

# **Fishery livelihoods and Adaptation under the threat of ecological uncertainties**

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## **Abstract**

Fishery in Ca Mau, Vietnam's most southern province in the Mekong Delta, plays locally an important role for human nutrition and has great potentials for export earnings. The overexploitation of inshore fishing resources is a major problem in Vietnam's coastal areas along the Mekong Delta. As a result, the Catch per Unit of Effort of small-scale fishing enterprises has decreased, undermining the sustainability of livelihoods of fishing families. The paper focuses on livelihoods' strategies and diversification in the context of overexploitation and exhaustion of near-shore resources in relation to fishery policies. The results show that overexploitation is unavoidable in near-shore waters because of the lack of enforcement of fishery regulations for offshore vessels and the limitation of alternative sources of income and opportunities for livelihood diversification for small-scale fishers. The present policies to prevent overexploitation need to be reconciled with livelihood sustainability and fishery management, resource conservation and socio-economic goals.

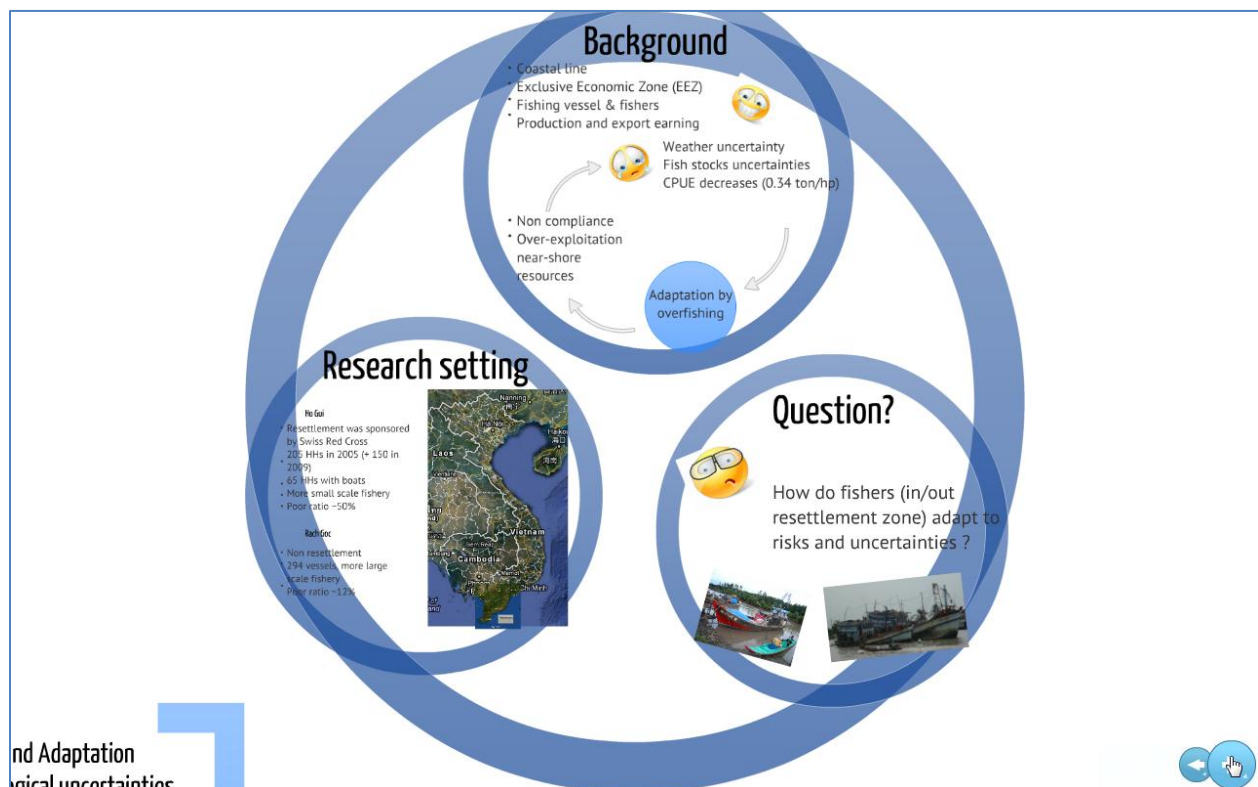
Key words: *livelihood, small-scale fishery, natural resource management, Mekong Delta, Vietnam, compliance*

