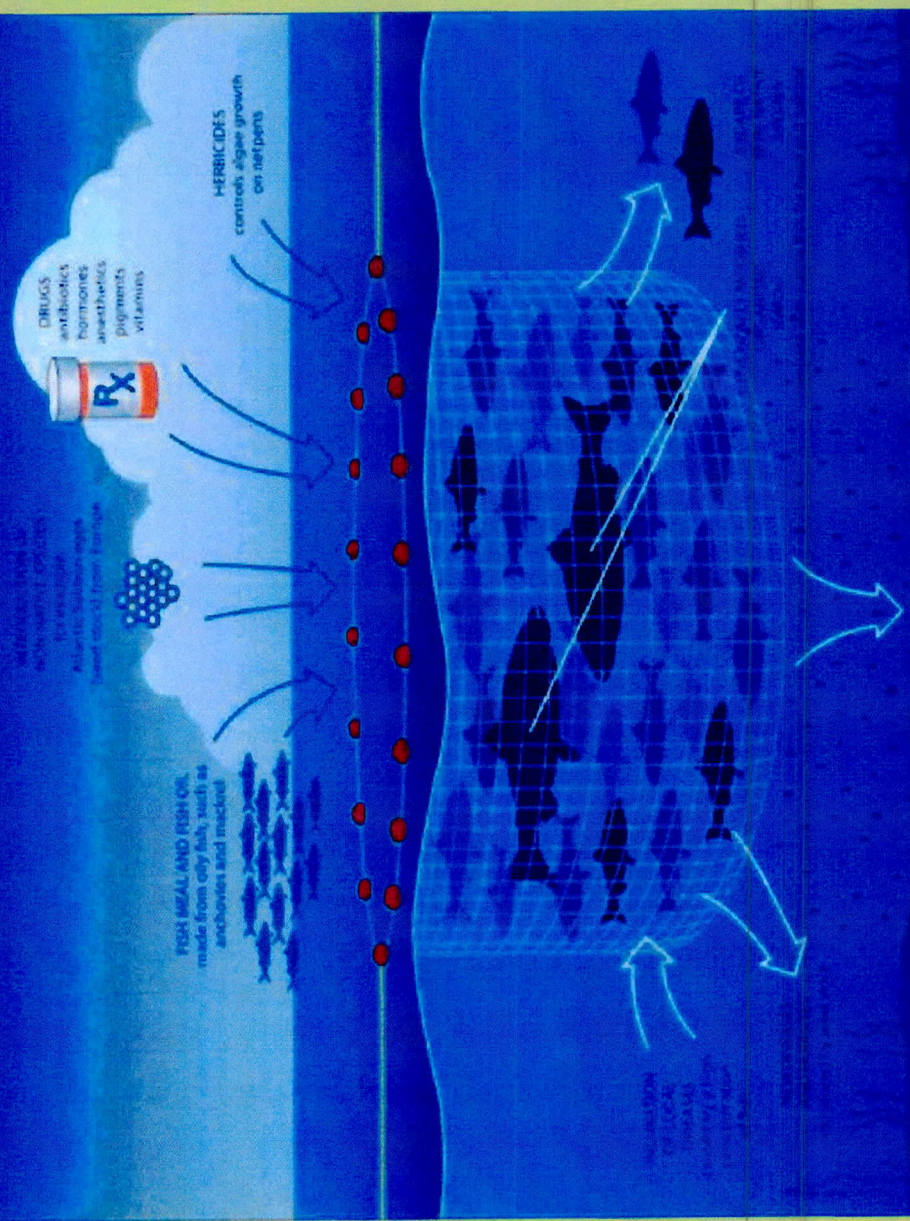


Aquaculture-related challenges:

- Aquaculture environmental impact
- Habitat destruction, eutrophication, pollution, Species invasion
- High cost of production
- Relatively low food quality
- Limited appropriate sea-based sites

