Integrated Planning Project
Vietnam

UNFCC COP
Bonn
2017
The project focuses on the Mekong Delta as a key case study of a region subject to intensive development pressures that have ignored the biodiversity conservation and climate change adaptation objectives of the government.
Lessons Learnt

• Integrated planning approaches involving inter-sectoral and inter-provincial coordination are key to achieving conservation and climate resilient outcomes in large landscapes such as floodplains that cross multiple jurisdictional boundaries.

• Nature-based solutions, such as flood-based agriculture, can address the multiple objectives of biodiversity conservation and climate resilience building, while gaining widespread community support through more profitable land uses.
Between 2000 and 2011, high dyke building for rice production has reduced the total flood storage by half, from 9.2 billion m$^3$ to 4.7 billion m$^3$.

This floodplain loss has led to increased climate risks and the loss of biodiversity.

Inter-provincial impacts were not considered.
The 2011 Flood Emergency

The 2011 Flood Emergency
• The last extreme flood in 2011 increased the total flood area by 1/3 that of the last extreme flood in 2000 when river flows were higher
• Polder failures, crop loss, and increased downstream flood damage resulted

Flood projections in next 25 years (ICEM, 2013)
• The variability of the Mekong flood pulse will increase with climate change. Annual maximum daily flows will increase by two orders of magnitude and greater, reaching an increase of close to 10,000 m$^3$/s

Emergency work to save a failing rice polder during the 2011 flood

The downstream city of Can Tho incurred an additional US$ 3 million to US$ 11 million in flood damages during the 2011 flood

Video
Biodiversity Loss

- Less than 5% of the Mekong Delta is protected
- No coordination between sectors charged with biodiversity conservation and agriculture/irrigation
- The total floodplain loss between 2000 and 2011 was 150,000 ha, an equivalent reduction in habitat area for aquatic species and water birds
- The resulting economic loss in the wild fisheries was US$150 million
Project Interventions

1. High-level dialogues to generate political consensus to change the rice policy in order to open up the possibility for alternative land uses that did not focus on the third rice crop and the need for high dykes.

2. Support for new inter-provincial and inter-sectoral planning processes in order to address climate issues at a sub-regional scale that considers the whole floodplain and its ecosystem functions.

3. Contributing to a strategy to restore the Mekong Delta floodplain functions and biodiversity through viable flood-retention land uses that are supported by farmers.
1. High Level Dialogues

- Supported 3 Forums, the first in February 2015, a second in June 2016, and a third in September 2017
- The project facilitated evidence-based debate on:
  - the need to adopt less-costly no-regret nature-based approaches to adapt to climate change
  - the need to move away from rice intensification and to revise the rice policy
  - policies and capacity for integrated and regionally coordinated planning in the Mekong Delta
- The 3rd Forum produced a government resolution that recognised project advocated solutions and results, including reducing rice growing area, restoring the flood plains through inter-provincial planning, and adopting nature based solutions to adapt to climate change

2nd Mekong Delta Forum, June 2016, opened by the Prime Minister

3rd Mekong Delta Forum, Sept 2017, chaired by the Prime Minister
2. Inter-Provincial and Inter-Sectoral Planning

- Under a pilot Prime Minister Decision, the project assisted the 3 provinces of the Plain of Reeds (PoR) and 4 provinces of the Long Xuyen Quadrangle (LXQ) to develop sub-regional and inter-sectoral plans that take into account climate change and biodiversity objectives.

**Outcomes**

- a 10 year transition away from the third rice crop into flood-based agriculture as a nature based solution
- Objective to restore the natural flood absorption functions of the PoR and LXQ to reduce flood risks
- Long term plan to nominate the PoR as a UNESCO Biosphere Reserve
- Fully implemented, the initiative represents a large scale ecosystem restoration and connectivity outcome for almost 700,000 ha of intensively used agricultural land in the PoR and 650,000 ha in the LXQ.
3. A Flood Retention (Land-Use) Strategy for the Mekong Delta

- A central focus of the strategy involves the development of feasible diversified flood-based livelihood models that are financially attractive to farmers.
- Farmer acceptance of these flood retention livelihoods is largely dependent on their profitability.
- Project studies have identified a number of alternative flood-based farming systems. These farming systems, which are based on existing small-scale farmer initiatives include:
  - Lotus farming systems
  - Floating rice systems
  - Rice-aquaculture systems
- All of the above farming systems produce higher profits in comparison to triple rice cropping systems.
3. Farmer Supported Flood Retention Land Uses

• Project Demonstration
  • 150 ha of rice growing area presently currently being converted to flood and drought resilient lotus farming area as a nature based solution to absorb the floods
Demonstration – Thap Muoi District, Dong Thap Province

- Rice policy no longer a barrier to alternative land use considerations
- District Land Use Plan being updated to include biodiversity and climate change objectives by increasing area of lotus farming and other flood-based livelihoods
Lotus Farming Systems

- My Hoa Commune, Thap Muoi District
Lotus–Fish farming system
• Lotus Ecotourism
• Rice-Lotus
• Intensive lotus inside high dyke
Profiting from the Floods

- Lotus farming systems include lotus-rice, lotus-fish, intensive lotus, and lotus ecotourism. The profits of these systems range between 80 million VND/ha and 290 million VND/ha.

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<thead>
<tr>
<th></th>
<th>Triple Rice</th>
<th>Lotus-Rice</th>
<th>Intensive lotus</th>
<th>Lotus-fish</th>
<th>Lotus-Ecotourism</th>
</tr>
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<tbody>
<tr>
<td>Profit (mill VND/ha)</td>
<td>37.8</td>
<td>81</td>
<td>118</td>
<td>130</td>
<td>292</td>
</tr>
</tbody>
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- Project research shows that lotus farming can store 1,500 m³ of flood water per 1,000 m², which is more than double that of intensive rice cropping.

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<thead>
<tr>
<th></th>
<th>Triple rice</th>
<th>Lotus-fish</th>
<th>Intensive lotus + tourism</th>
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</thead>
<tbody>
<tr>
<td>Estimated flood retention (m³ per 1,000 m²)</td>
<td>700</td>
<td>1,500</td>
<td>1,500</td>
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</table>
“I strongly believe that the farmers in the high dike areas will be willing to convert to lotus farming models if the profit from lotus is higher than rice cultivation, so the flood retention strategy is a feasible target.

Of course, lotus farming can hold more water than rice cultivation. Therefore, it helps to regulate the environment better.

I think the lotus models can adapt with climate change impacts because it can deal with floods and droughts as well. Planting lotus produces higher incomes while it is better for the environment!”

Mr. Nguyen Ngoc Hon, a lotus farmer from the project site
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