

# PPGIS Implementation Assessment by Actor-Network

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# Public Participation GIS (PPGIS)

- PPGIS is a decision-making process of stakeholders/public by using GIS technology
- PPGIS has been implemented in many fields such as
  - Land suitability assessment
  - Indigenous mapping
  - Community, rural and urban planning
  - Natural resource management
  - Land reform
  - ...
- PPGIS evaluation is still in developing stage

# PPGIS Evaluation

- Friedmann (1992)
  - Social, political, psychological empowerment
- Sieber (2003)
  - quantitative, functional, organizational, political scaling-up
- Elwood (2002)
  - distributive change, procedural change, capacity building
- Corbett and Keller (2005)
  - Empowerment impact in terms of information, process, skill and tool catalysts
- ...
- Focus on empowerment evaluation
- Does not deal with social interaction

# Actor-Network Theory (ANT)

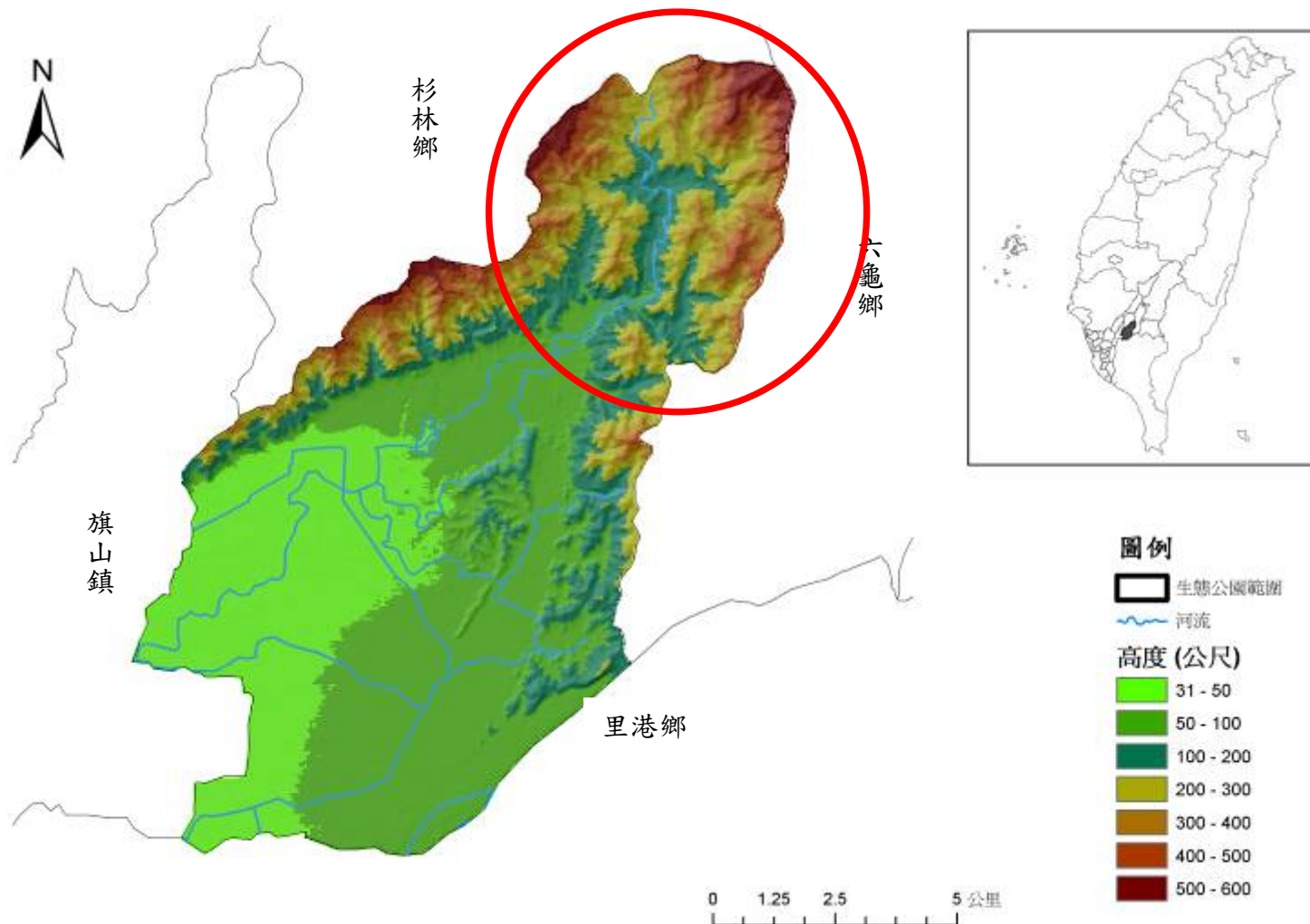
- ANT was developed by studies of Science, Technology and Society (STS)
- A framework for investigating society-technology interactions
- Assess social and technical interactions involved in PPGIS implementation

