ENVIRONMENTAL MONITORING AND MODELLING TOWARDS SUSTAINABLE AQUACULTURE DEVELOPMENT (AQUAPARK)

Norad funded project

CONCEPT OF MARIPARK
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INTRODUCTION

DEFINITION:

Mariculture Park in the Philippines

- **an integrated business approach in aquaculture which has been adopted and promoted by the Bureau of Fisheries and Aquatic Resources (BFAR) in partnership with the private and public sectors.**

- **The concept of the Mariculture Park is patterned after the development of an industrial estate in the sea, wherein aquaculture plots are leased to investors/aquaculture farmers and infrastructure (mooring systems, navigation lanes and docking areas), utilities (support facilities) and technical services are provided by the government**

MAJOR GOALS:

- **to ensure food security**
- **create livelihood opportunities for coastal communities.**

(Source: Adora, unpublished).

FEATURES OF A MARICULTURE PARK

- Mariculture park development follows a pro-environment outlook; it is also a valuable tool for coastal resources management.

- In the mariculture park, the government sustainably manages the activities by: regulating the number and sizes of cages and other structures.

- The management of mariculture parks is ecosystem-based and takes into consideration the ecological, social, economic and institutional aspects of development (Adora, unpublished).

Features of a mariculture park, continued

- A Mariculture Park creates an enabling environment wherein aquaculture farmers can operate their farms securely, cost-effectively and sustainably with the integration of support systems vital to the success of investments, such as: technically skilled workforce and service providers, accessible and available sources of input, markets, financing facilities and; infrastructure (hatcheries, ice plant and cold storage, pier, laboratories, transport facilities)
- responsive governance.
- The industry support systems extends throughout the whole supply value chain. (Adora, unpublished).

EXPECTATIONS FROM MARICULTURE PARK

- Developing mariculture park networks is part of BFAR's master plan to:
  - promote the propagation of high-value species (e.g. particularly groupers, sea urchin and abalone.
  - create more livelihood opportunities and increase the fishermen's income
- BFAR envisions these mariculture parks as networks serving as trading posts for high-value fisheries, which will enable vessels with 'live wells' to ply nautical highways to pick up live fish enroute to local and international markets (Sarmiento).

STATUS OF MARIPARK

- As of April 2010 (BFAR Annual Report 2010), there were 50MPs in the country located in strategic places (An increase of 4 MPs from 46 in November 2009)

- The target number of MPs in the Philippines is 79

- *Classification of MPS based on FOO 74*

  - *Class A : Presence of favorable locational factos*

  - *Class B : With high potential of/on-going process of achieving ideal locational factors*
  - *Class C : With high potential of achieving ideal locational factors*

  - *Class D : MPs that are completely dormant*

EXAMPLE OF A MARIPARK

Panabo City Mariculture Park (PCMP)

