

# Initial Diagnosis Analysis for Companion Modelling to Accommodate Multiple Interests in Upper Watershed Management

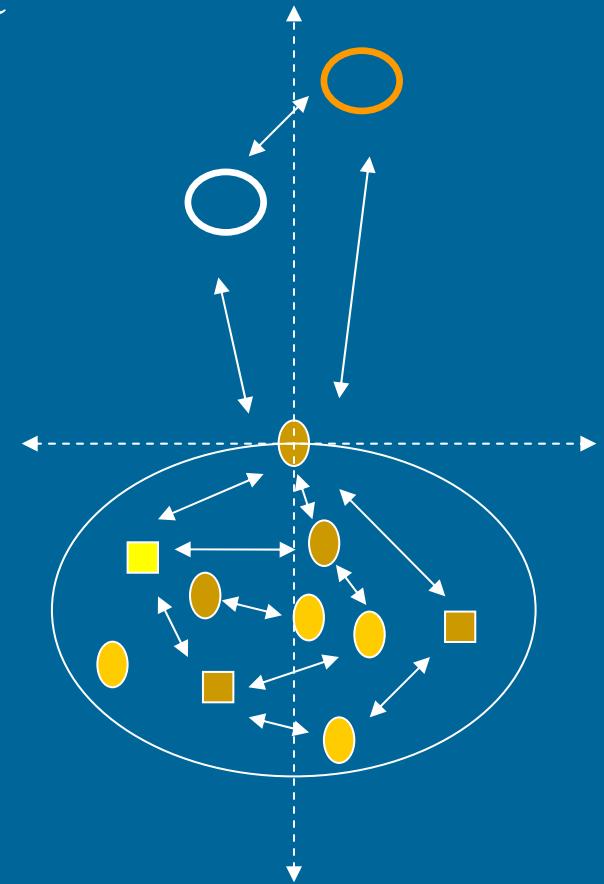
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**Which kind of diagnosis is needed prior to the launch of a participatory process?**



# Limits of community-based & participatory approaches conducted in the past

- Horizontal interactions
  - Lack of attention to power relations
  - Deepened existing social unequities
- Vertical interactions
  - Lack of dialogue with higher institutional levels
  - Csq : limited impacts
- Two interrelated problems
  - Key role of representatives
  - Downwards / upwards accountability





# Why a preliminary diagnosis?

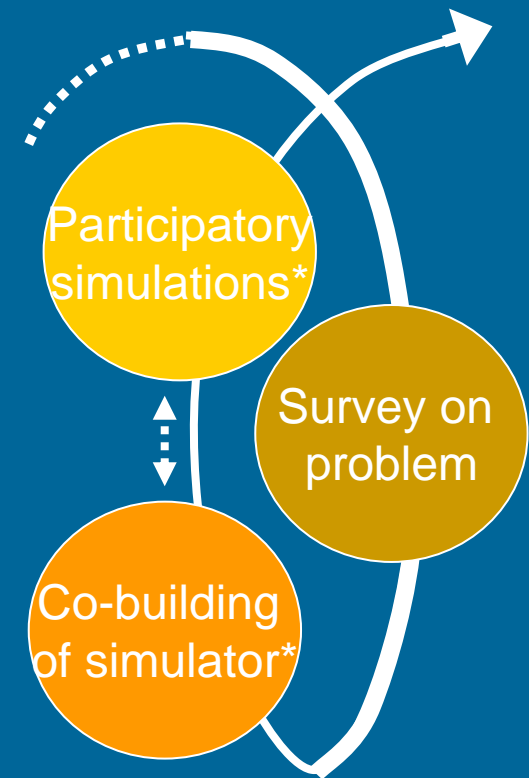
- A light but well structured initial diagnosis
  - Identification of key stakeholders
  - Usefulness & feasibility of the participatory process
  - Horizontal and vertical constraints towards equity & adjustment of the participatory process
  - Baseline to assess the effects of the process



