



Climate Smart Aquaculture

FishAdapt

Objectives of the project

Assists government to enable stakeholders to adapt to climate change by understanding and reducing vulnerabilities, piloting new practices and technologies, and sharing information

Key areas

- Strengthening regulatory frameworks
- Adaptive capacity
- Fisheries co-management
- Integrated mangrove with fisheries and aquaculture
- Inland fisheries and small-scale aquaculture
- Land and resource tenure

Effects of climate change

- Uncertain rainfall
- Droughts
- Increased temperatures
- Storms severity
- Storms frequency
- Flooding
- Sea level rise
- Salt inclusion in river and agricultural lands

Effects on aquaculture

- Reduced productivity
- Water seasonality
- Increased mortality
- Increased diseases
- Destruction of farm dikes by stronger storms
- Loss of animals for flooding
- Loss of habitats for animals

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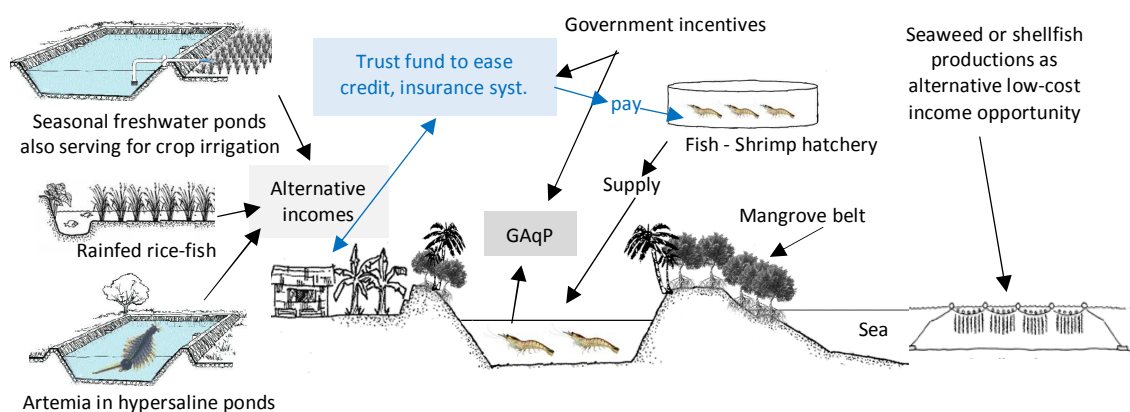
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Integrate aquaculture with mangrove conservation

The conservation of mangroves should follow specific code of practices that target the conservation of large areas of forest to maintain functioning ecosystem services and livelihoods in local communities. Coordination between sectors is essential to secure good governance, consistent policies and to define areas of economic development given biophysical data and communities' needs. Restoration of green belts on coasts should be implemented in coastal areas for protection and waste bio-remediation. No-use mangrove areas should be kept, but sustainable aquaculture should be favoured in mangrove conservation areas, also by means of incentives-disincentives to favour the adoption of Good Aquaculture Practices (GAqP).

Pressure on mangroves is likely caused by very low yields obtained by trap and hold systems: 10-20kg/acre of shrimp per year are equivalent to only 500-1,000 shrimps. Losses are also seen due to dyke breakages or overflow during storms and mortality due to high temperatures. Low yields would push farmers to clear more forests to produce more. Reinforce dykes and improving shadow with mangroves would increase forest areas and raise productivity.

However, comprehensive and cross-sectorial environmental approaches (EAs) should plan and implement strategies to support livelihoods without impacting the environment. Increased forest coverage should go together with the supply of affordable shrimp larvae to increase densities and yields (from 0.2 to 1-5 larvae/m²), incomes from alternative jobs, trust funds to support credit needs but also to serve as insurance, co-management.



Comprehensive EAs from communities to plan holistic and sustainable ecosystems

What is needed?

- Communities EAs and coordination within MoALI departments (DoF, DoA) and other concerned ministries (Forestry, land) to develop holistic plans at local level
- Technical support to develop alternative livelihoods & sustain shrimp supply chain
- Coordination for allocation of state budget and international cooperation funds
- Creation of trust fund for credit access, interests used to build disaster relief funds