

Developing capacity in the Ecosystem Approach to Aquaculture Management (EAAM)

Moving towards EAA Case study



Module objectives



After this session you will be able to:

- Describe a case study from another country that demonstrates EAAM;
- Determine where Myanmar is at in moving towards EAAM;
- Identify challenges Myanmar faces in moving towards EAAM.

CASE STUDY

The Estero Real watershed in Nicaragua

This session will discuss how.

- The government and local institutions address aquaculture development in a natural reserve
- How the plan balanced aquaculture with fishery and targeted the reduction of the impact on fishery
- How this helped to by-pass some of the main issues and to reduce stakeholder conflict.



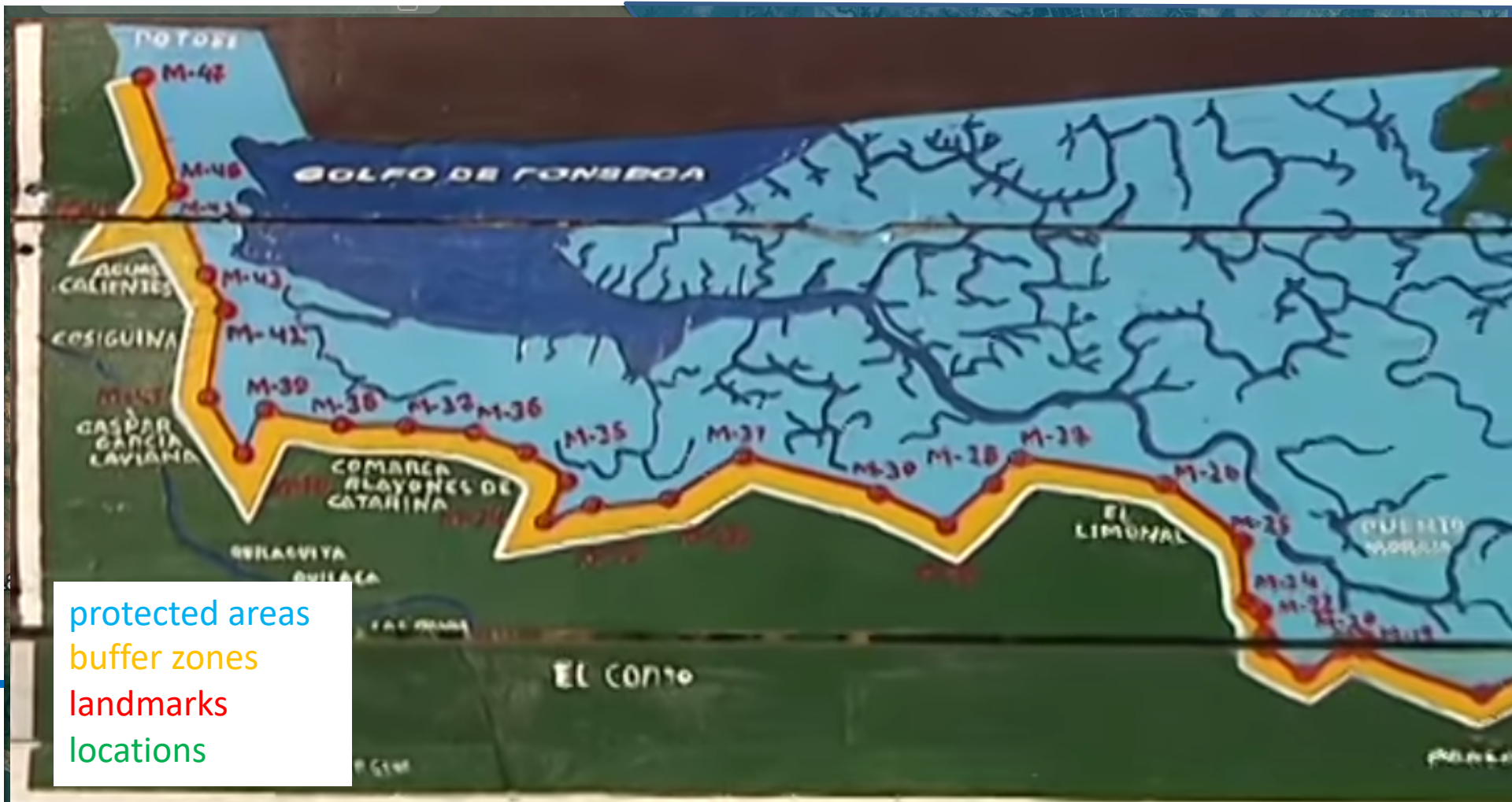
Background

The Delta of the Estero Real Natural Reserve (RENAPRODER), was established by the Government of Nicaragua in 1983



Background

It has an extension of 84,759.82 ha and a buffer zone of 64,570.12 ha



Background



The Estero Real Delta is strategic for Nicaragua. It contributes for the country's economy with foreign exchange, employment and food. Numerous activities in agriculture, forestry, fishing, and in particular shrimp farming, which has its main area of concentration and growth there.