# A Companion Modelling experiment...

*ComMod*

- Objective
  - Communication, collective learning and coordination
- Principle
  - Simulation tool integrating various points of views
  - Collective exploration of scenarios
- Simulations tools
  - Role Playing Games
  - Multi-Agent Systems



# ...in Nan province, Northern Thailand

- A conflict between two Mien villages and a National Park
  - Which boundaries?
  - Which rules?
- Challenge
  - Facilitate coordination across institutional levels
  - Take into account diversity of interests at local level



# Conceptual framework of analysis

## Agrarian system theory

Interacting ecological & social dynamics  
Farming households strategies

## Institutional analysis

Power relations  
Horizontal & vertical interactions  
Accountability of  
representatives

## Learning theory

Stakeholders' perceptions of :  
- problem  
- other stakeholders  
- possible solutions

Constraints  
towards equity

## Type A

Small farms highly dependant on non-farm resources

Late settlers

Lack of land & capital



Strategy: diversification into non-farm activities

Farming income  
(30%)

Forest products  
(45%)  
For cash  
+ subsistence

Off-farm income  
(low wages) (25%)

Insufficient family income  
80% of basic needs

## Type B

Farming households living mainly from farming incomes

Early settlers

Enough land & small capital

**Farming income  
(67%)**

Upland rice, maize  
Small lychee  
plantations

Strategy: invest on the farm &  
diversify to mitigate price  
fluctuations

**Forest products  
(23%)**

**Off-farm income  
(10%)**

**Family income hardly sufficient  
96% of basic needs**



## Type C

Farming households with profitable off-farm opportunities

Early settlers  
Local elite

Enough land & enough capital

Strategy: invest in profitable off-farm activities

Farming income  
(21%)

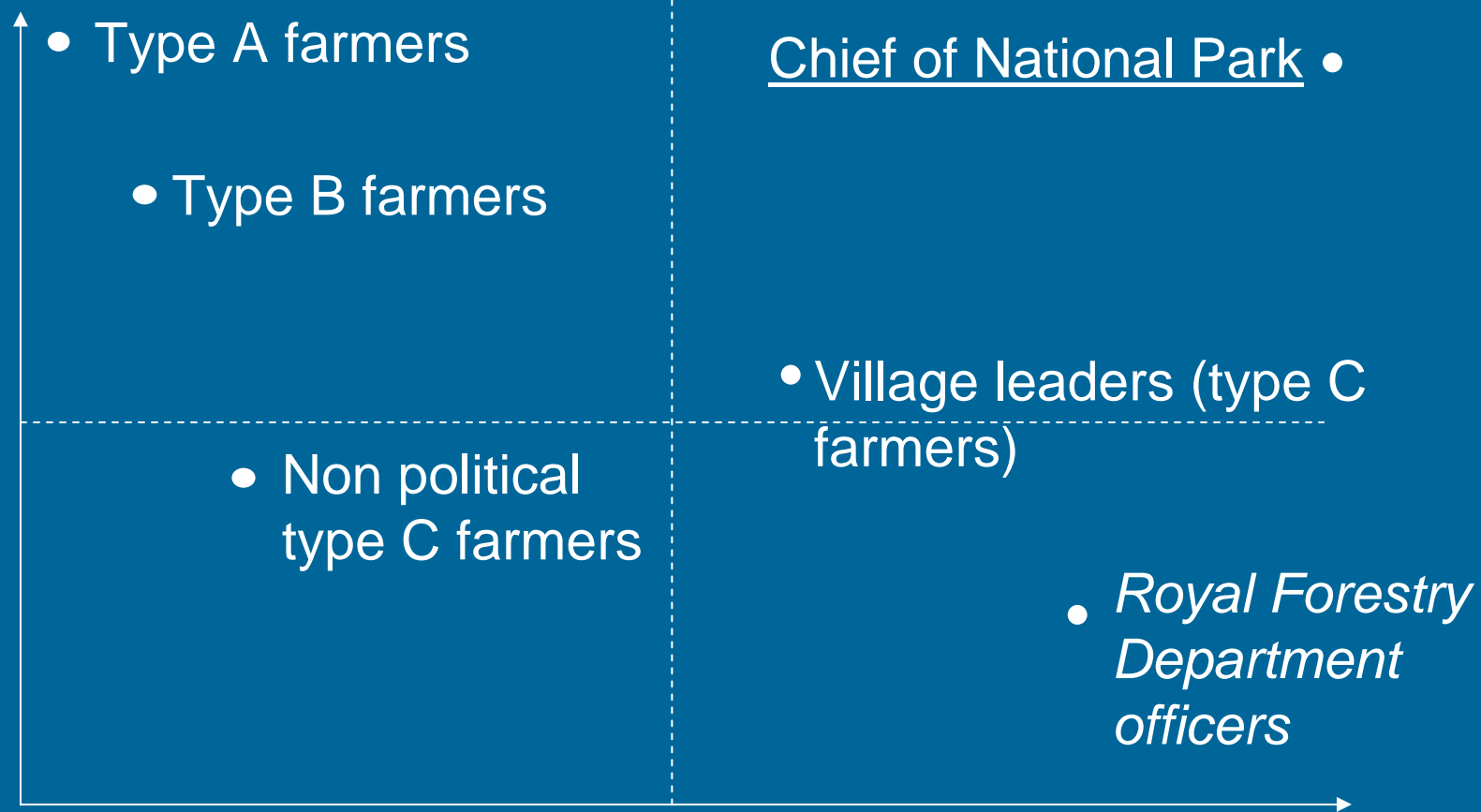
Forest products  
(3%)