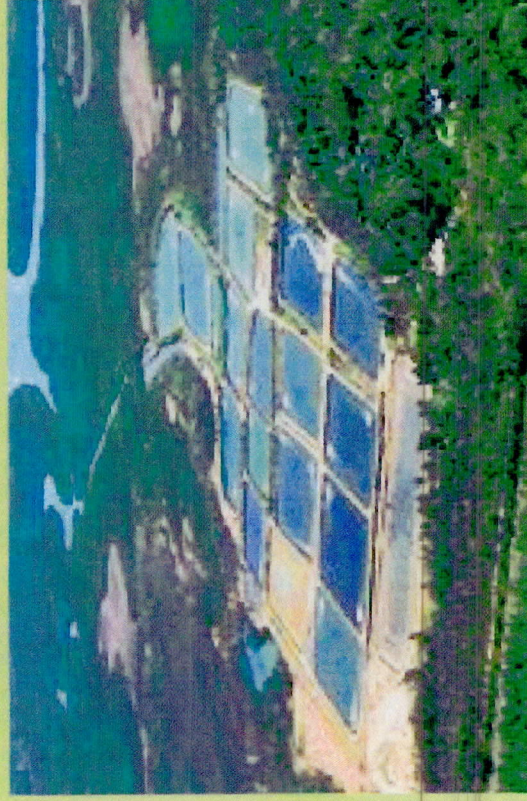
Environmental Impact of Aquaculture

Environmental Risks of Marine Aquaculture

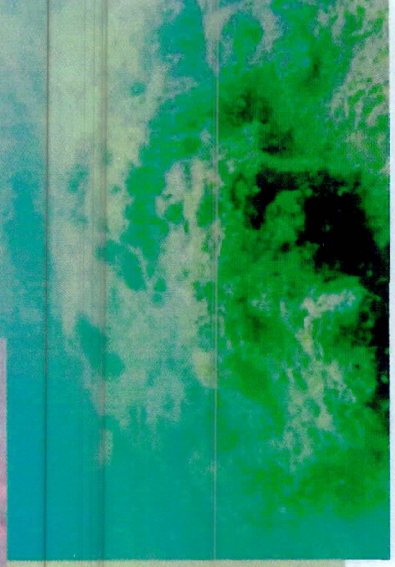
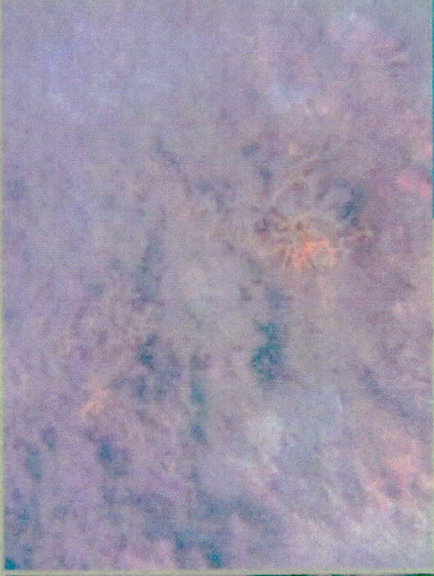


Environmental Impact of Aquaculture

Fish ponds (Land-based aq.) – habitat destruction
and eutrophication



Environmental Impact of Aquaculture



Environmental Impact of Aquaculture
Most coastal sites are not available for
nonsustainable aquaculture

The Project Objectives:

- Turning “problems” into advantages
- Expanding the range of suitable sites
- **Environmentally-friendly production**
- **Sustainable aquaculture**
- Higher production rates
- Higher production volumes per unit area
- Reduced costs of production
- Higher food quality
- **Diverse side benefits**