# Fishery livelihoods and Adaptation under the threat of ecological uncertainties

Tran Thi Phung Ha, CTU

Climate Change and Human Mobility in the Mekong Delta:  
Strategies and Policies for Adaptation

CTU, 4-5 June 2012



# Background

- Coastal line
- Exclusive Economic Zone (EEZ)
- Fishing vessel & fishers
- Production and export earning



Weather uncertainty  
Fish stocks uncertainties  
CPUE decreases (0.34 ton/hp)

- Non compliance
- Over-exploitation near-shore resources

Adaptation by overfishing

Research setting



# Research setting

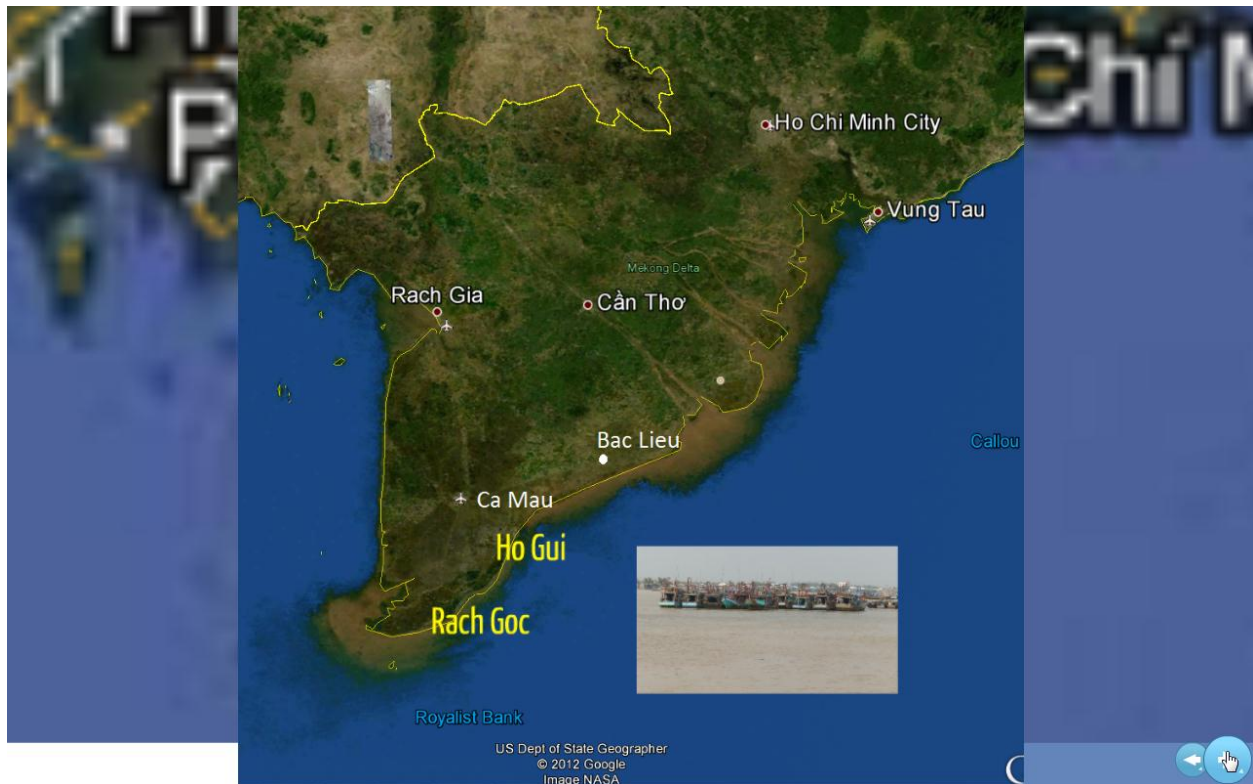
## Ho Gui

- Resettlement was sponsored by Swiss Red Cross
- 205 HHs in 2005 (+ 150 in 2009)
- 65 HHs with boats
- More small scale fishery
- Poor ratio ~50%

## Rach Goc

- Non resettlement
- 294 vessels, more large scale fishery
- Poor ratio ~12%





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## Question?