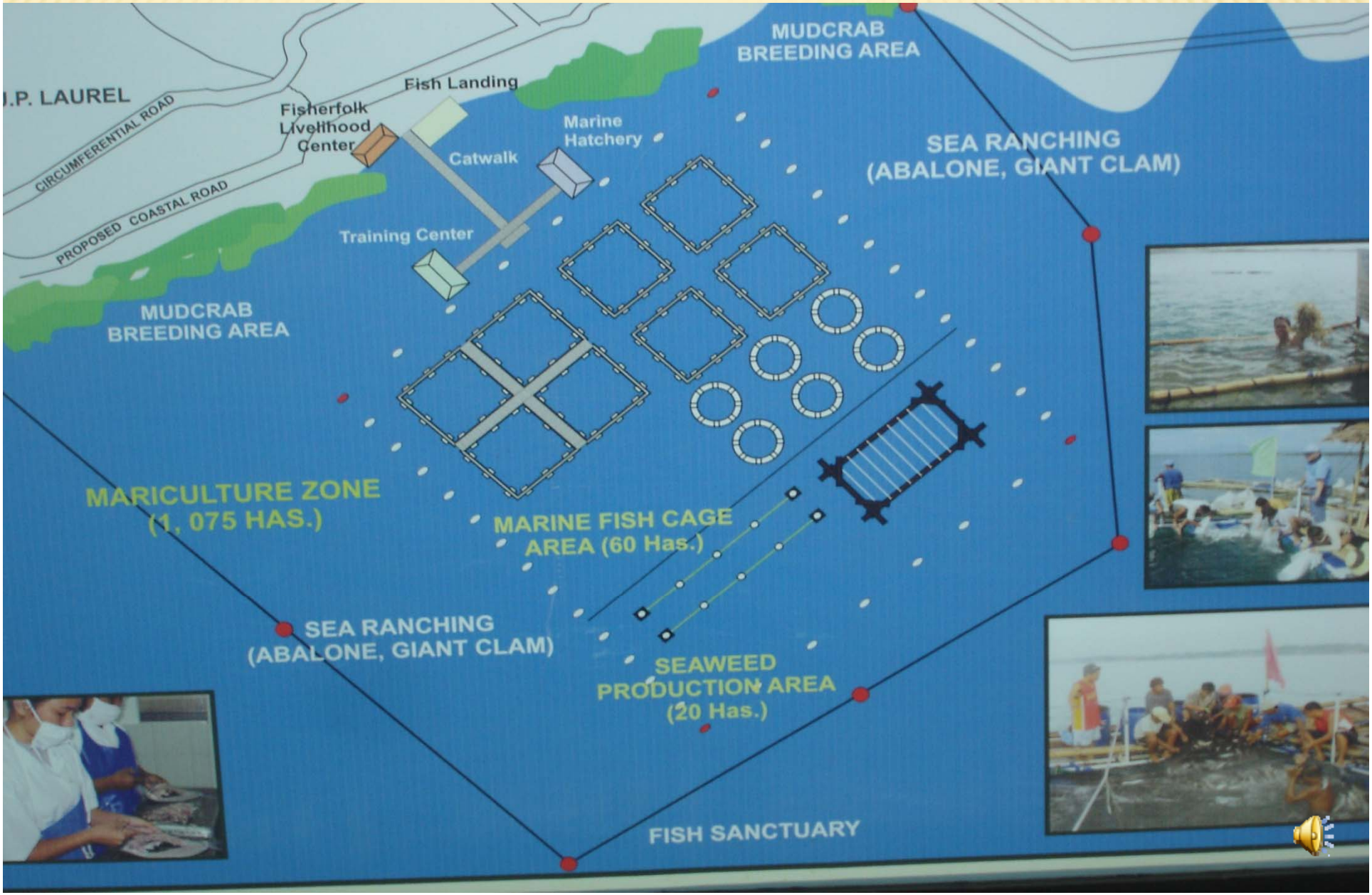
PANABO CITY MARICULTURE PARK

TOTAL Area 1,075 hectares
covering 3 coastal barangays: San Pedro, Cagangohan & J.P. Laurel
Legal Basis: Ordinance No. 02-06

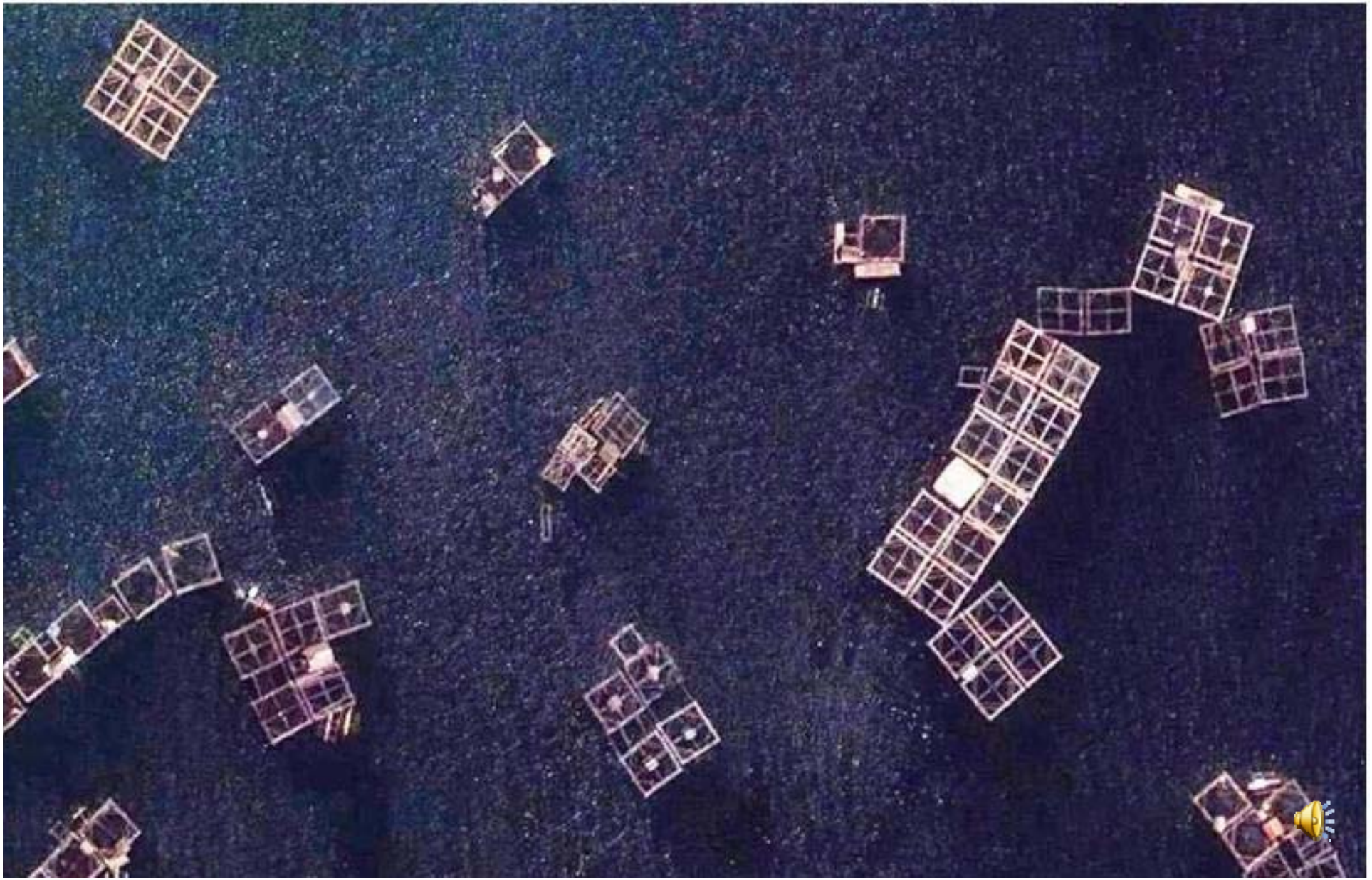
60 hectares - - - - - - - - - for marine fish cages
20 hectares - - - - - - - for seaweeds-

- The Mariculture Park is projected to produce:
  - different finfishes for sea cage farming (milk fish, siganid, grouper, red snapper)
  - Seaweeds
  - Shell fishes (mussel, oysters)
  - Other high-valued species (lobsters, seahorses, etc.)
- Allocate areas for coral reef and sea grasses
- Identify areas for aquasilviculture activities

LAYOUT PLAN OF PCMP



PORTION OF THE PANABO CITY MARICULTURE PARK



PANABO CITY MARICULTURE PARK

STATUS:

- More investors are coming in and venturing on mariculture production with the continued development of Panabo Mariculture Park. Among the investors are: Japanese, Ecuadorian, and Taiwanese businessmen

- the park is located in Barangay J.P. Laurel, Cagangohan, and San Pedro (Panabo City)
- Opened in 2006, this joint project of the Department of Agriculture, Bureau of Fisheries and Aquatic Resources (BFAR), the Panabo local government, and the Province of Davao del Norte, has shown sustainability.

- For more than three years now, the mariculture park continues to contribute food security especially to Mindanao provinces, job employment, increased fish stocks in the coastal-marine waters, and to the promotion of ecotourism development.

PANABO CITY MARICULTURE PARK STATUS, continued

- From 2006 to 2008, the Panabo Mariculture Park catered to more than 400 cages for fish and areas for seaweeds culture.

- From January to July 2008 with 65 cages only, the Mariculture Park generated 103.28 MT of fishes amounting to Php 9.17 million and contributed around Php 36 million worth of investments in the city.

PROJECT/PROGRAM BENEFICIARIES

MARGINALIZED GROUP

- **Cooperatives**
  - **Agricultural Cooperatives (Bien coop)- self-finance - 1 unit**
  - **Agrarian Reform Beneficiaries (DARBCO)- self-finance 1 unit**
- **Women organization(KABIAC)- DIDP funded project 1 unit**
- **Out-of-school Youth (Caretaker's Assn)- BFAR funded 1 unit**
- **FARMC/Bantay Dagat – ----------(BFAR funded 1 unit**
- **Fisherfolk Families and Organization/associations- 10 units BFAR/LGU finance**
- **Panabo Coastal Schools-Coastal Resource Management (CRM)- DepEd/BFAR/LGU funded 2 units**

PROJECT/PROGRAM BENEFICIARIES, CONTINUED

B. PRIVATE INVESTORS*

1. Small/Medium-scale businessmen (self finance)- - 90 units
2. Civic Organization – (group finance)- - - - - - - - - 8 units
3. Medical practitioners – (self-finance) - - - - - - - - 30 units
4. ACES Polytechnic College – (self-finance) - - - - 8 units

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- *Local and foreign investors*

➢Activities of the private investor group will more of the business.

FROM EMMA1

Following the success of EMMA1, significant information from the different aquaculture systems were generated and relevant recommendations have been made as foillows:

- **Reduction of nutrient output by improving food conversion rate**
- **Utilisation of nutrients from fish production by extractive species such as oysters in marine and brackish water and hydroponics in freshwater**
- ***Zoning of aquaculture into areas away from sensitive habitats and within carrying capacity of that zone***
- ***Farm management and planning solutions to reduce benthic impact***

(Draft Final Report:Environmental Monitoring and modelling of aquaculture in risk areas of the Philippines (EMMA2007).


THANK YOU