The solution Integrated Multi trophic Aquaculture



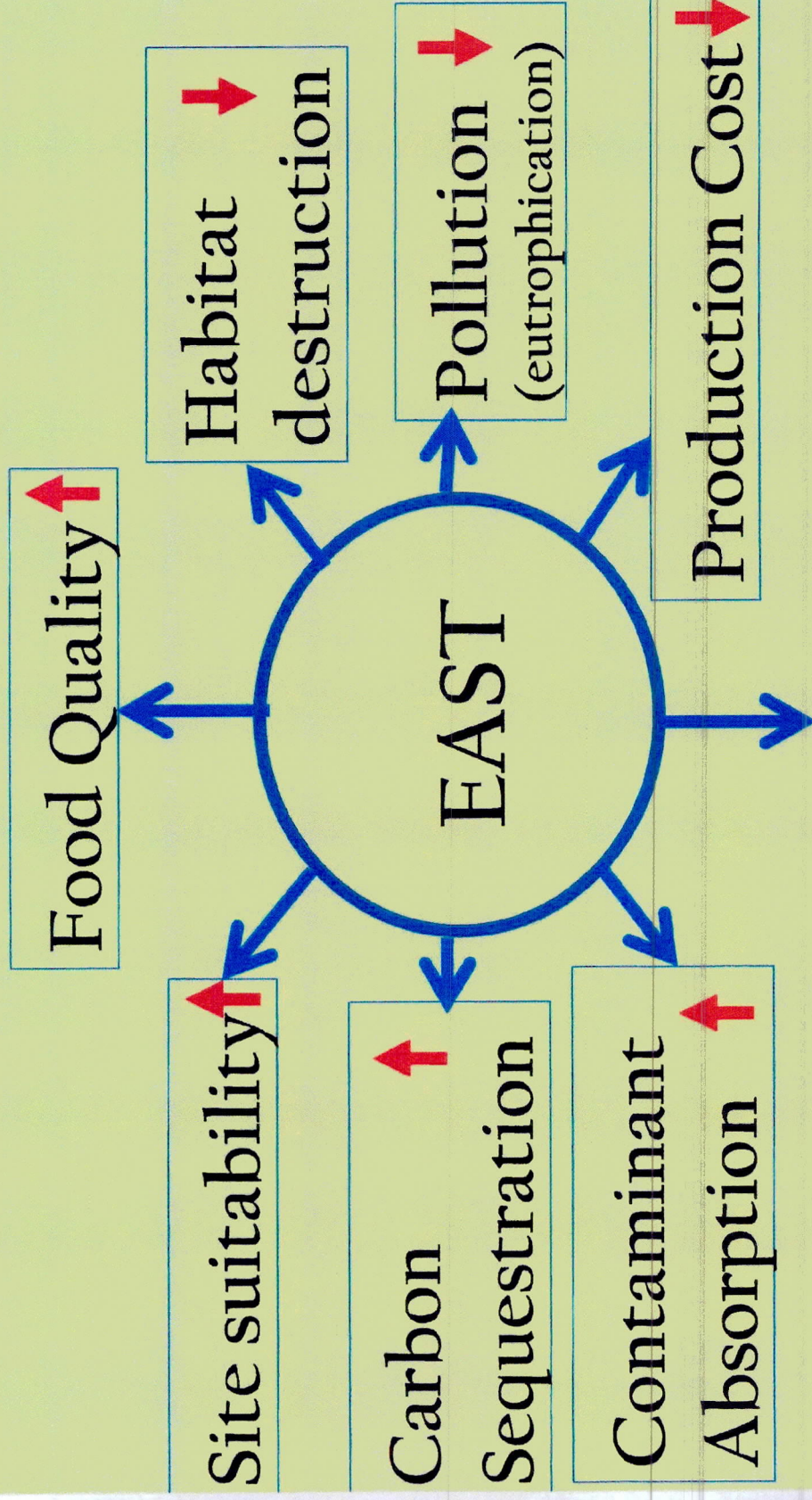
Integrated Multi-Trophic Aquaculture

(IMTA) *In the world - overview...*



Eco-engineered Aquaculture SysTems

(EAST)



Reef restoration (re-introduction)

Candidate taxa/species:

○ Primary producers:

- Macroalgae (e.g. Caulerpa, Gracilaria)

○ Grazers:

- Gastropods (e.g. Abalone, Trochus), Sea-urchins

○ Filter feeders:

- Oysters, Clams, Mussels, Polychaets, Sponges

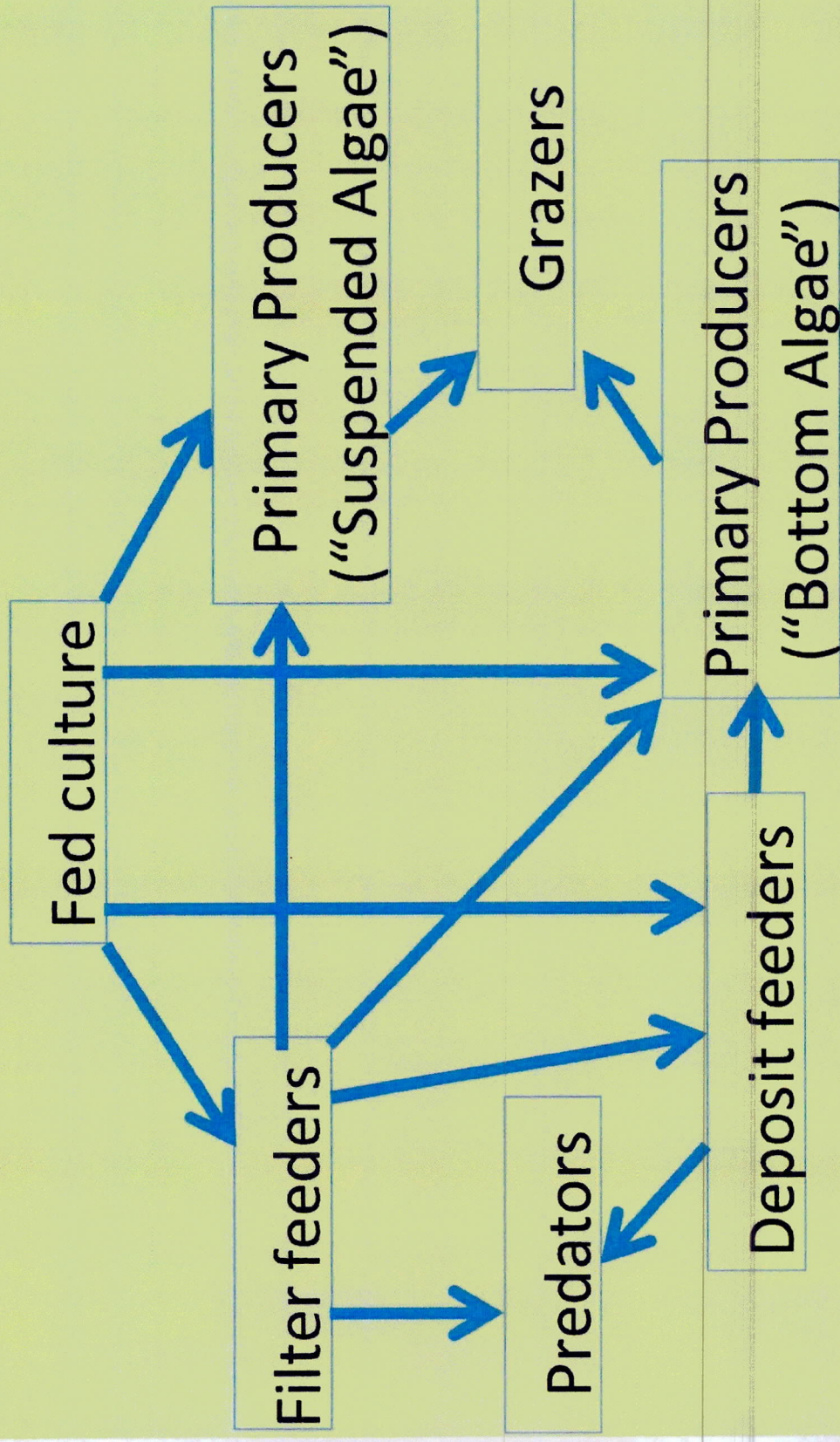
○ Deposit feeders:

- Sea-cucumbers (e.g. Holothuria), Mudcrabs*,
Polychaets (e.g. Nereis)

○ Fed species:

- Finfish (Milk fish, Rabbit fish, Groupers), Mudcrabs*

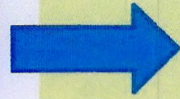
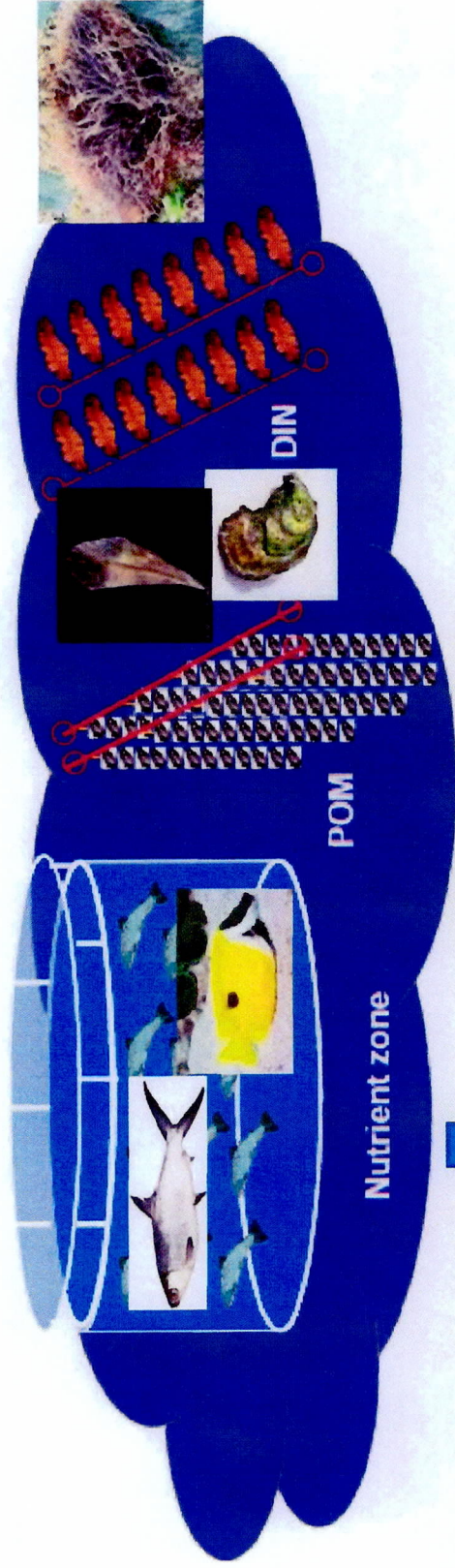
Sustainable Aquaculture