# Relevance of ANT and PPGIS Evaluation

- PPGIS emphasizes on *process*, focuses on participation and empowerment  
ANT seeks to identify, trace and explain the *processes* that produce the results
- PPGIS involves *stakeholders* and *GIS*  
ANT accepts *humans* and *non-humans* as actors
- PPGIS provides community-based group discussion, conversation, learning, debate, and *compromise*  
Translation of interests in ANT is analogous to *commitment and negotiation* of shared interests

# Case Study: PPGIS in Community Development

## The Meilong Yellow Butterfly Valley (美濃黃蝶谷)



# Background

The Yellow Butterfly Valley was planned to build a reservoir by the central government in 1992



Stage I

People who live in Meilong township became an alliance to reject the reservoir construction in 1995



Government suspended the construction plan



Stage II

People considered future development of the valley and started to involve in different activities  
A common interest was difficult to resolve

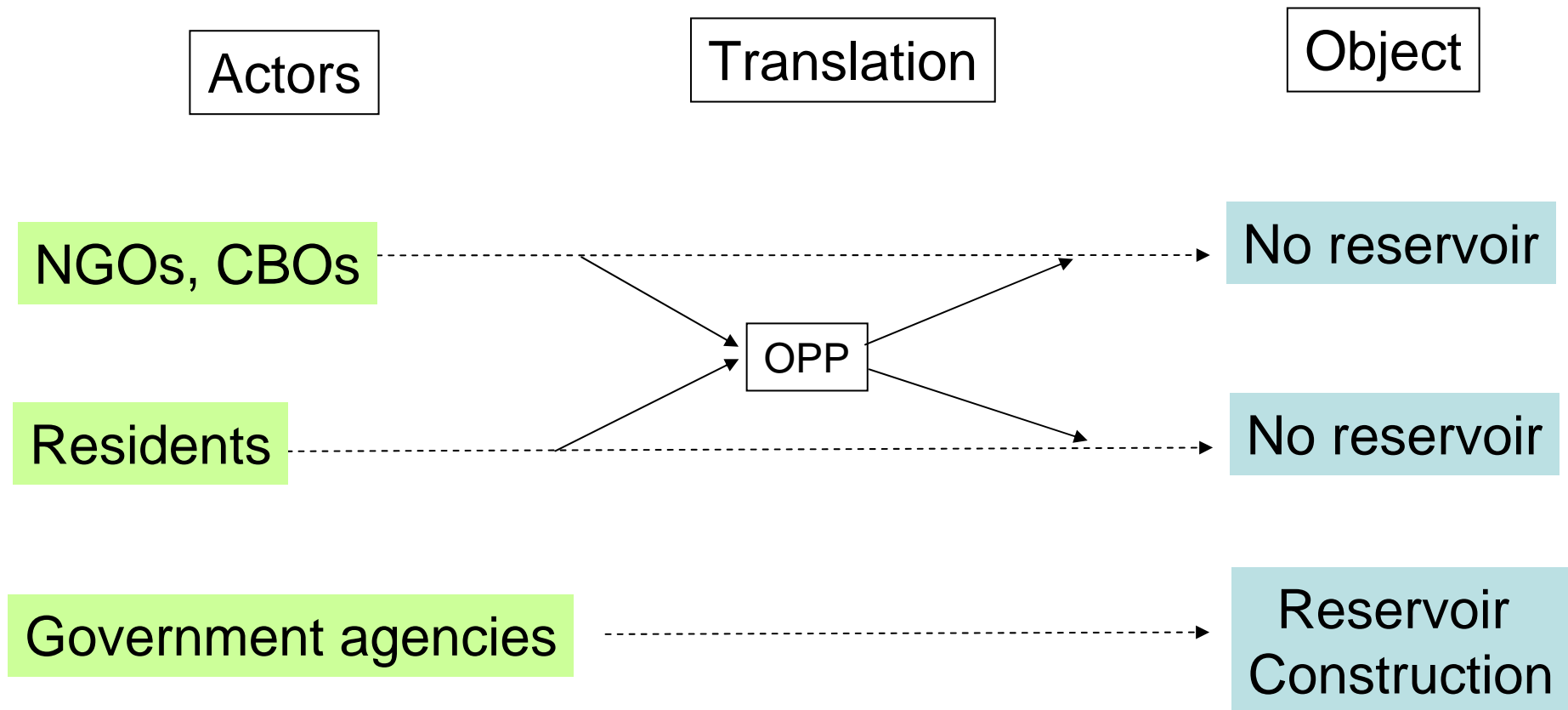


Stage III

PPGIS was introduced to the Meilong community in 2007

# Actor Network of Meilong Community

- Stage I



NGO (non-government organization)

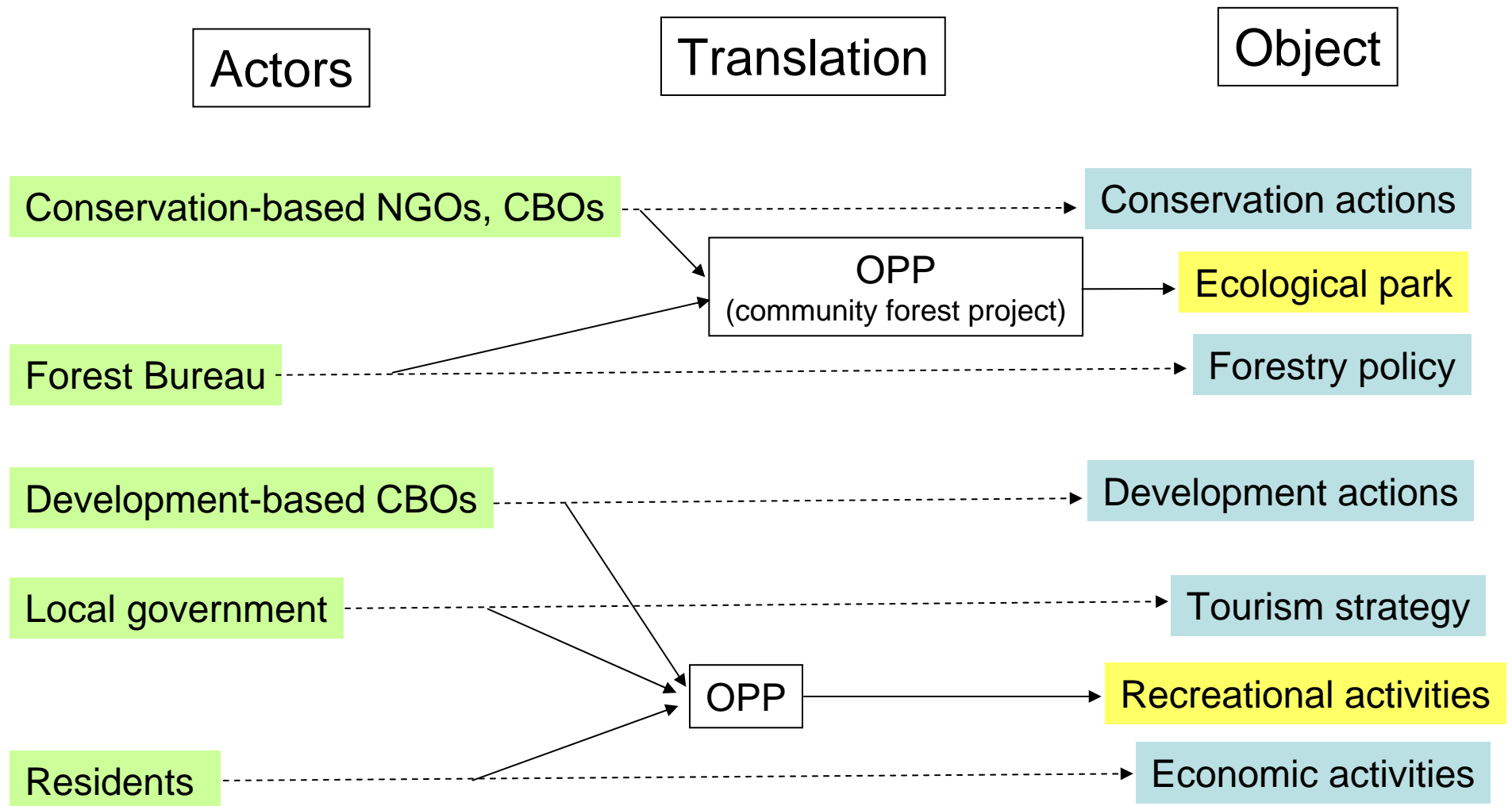
CBO (community-based organization)