How do fishers (in/out resettlement zone) adapt to risks and uncertainties ?



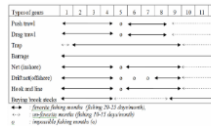


# Findings:

## Perceptions on risks and uncertainties

Risks	Ho-Gui	Rach-Goc
<b>Natural and environmental</b>		
- Fish stock decline	100	100
- Harsh weather	75	95
- Danger	50	81
<b>Social</b>		
- Few chances for upgrading skills and knowledge	100	100
- Conflicts with external boats for resource exploitation	75	80
- Few educational opportunities for children	50	81
- Few job opportunities	60	80
<b>Economical</b>		
- Lack of investment capital	100	100
- Increased gasoline costs	95	100
- Low price of fish	85	90

- Small scale fishers are under threat of risks and uncertainties
- They are "the poorest of the poor," and near-shore fishing is their "occupation of the last resort"
- They are accused for over exploitation and violation fishery regulations



Net income (VN\$1 mil.)	Ho-Gui (20)	Rach-Goc (21)	Significance
From fishing	53 + 12	43 + 56	
Non-fishing income	85	54 + 1	0.002

Income (million VN\$)	Poor	Middle	Well-off	Significance
Ho-Gui (20)				
Number of HHs	10	9	1	
Net income from fishing	21,132	34,13	50	
Non-fishing income	85	54	1	0.040

Rach-Goc (21)				
Number of HHs	3	12	6	
Net income from fishing	22 + 10	30 + 14	75 + 56	
Non-fishing income	85	54	0.340 + 0	0.025

## Pathways

- Diversification
- Out-migration
- Intensification
- Specialization
- Collaboration
- Self-organization

## How to diversify?

- Outside fishing diversification
- Inside fishing diversification: boats, gears, fishing ground, species



# Perceptions on risks and uncertainties

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Types of gears	1	2	3	4	5	6	7	8	9	10	11	12
Push trawl	←→				o	←→			←-----→			
Drag trawl	←→				o	←→			←-----→			
Trap	←- - ->	←→							←-----→			
Barrage	←→											
Net (inshore)	←→				o	←→				←-----→		
Drift net(offshore)	←→				o	o	o	←→		←-----→		
Hook and line	←→				o	←→				←-----→		
Buying brook stocks	←→				←-----→				←→			

←→ : favorite fishing months (fishing 20-25 days/month),

←---→ : un-favorite months (fishing 10-15 days/month)

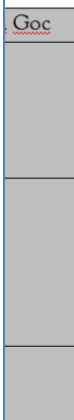
o : impossible fishing months (o)



# Findings:

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- They are “the poorest of the poor,” and near-shore fishing is their “occupation of the last resort”
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## How to diversify ?

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- Inside fishing diversification:  
boats, gears, fishing ground,  
species





Net income (VND mil.)	Ho Gui (20)	Rach Goc (21)	Significance
From fishing	33 ±17	43±38	0.002
From non-fishing	5±6	0.4±1	

Income (million VND)	Poor	Middle	Well-off	Significance
<b>Ho Gui (20)</b>				
Number of HHs	10	9	1	0.049
Net income from fishing	21±22	34±13	50	
Non-fishing income	8±7	2±3	0	
<b>Rach Goc (21)</b>				
Number of HHs	3	12	6	0.025
Net income from fishing	20±10	30±14	75±58	
Non-fishing income	2±2	0±0	0.3±0.8	0.004



c (21)	Significance
3±38	0.002
0.4±1	

Well-off	Significance



# Pathways

- Diversification
- Out-migration
- Intensification
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