Fed Aquaculture
(Finfish)

+

Extractive Aquaculture
Organic (Shellfish)
Inorganic (Seaweed)



Expansion of suitable sites for Aquaculture

The integrated aquaculture opens wide variety of coastal sites, which are not applicable for conventional sea-based aquaculture

Additional significant benefits

Ambient pollution treatment (eutrophication reduction)

Carbon sequestration

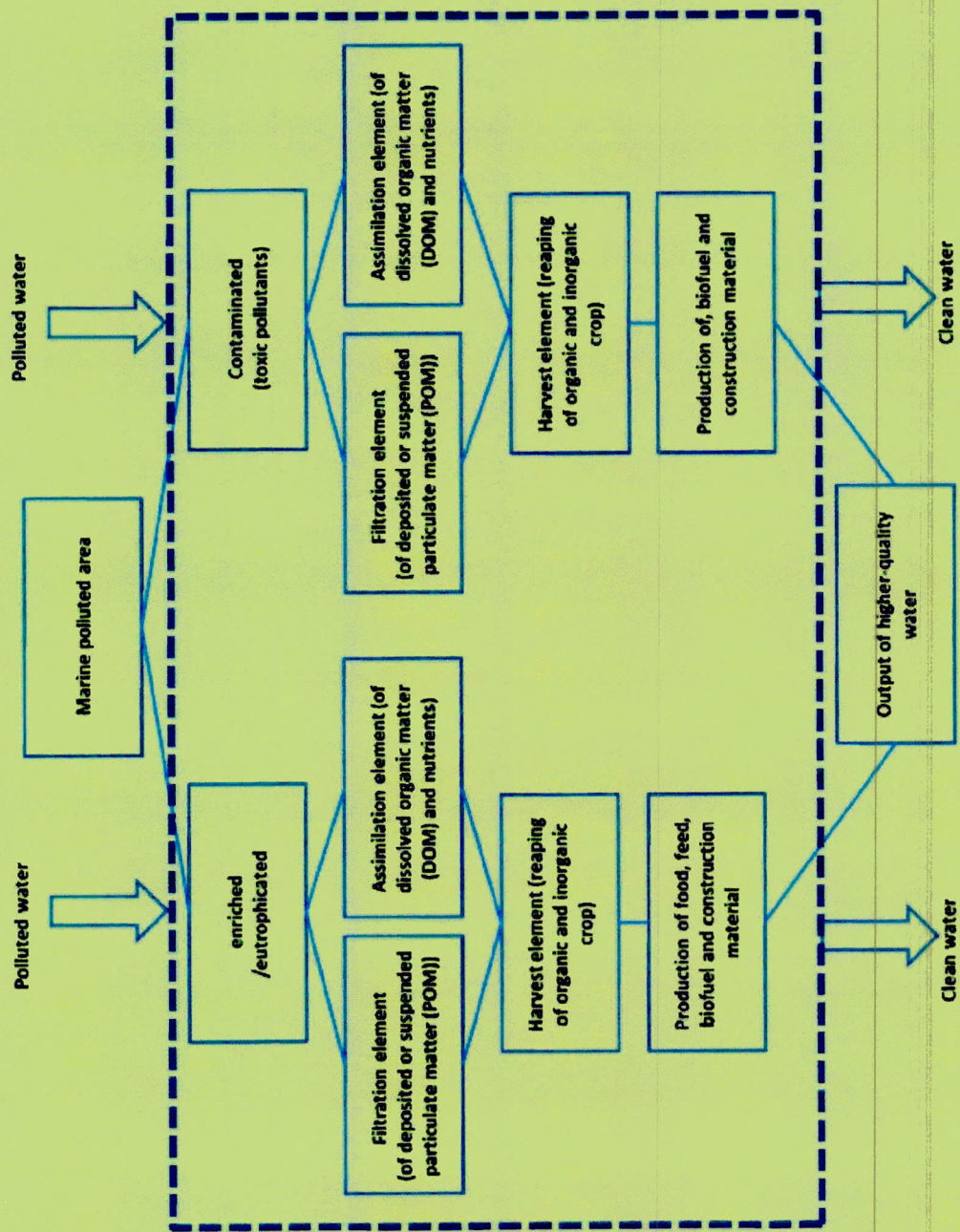
Mass production of biomass (notably macroalgae)