OPP (Obligatory Point of Passage)



# Actor Network of Meilong Community

- Stage II



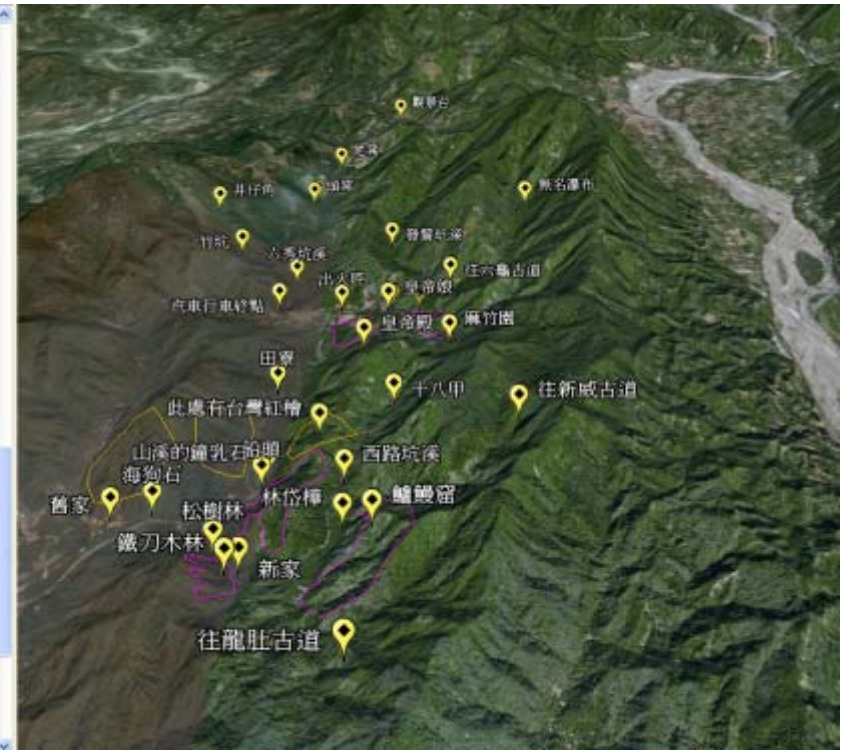
# PPGIS in Meilong Community



# Stakeholder Analysis



# Local Knowledge Acquisition





# PPGIS workshops by