1984

12/1984

1992

12/1992

1998

12/1998

2006

12/2006

2012

12/2012

2016

12/2016

Potosí

Cosiguina

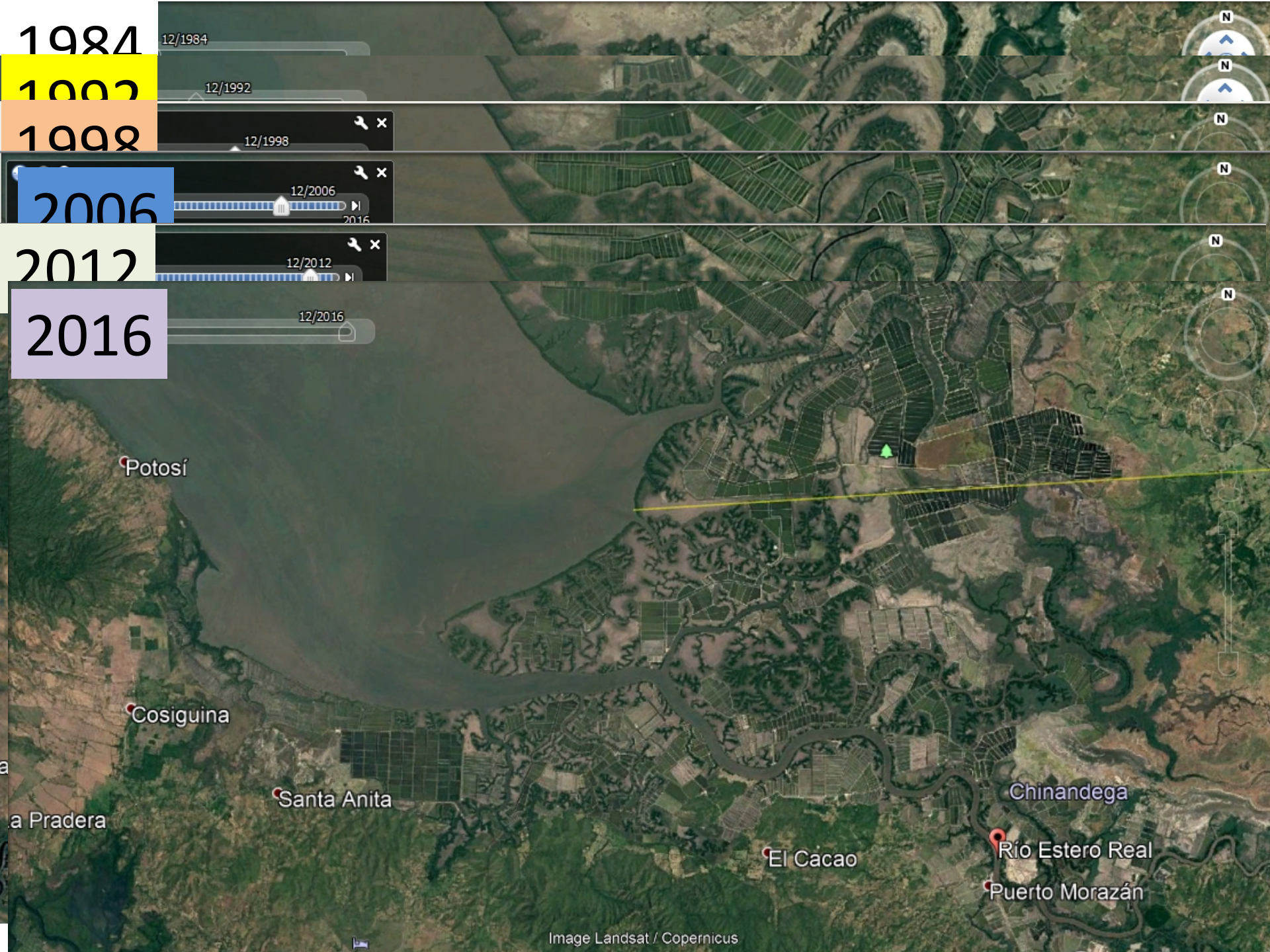
Santa Anita

El Cacao

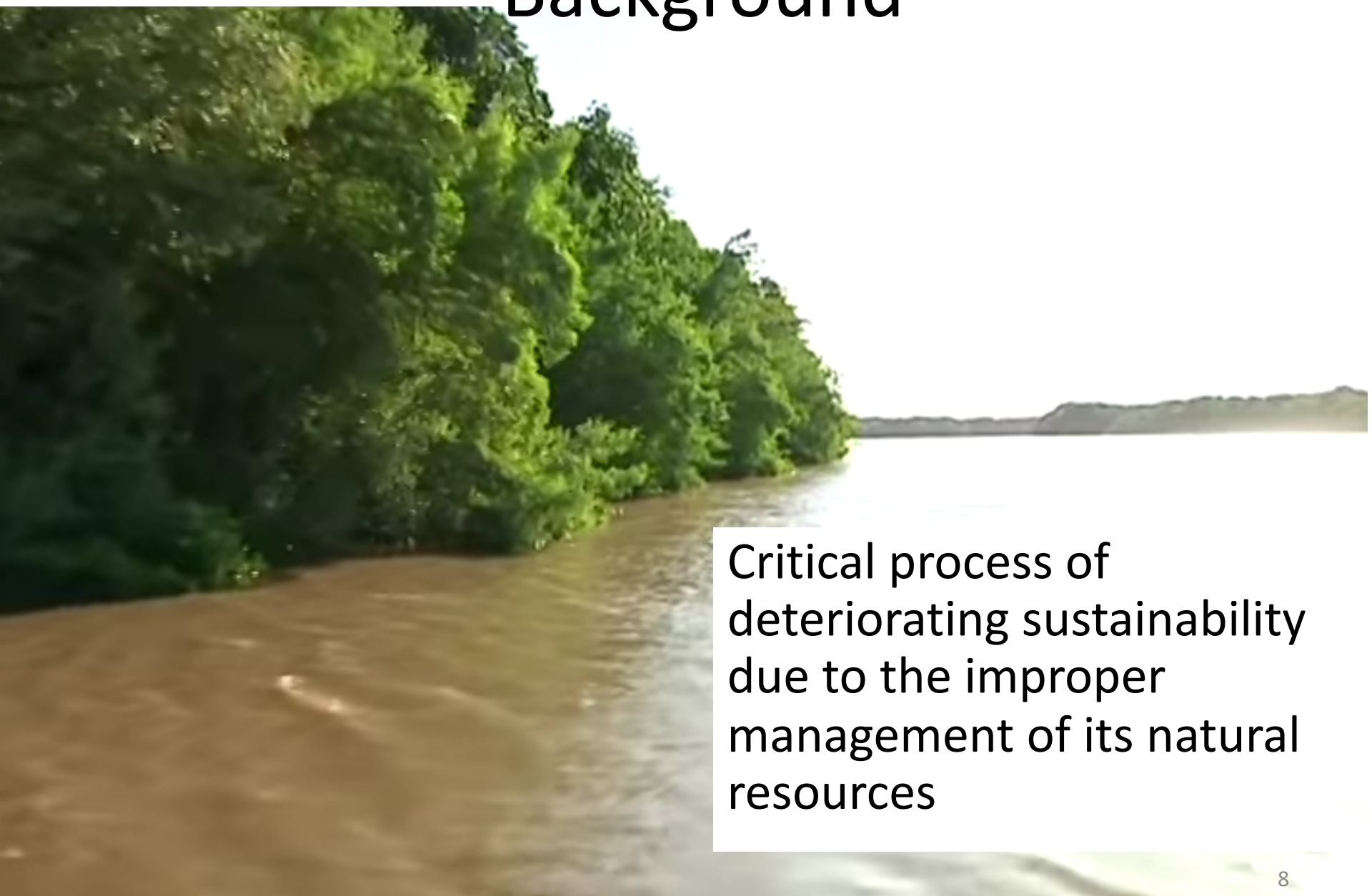
Chinandega

Río Estero Real

Puerto Morazán



Background

A photograph of a river with a dense forest on the left bank and a distant shoreline in the background. The water is brown and turbulent, suggesting a flood or high discharge. The forest is lush green, and the sky is bright and overcast.