Contaminant absorption

Coral-reef restoration via re-introduction of grazing species

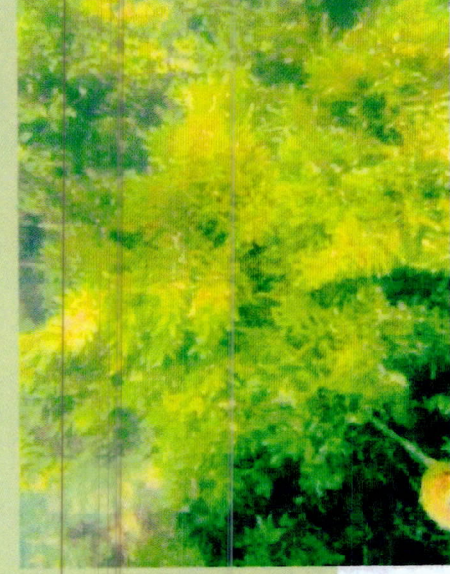
Additional significant benefits

Environmental solutions: Ambient pollution treatment



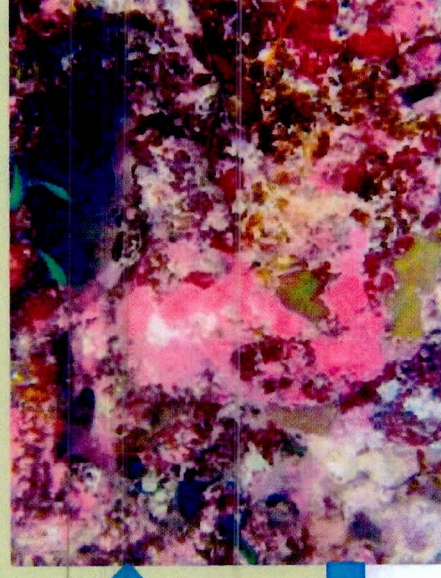
Additional significant benefits : Coral reef restoration

Phase-shift in coral reefs



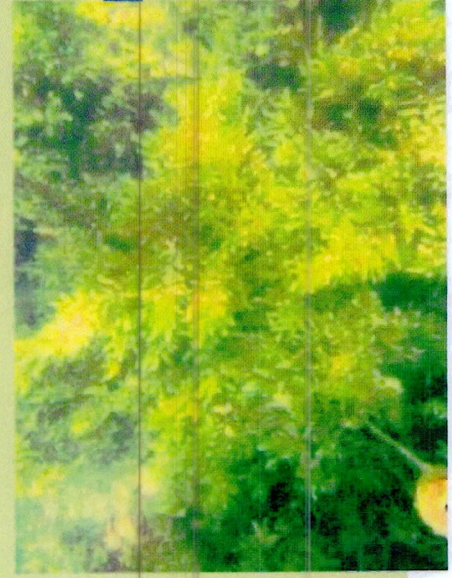
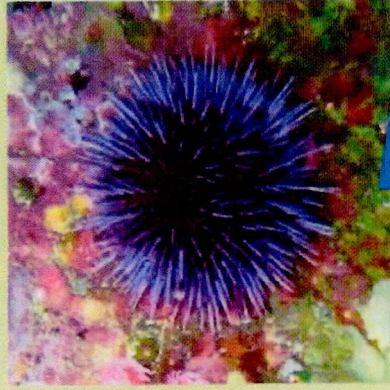
Eradication