different stakeholder groups

Resident group



NGO, CBO group



Government officer group

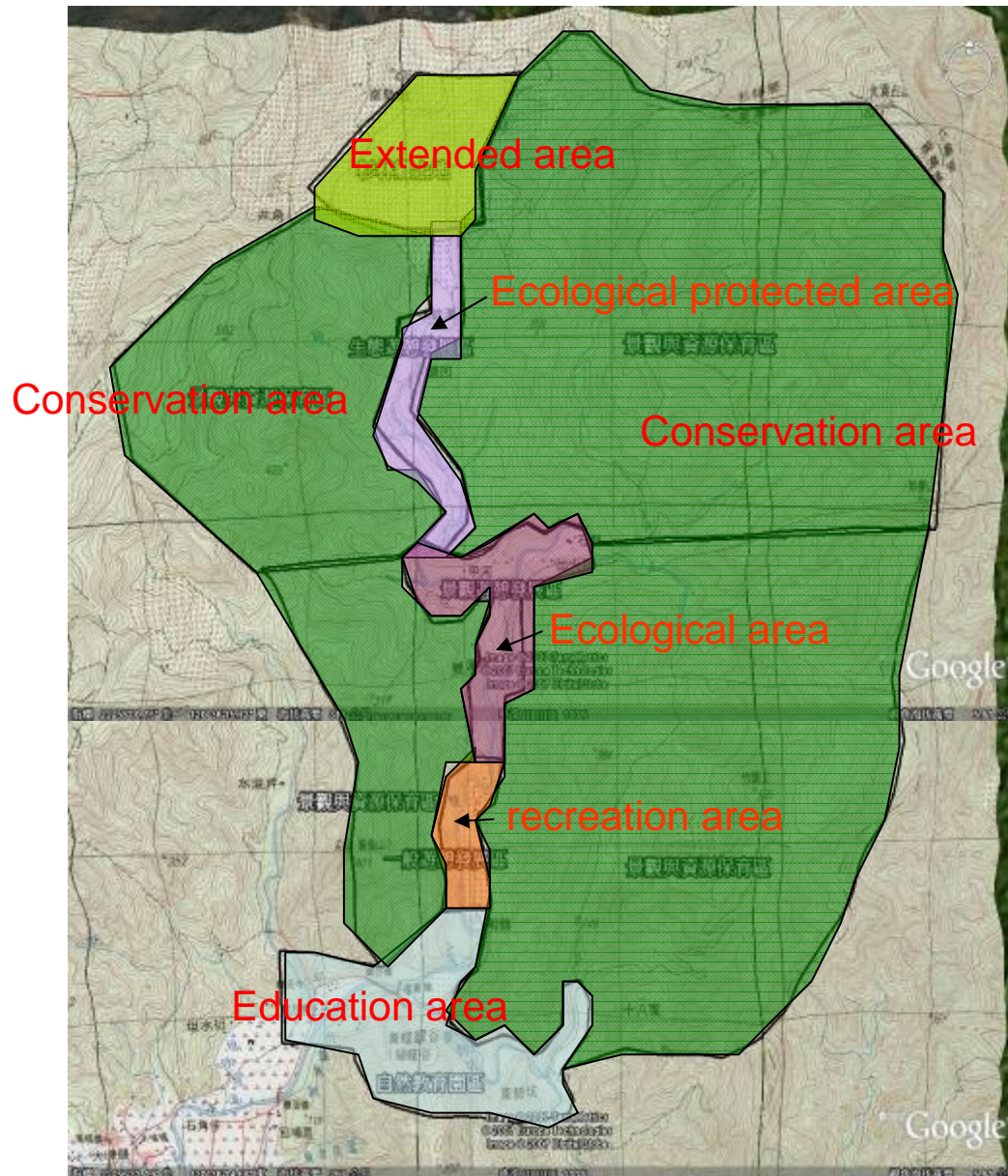


# PPGIS workshops by all stakeholders





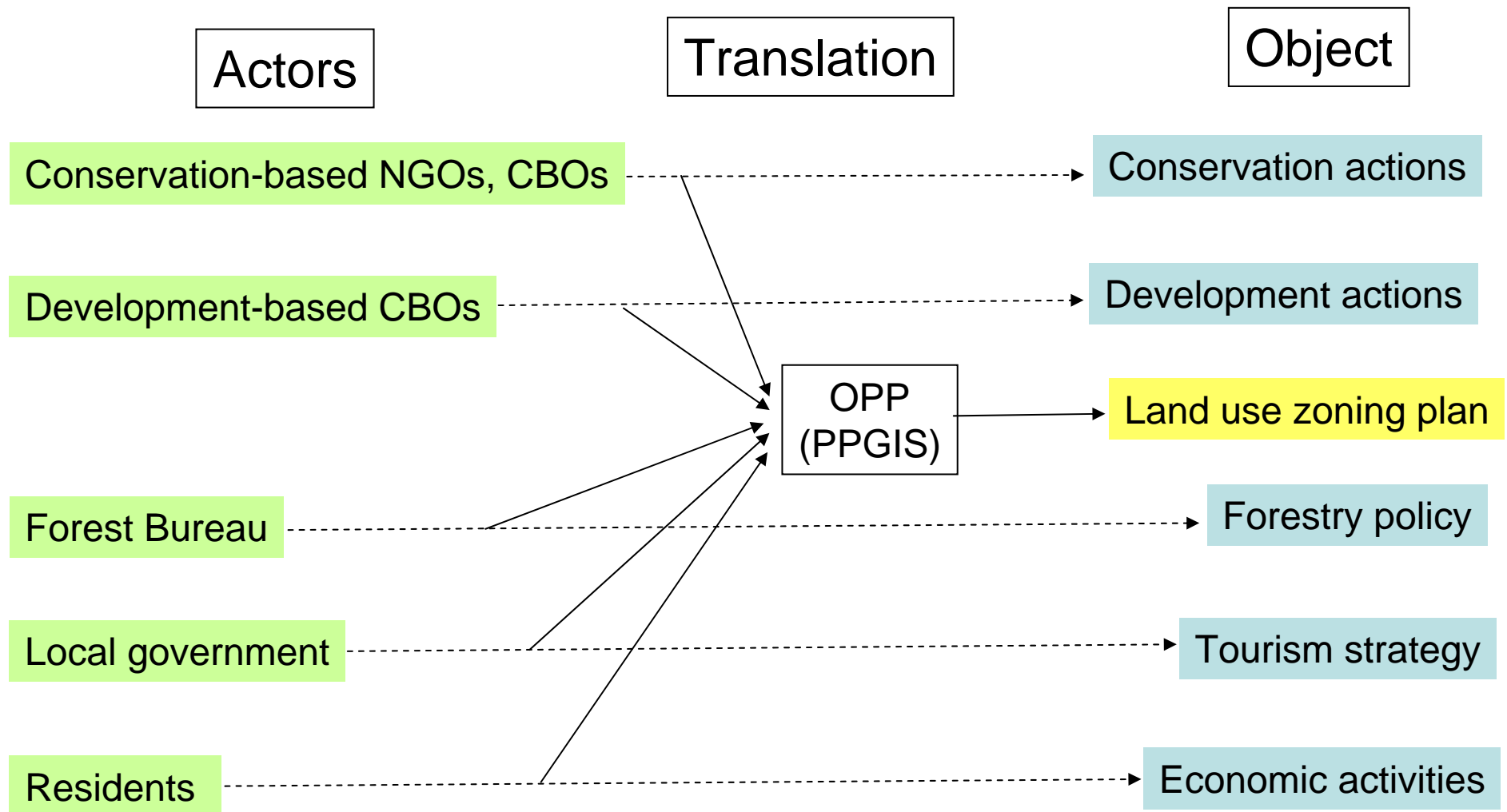
# Land Use Zoning Plan



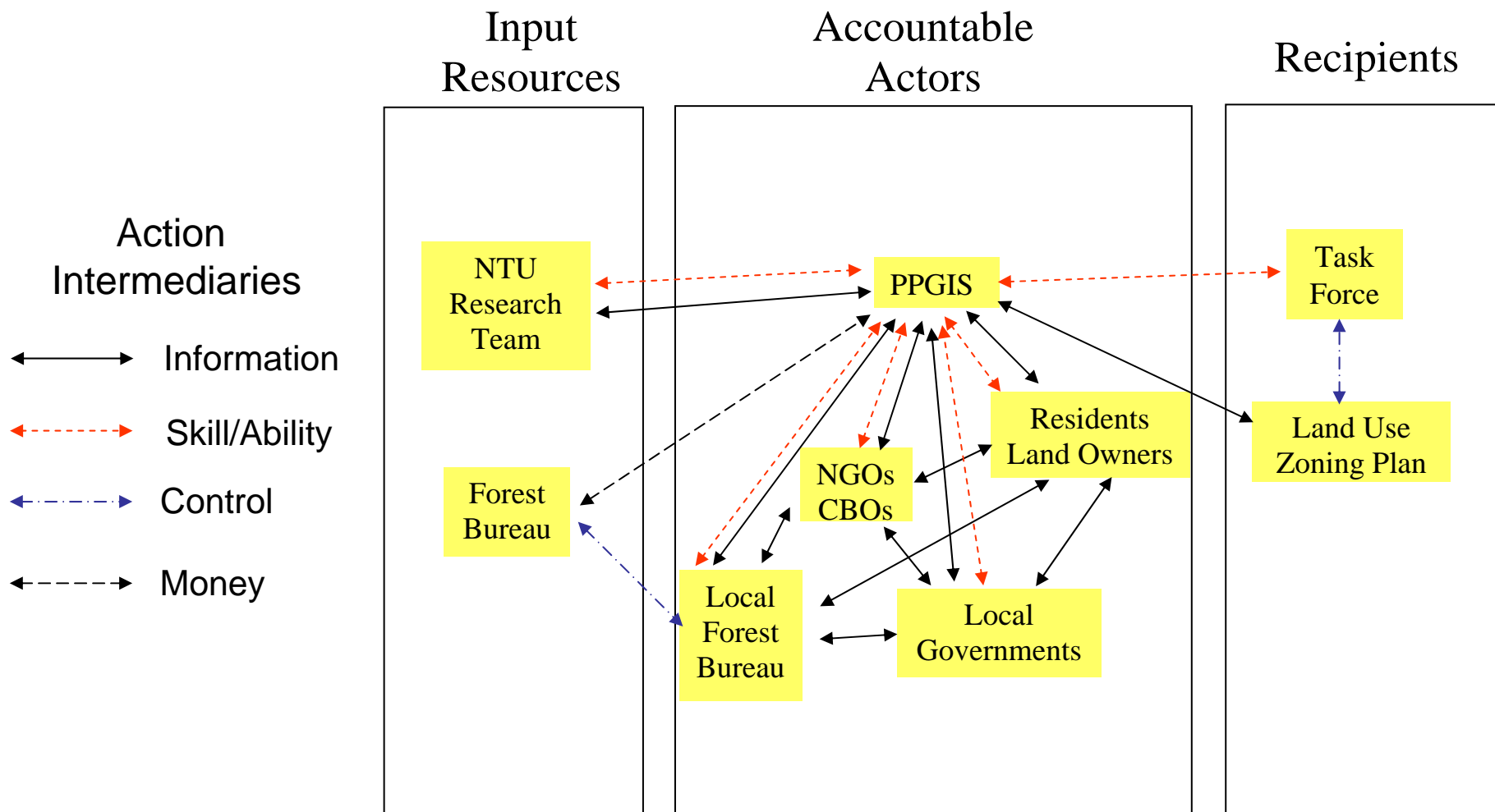
- A common view was achieved
- Stakeholders have compromised to allow different land use types in the valley
- The zoning plan takes care of both conservation and economic perspectives

# Actor Network of Meilong Community

- Stage III







# Conclusion

- PPGIS is a useful tool for group discussion and decision-making
- ANT provides useful insight to the impact and effect of social interactions in PPGIS implementation

Thanks for Your Attention