Critical process of deteriorating sustainability due to the improper management of its natural resources

Timeline

- 1983 The Delta of the Estero Real Nature Reserve (RENAPRODER) was established by the Government of Nicaragua
- 2001 policy guidelines for the sustainable use of Fisheries and Aquacultures resources approved by Decree No.100-2001
- 2003 recognition of RENAPRODER as a "Wetland of International Importance" by the Convention
- 2006 approval of the "Nature Reserve Protected Area Management Plan of the Estero Real Delta" (MARENA)
- 2007 National Fisheries and Aquaculture Plan
- 2006-2012 booming of farmed shrimp growth by 124.3%
- 2009 Support of FAO for the formulation of a strategy to ensure the sustainability of the fisheries and aquaculture sector
- National Human Development Plan (2012-2016) (PNDH)
 - achieve economic growth with the creation of jobs to overcome poverty and inequality - # the transfer of technology
 - # the facilitation of associative forms of organization

Stakeholders



Big-medium size farmers
Vertically integrated but
oligo/monopolistic



Small scale fishermen



**Small scale aqua-
farmers**

Highly vulnerable, acute livelihood scarcity



**Small scale
agriculture farmers**



Part time fishermen

(authorized) they have
other sources of income

Issues

- **lack of funding** in small-scale cooperative sector dedicated to shrimp farming
- Farmers are engaged in **catching of juvenile shrimp** due to lack of funding
- **Competition with fishermen** on same resources → great pressure to fish and shrimps
- **incapacity to meet demand** (undersized product)
- **technical deficiencies**
- difficulties of taking advantage of adding-value **processing activities**
- **poor business management capacity**



Issues

- Declining wild population
 - pollution from intensive aquaculture
 - Agriculture run-off
 - illegal fishing from neighbouring country
- lack of other income options
- Use of dangerous shrimp nets, although legally prohibited
- collapse of the offshore shrimp fishery and reduction of coastal artisanal fishing
- Acknowledgement of the damages of such fishery practices by people but no other choices.



Positive facts

- Highly integrated big-medium farms (BMF)
- BMF well inserted into the global market
- employment opportunities for local people in processing facilities



Definition of the boundaries

- Territorial definition of the ecosystem within the Delta of the Estero Real Nature Reserve (RENAPRODER)



Consultation and participation

Commitment since the early stage of the plan

- Regular consultation sessions with potential program participants facilitating their involvement in the design and implementation phases.
- awareness-raising campaigns about the objectives of the project and its components from the earliest stages of its design



Overall Goal

Improving the socio-economic and cultural conditions of life of artisanal fishermen and farmers by expanding their options and capabilities to promote well-being through the friendly and sustainable use of natural resources

1. Reconversion Programme
to sustainable shrimp farming.
non-aquaculture activities for
sustainable development.
small farmers cooperatives

2. Strengthen
the Local Management
Committee (CLM) and the
inter-agency commitments

3. Policies
policies and actions for
environmental
conservation and
sustainable exploitation

**specific
goals**

5. Empowerment
Empowerment
communities on protection
and conservation

4. Capacity building
Training and technical to
cooperatives and Farmers

Operational objective

- Zeroing the number of shrimp nets operating in the Estero Real.



A) identification of participants, and design the mechanisms for participation and consultation

Activities:

1. Identification of groups, communities and individuals to be included in the conversion program.
2. Definition of incentives, linked to micro-enterprises
3. Criteria for legally constituted artisanal fishermen cooperatives
4. Allocation mechanism (licenses and lease of unused areas) for shrimp, fish and mollusk farming



SME



B) Measures to Identify Alternative Livelihood Activities for Women who will stop using shrimp nets

Activities:

- Developing an incentive program for micro-enterprises in available areas for fishermen's to develop small-scale aquaculture.



