

# Societal change with engagement of lotus-based farming in the context of climate change in the upper Mekong Delta



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## Background

- The Vietnamese Mekong Delta has been negatively affected by climate change. To respond to this challenge, the Mekong delta's agricultural structure has to always be turned into more adaptive forms. Amongst several livelihoods models that have been suggested by some studies, Flood-Based Farming system (FBFS) is considered as a typical adaptive livelihood option particularly in flood seasons.
- This paper opted Dong Thap province - a lowland province located in upper Mekong delta as case study, to explore how local people perceive this FBFS, especially lotus-based farming that has been emerged as a potential alternative for agriculture in upper Mekong delta and analyze how the society has changed with engagement of this model.

## Innovative livelihood model



Lotus-based farming includes: Intensive lotus, rice-lotus, fish-lotus and lotus ecotourism, is a good alternative livelihood in flood prone areas

Main characteristics:

- High adaptability (can survive even with lack of or exceeding water)
- No need of seed for the next generation
- Low cost but high benefit

## Methods

### Qualitative techniques

- Literature review:** on Flood based farming system literature and cost-benefit analysis
- In-depth interview:** 27 households in My Hoa and Tan Kieu communes, Thap Muoi district, Dong Thap province (who are under the lotus-farming project conducted by IUCN, Vietnam)

### Quantitative techniques

- Cost-benefit analysis:** this is a combined technique of both quantitative and qualitative, is used to estimate all cost involved and possible profits in monetary values, to be derived from an environmental service or, in this study, a specific type of livelihoods.

## Results of cost-benefit analysis on lotus cultivation compared to rice cultivation (in the year 2014)

(IUCN, 2015)

Type	CBA	Cost (in \$US)	Income (in \$US)	Profit (in \$US)
Rice crop 1		1,143	1,939	<b>796</b>
Rice crop 2		1,074	1,549	<b>475</b>
Rice crop 3		1,138	1,609	<b>471</b>
Lotus cultivation		800	2,300	<b>1,500</b>

## Results of qualitative analysis

The application of lotus-based farming at the research site started from 2001 and have made a positive societal change and local lives. 80% of respondents agree and have the desire to maintain and replicate lotus farming for their livelihoods

### Positive societal change

- Reduce soil degradation, create fluvial in soils
- Higher market price than rice
- Low risk of failure
- Creating regional value chain
- Create jobs, cultural and recreational values
- Better profits than any other types of cultivation due to its multi-functions

### Hindrances of the change

- Heavy job -> hard to find human labour (compulsory)
- Not yet regional consumption
- No support from government
- Recent serious disease
- Unpredictable flood (quickly come or quickly go)
- Biggest difficulty: unstable market price (high this year and very low next year)

## Discussion and conclusion

- Benefits gained from lotus-based farming is 3 times higher than rice (especially triple-rice crops), meanwhile the cost is much lower
- Lotus cultivation also limits environmental pollution and keeps ecological balance
- The biggest difficulty to maintain this model is the uncertainty of market and labor forces
- 80% of people agree and have the desire to maintain and replicate lotus farming for their livelihoods due to the positive societal changes.

## Main Reference

MDP. 2013. Mekong Delta Plan-Long-term vision and strategy for a safe, prosperous and sustainable delta. Prepared under the Strategic Partnership Arrangement on Climate Change Adaptation and Water Management between the Netherlands and Vietnam. Hanoi and Amersfoort.