Off-farm income  
(76%)  
Sell soymilk

Sufficient family income  
Higher than low wage salary in town

# Matrix of stakeholders' importance & influence

**Importance (affected by the National Park issue)**



**Influence (can influence the outcome of the National Park issue)**

# Main constraints towards equity

## ■ Vertical constraints

- Village leaders not aware of their role in decentralisation
- Top-down minded National Park officers

## ■ Horizontal constraints

- Unequal access to information
- Unequal ability to participate
- Diversity of interests among villagers
- Village leaders not accountable for all villagers

# How to mitigate the vertical constraints?

- Step by step towards a dialogue between villagers & National Park officers
  - 1) Dialogue among villagers
  - 2) Dialogue among National Park officers
  - 3) Dialogue between villagers & National Park officers

# The village role playing game

- Objectives
  - To validate & improve our understanding of the system
  - To stimulate discussions among villagers
- 12 villagers players with various initial amounts of
  - Cash
  - Land
  - Labor force





# A gaming round



Allocate labor force    Choose crops



Clear counts    Gather NTFP



## Scenario 1

Without National Park



## Scenario 2

With National Park



To increase villagers' awareness



# How to mitigate the horizontal constraints?

- Ensure genuine participation of all stakeholders
  - Careful selection of participants
  - Tools accessible to all
  - Individual interviews & small group discussions beside plenary sessions



# How to mitigate the horizontal constraints?

- Stimulate exchanges of perceptions among villagers
  - Tools highlighting differences among people
  - Do not try to reach consensus too fast



# Preliminary effects

- A better understanding of each other's perceptions
  - "I realized we all have different ways of thinking"
- Increased awareness & feeling of interdependency
  - "We have to discuss together before we meet the National Park"
- Towards increase accountability of representatives
  - "The village headman knows better how we think now"
- Towards more community cohesion
  - "The game can increase unity in the village"



# Conclusion

- Usefulness of an initial diagnosis prior to a participatory process
  - Better fine tune the process to the socio-political context
- But a continual attention to power relations is required
  - Constant adaptation of the process to mitigate inequities
- Such efforts needed to facilitate co-management of natural resources between local communities & state agencies

For further discussions,  
you are invited by C. Lepage  
to a simulation & gaming session  
Thursday 17h, posters 11 & 12.