B) Measures to Identify Alternative Livelihood Activities for Women who will stop using shrimp nets

Alternative livelihood activities:

Ecotourism

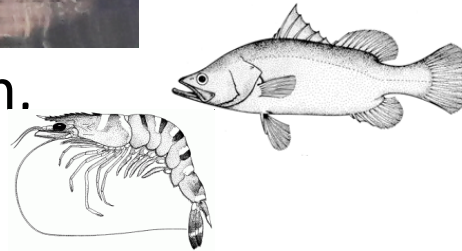
Reforestation of mangroves



Honey production



Small-scale culture of fish, shrimp and bivalves



Agriculture



Development of artisanal fishing



Waste management

bakeries



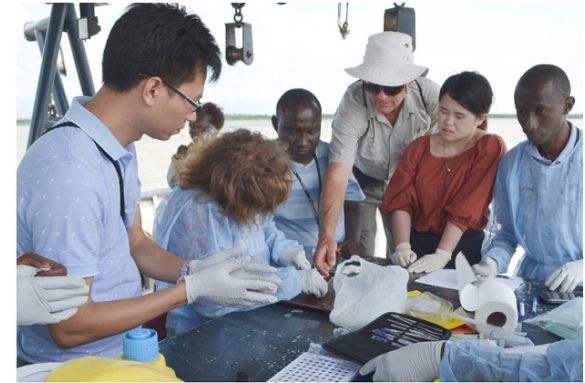
Sewing shops



C) Administrative, legal and institutional measures

Activities:

- technical assistance and training packages on good practice and management of small-scale aquaculture, fisheries and other small initiatives.
- Support for marketing and market access for small aquaculture farms and the supply of seed processing laboratories.
- Negotiating agreements with the semi-intensive and intensive shrimp farming sector.



D) Administrative, legal and institutional measures

Implementation of existing legislation prohibiting the use of the shrimp nets

Activities:

- monitoring, surveillance and control, registry



Strengthening the Local Management Committee (CLM) to ensure adequate institutional support in the implementation of the program

Activities:

- Competence building
- Staff
- Legal and institutional framework



F) Funding measures

Activities:

Development financial services for small-scale farming activities



Action Plan

Strategic Objective	Objective	Action
Withdrawal of the shrimp nets	Selection of Beneficiaries	Review log
		Defining accurately the fishermen who will join
		Define criteria for withdrawal: incentives, payments, compensation, others
Organization Development	Selection of Organization type (individual, collective, cooperative)	Review socioeconomic data
		Defining with the beneficiaries the modality of intervention of the Program
		Legalizing organized groups



Action Plan

Strategic Objective	Objective	Action
Technical Assistance and Training	Comprehensive training	Shrimp farm management
		Business management
		Good aquaculture practices
		Post-harvest handling
		Organization and leadership
Development of alternatives of production and employment generation	Development of Productive Capabilities	Define the size of the investment (infrastructure, supplies, jobs, equipment and machinery) Define the Financing ways
		Making agreements between producers, government companies
	Define conversion alternatives	How many in cultivation How many in processing or in the value chain
		How many in no-aquaculture activities



Action Plan

Strategic Objective	Objective	Action
Institutional Arrangements	Conforming an executing committee	Define members and institutions and their Responsibility
		Develop operation manual
		Regulations
		Developing the operational plan for the operational body
	Empowerment of the collaborative management as an instrument of management for the areas that will be given in use	Document disclosure
		Agreement signature
	Allocation of areas	Distribution of areas according to the size of the organized groups
		Develop business plans for each group with their respective cadastral plans and environmental management plans
		Facilitate the rights to use the area (convention, others)



Indicators

- Percentage of shrimp farms (small, medium and large that apply good Aquaculture Practices.
- Percentage of the tax payment of concessions in semi-intensive shrimp farming systems.
- Percentage increase in labour in semi-intensive shrimp farming systems.
- Percentage of artisanal fishermen who have abandoned nets and engaged in alternative economic activities.
- Number of stakeholders regularly involved in meetings of the Collaborative Fisheries and Aquaculture Management Committee with Focus on Ecosystem of the Protected Area of the Natural Reserve



Activity 9: how much EAAM are you already doing?

- Each group receives a card that displays one EAAM principle (some groups may have to consider two principles).
- In groups, discuss and score where you think Myanmar is along the continuum 0-5 for each principle.

→ See next slide



Activity 9: how much EAAM are you already doing?

EAAM principles	05
1. Good governance>
2. Appropriate scales>
3. Increased participation>
4. Multiple objectives>
5. Cooperation and coordination>
6. Adaptive management>
7. Precautionary approach>



Activity 10: Challenges and Opportunities

- Identify the challenges Myanmar might face in moving towards EAAM
- Write each challenge on a card. (ONE challenge per card)
- Now identify opportunities Myanmar may have in moving towards EAAM (and in meeting the above challenges).
- Write each opportunity on a separate card



Essential EAAM

To download all materials please visit:

