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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Aquaculture can improve water use for agriculture

Climate change is a universal and critical challenge for global food security. Rain uncertainty and increased frequency of droughts will have direct and negative impacts on crops, livestock, forestry and aquaculture productivity.

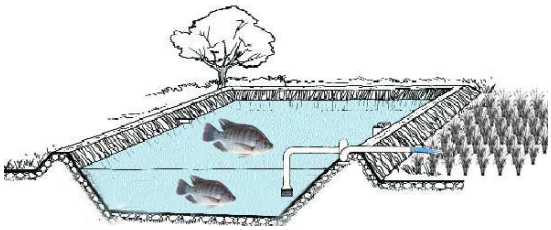
Aquaculture can give a great support to food security by storing water during the monsoon and supplying water to crops during the dry season.

The most effective strategies to address water scarcity is to:

- Store water in deep ponds
- Utilize the irrigation water for multiple uses, such as aquaculture and agriculture

Benefits

- Two crops (fish and plants) with the same water
- Increased productivity by farming plants during the whole dry season
- Additional income from fish
- Increased nutrition in households
- Water for household use
- Fish wastes used for fertilization
- Improved productivity and biosecurity by drying and sterilize ponds sediments under the sun

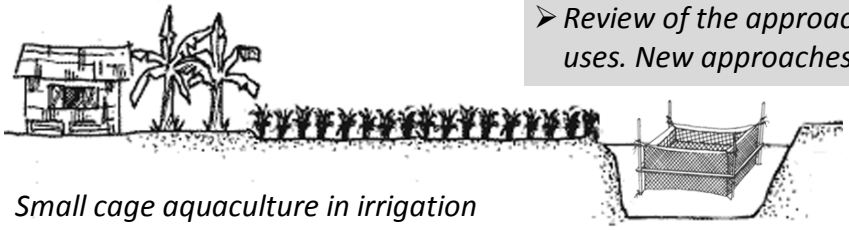


Deep fish ponds can be used as reservoirs to supply water to crops

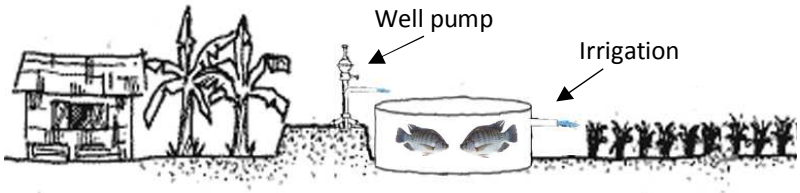
Ponds for combined aquaculture and water storage should not be seen competitive, but supportive to agriculture.

What is needed?

- *Coordination between departments and ministries to coordinate synergic planning at central and local levels*
- *Review of the approaches in land uses. New approaches in the laws*



Small cage aquaculture in irrigation canals does not consume any water for crops, but increases income opportunities for farmers and livelihoods in landless people



Large tanks collecting water from wells could be used to farm fish and to irrigate crops with fertilized water from fish

Food and Agriculture Organization of the United Nations

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