Natural
return



Additional significant benefits : Coral reef restoration

Re-introduction of grazers



Eradication

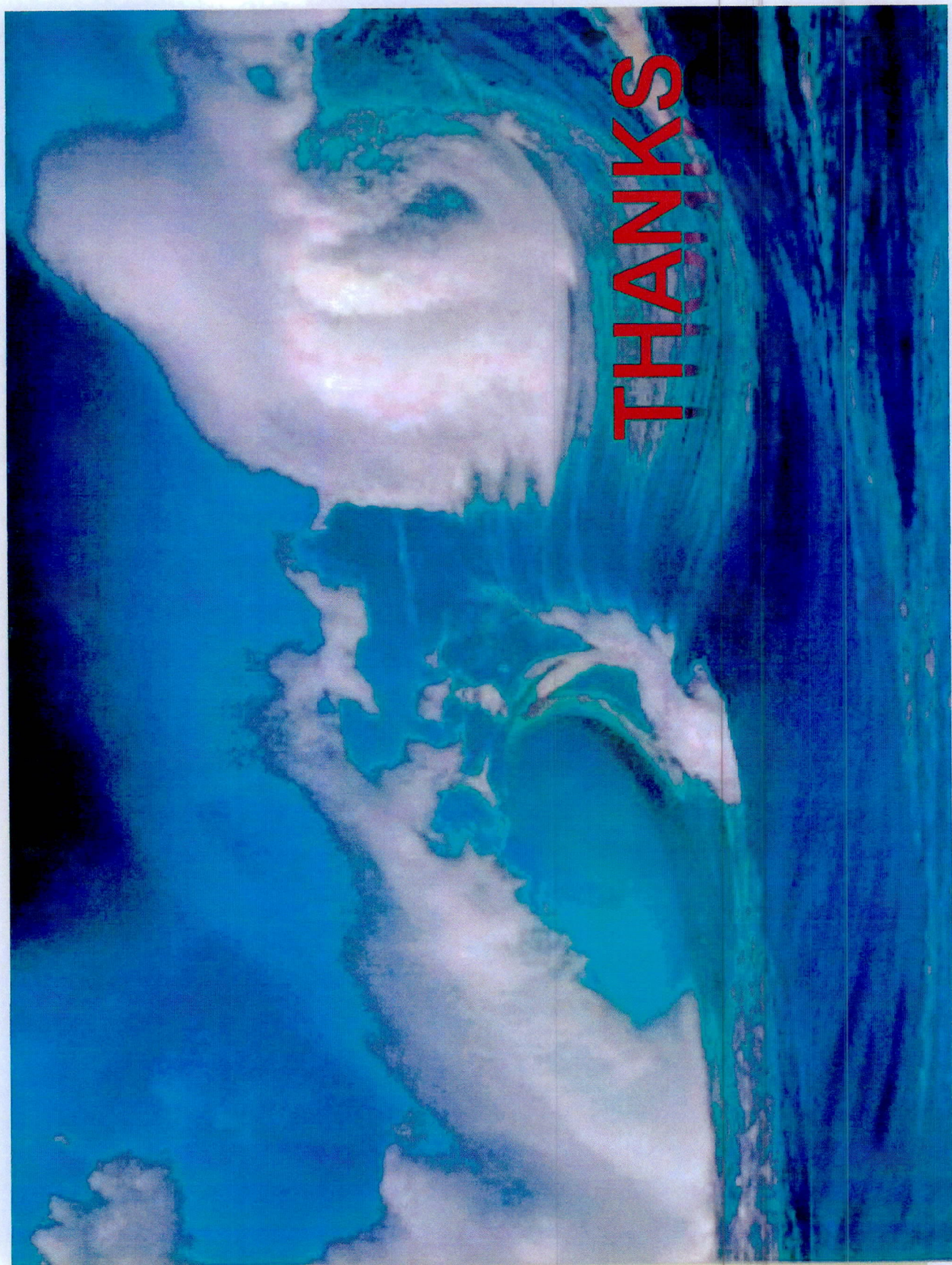
~~Natural
return~~



Summary: expected benefits

- O The above described advantages of food production**
- O Carbon credit**
- O Nutrient Trading Credit (NTC)**
- O Diverse industrial products**
- O Bio-filtration systems for coastal-water upgrade**
- O Source for coral reef restoration**
- O Potential biofuel production**
- O Sustainable aquaculture modules as alternative livelihood**

THANKS



MEMORANDUM OF AGREEMENT

KNOW ALL MEN BY THESE PRESENTS:

This Memorandum of Agreement is made and executed by and between:

The **DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES**, a national government agency with principal office at DENR Building, Visayas Avenue, Quezon City, represented herein by its Secretary, **Maria Antonia Yulo-Loyzaga**, hereinafter referred to as the "FIRST PARTY";

- and -

GREPOR B. BELGICA, of legal age, Filipino, and with office address at Suite 107 AIC Burgundy Empire Tower, ADB Avenue corner Garnet and Sapphire Roads, Ortigas Center, Pasig City, hereinafter referred to as "SECOND PARTY".

WITNESSETH: *That-*

WHEREAS, the FIRST PARTY has jurisdiction over the administration and management of foreshore lands located in the municipalities of Calapan and Puerto Galera, Province of Oriental Mindoro;

WHEREAS, SECOND PARTY intends to engage in an integrated environmental project that will promote the protection and restoration of ecosystems in Calapan and Puerto Galera;

WHEREAS, FIRST PARTY and SECOND PARTY are one in the objective of preserving, protecting, enhancing and developing the ecosystem in Calapan and Puerto Galera and its surrounding municipalities;

WHEREAS, FIRST PARTY and SECOND PARTY jointly aim to undertake the restoration and protection of the ecosystems;

NOW THEREFORE, the parties commit to pool their resources together towards the protection, preservation, enhancement and development of the ecosystem of municipalities of Calapan and Puerto Galera, Province of Oriental Mindoro and agree as follows:

1. To jointly and exclusively cooperate, coordinate, and implement an integrated environmental project in foreshore lands situated in _____ Calapan and _____ Puerto Galera and with an approximate area of 33,021 square meters and 3,692 square meters respectively with the objective of preserving, protecting, enhancing and developing the said foreshore lands and its surrounding communities;

2. To set up overall management of the project which shall be under a structure where guidance shall be provided by FIRST PARTY. A Project Manager shall be assigned by FIRST PARTY to ensure that all laws and regulations are complied with by SECOND PARTY.

3. SECOND PARTY shall be the Overall Project Manager of the project and shall continue to be so far as long as there is no neglect or violation of this agreement, FIRST PARTY shall immediately undertake necessary steps to realize this. It is agreed that day-today matters, unless otherwise specified and objected to by FIRST PARTY, shall be within the control and authority of the Overall Project Manager;

4. The Overall Project Manager shall be responsible for the day-to-day operations of the project, which is broken down into two:

- a. CALAPAN PROJECT – Sewage treatment, flood prevention management and sustainable fishery yields.
- b. PUERTO GALERA PROJECT – Restoration management, sewage treatment, regenerative and precise agriculture, water management, rain harvesting, groundwater recharge, stormwater control, and sustainable aquaculture.

SECOND PARTY shall plan, finance, implement and manage the environmental project without cost to the government. The vision, operating procedure, development and restoration plan may only be substituted upon consultation and consent of SECOND PARTY. There shall be full transparency on costs and earnings.

5. Authorized FIRST PARTY personnels shall have access to the areas where the environmental project will be conducted to undertake their duties and for purposes of monitoring and assistance in the development plan. SECOND PARTY, by this agreement, shall

also have the authority to initiate, monitor, coordinate, and otherwise take all action necessary to protect the areas subject to legal requirements;

6. The integrated environmental plan submitted by SECOND PARTY is made an integral part of this agreement. It constitutes protection, preservation, enhancement and development of the ecosystem of the municipalities of Calapan and Puerto Galera, Province of Oriental Mindoro that would also benefit the surrounding communities.

IN WITNESS WHEREOF, parties have hereunto signed this Memorandum of Agreement this __ day of _____ 2023 in _____.

Maria Antonia Yulo-Loyzaga

Secretary

Department of Environment and Natural Resources

Grepur B. Belgica

SIGNED IN THE PRESENCE OF:

REPUBLIC OF THE PHILIPPINES)
) S.S.

ACKNOWLEDGMENT

BEFORE ME, a Notary Public in and for _____
personally appeared the following persons with their respective
competent proof of identification, as follows:

Name	Identity Card	Issued on/Issued at
Maria Antonia Yulo-Loyzaga		
Grepur B. Belgica		

who presented to me a document known as *Memorandum of Agreement*, consisting of four (4) pages including this page, who are identified by me through competent evidence of identity, and who signed the same in my presence and who acknowledged to me that the same is their free and voluntary act and deed.

WITNESS MY HAND and SEAL this __ day of _____ 2023 in
_____.

NOTARY PUBLIC

Doc. No. ____;
Page No. ____;
Book No. ____;
Series of 2023.