COMMUNITY-BASED RESOURCE MANAGEMENT

Type of Goods

		Subtractability of Use	
		High	Low
Difficulty of excluding potential beneficiaries	High	*Common-pool resources*: groundwater basins, lakes, irrigation systems, fisheries, forests, etc.	*Public goods*: peace and security of a community, national defense, knowledge, fire protection, weather forecasts, etc.
	Low	*Private goods*: food, clothing, automobiles, etc.	*Toll goods*: theaters, private clubs, daycare centers

Natural Resources?

- Most natural resources –> “Common-pool resources”
- Non-excludable & Non-rivalrous
- Forest, Fish stocks, Open water → Renewable resources
- Global CPR → Ocean, Ozone layer

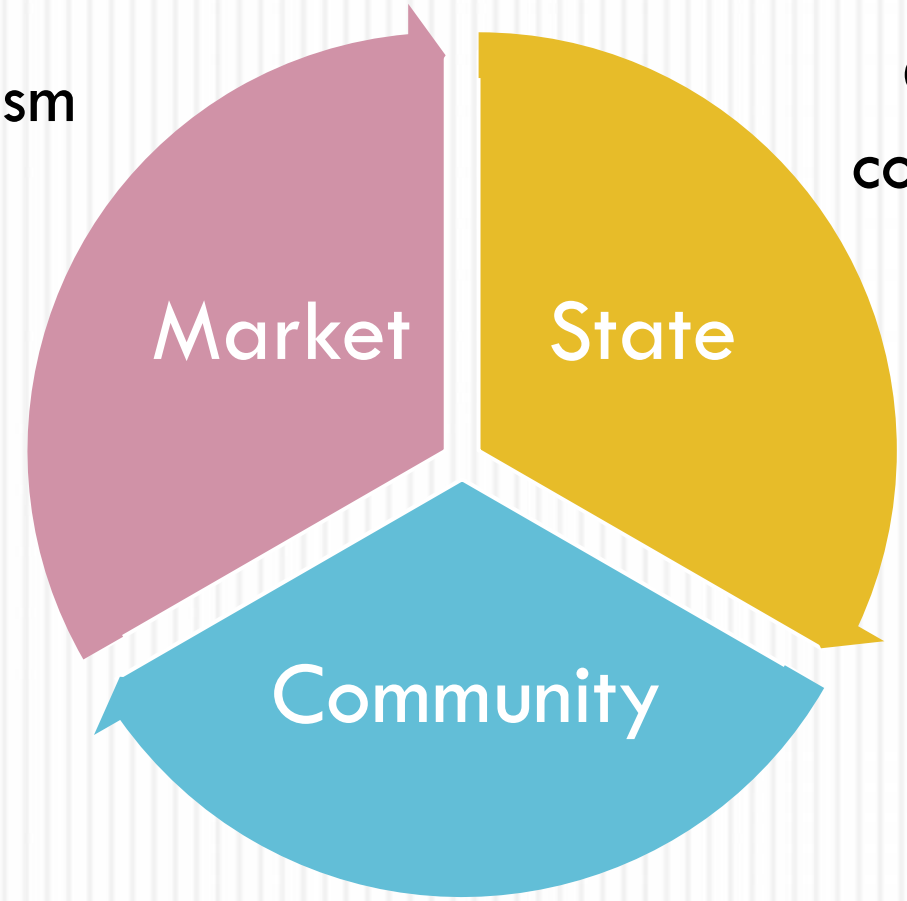
Governance regime

- Who is allowed to appropriate resource units
- Timing, quantity, location, and technology of appropriation
- Who is obligated to contribute resources to provide or maintain the resource system itself
- How appropriation and obligation activities are to be monitored and enforced
- How conflicted over appropriation and obligation activities are to be resolved
- How the rules affecting the above will be changed over time with changes in the performance of the resource system and the strategies of participants

Governance mechanism

Price mechanism

Command and control mechanism



"Self-governance (Collective choice)"

Market-based management

- Market Failure
- Open access → over-exploitation/ pollution
- No management incentives
- “Tragedies of the Commons” by Garrett Hardin in 1968

Market-based management

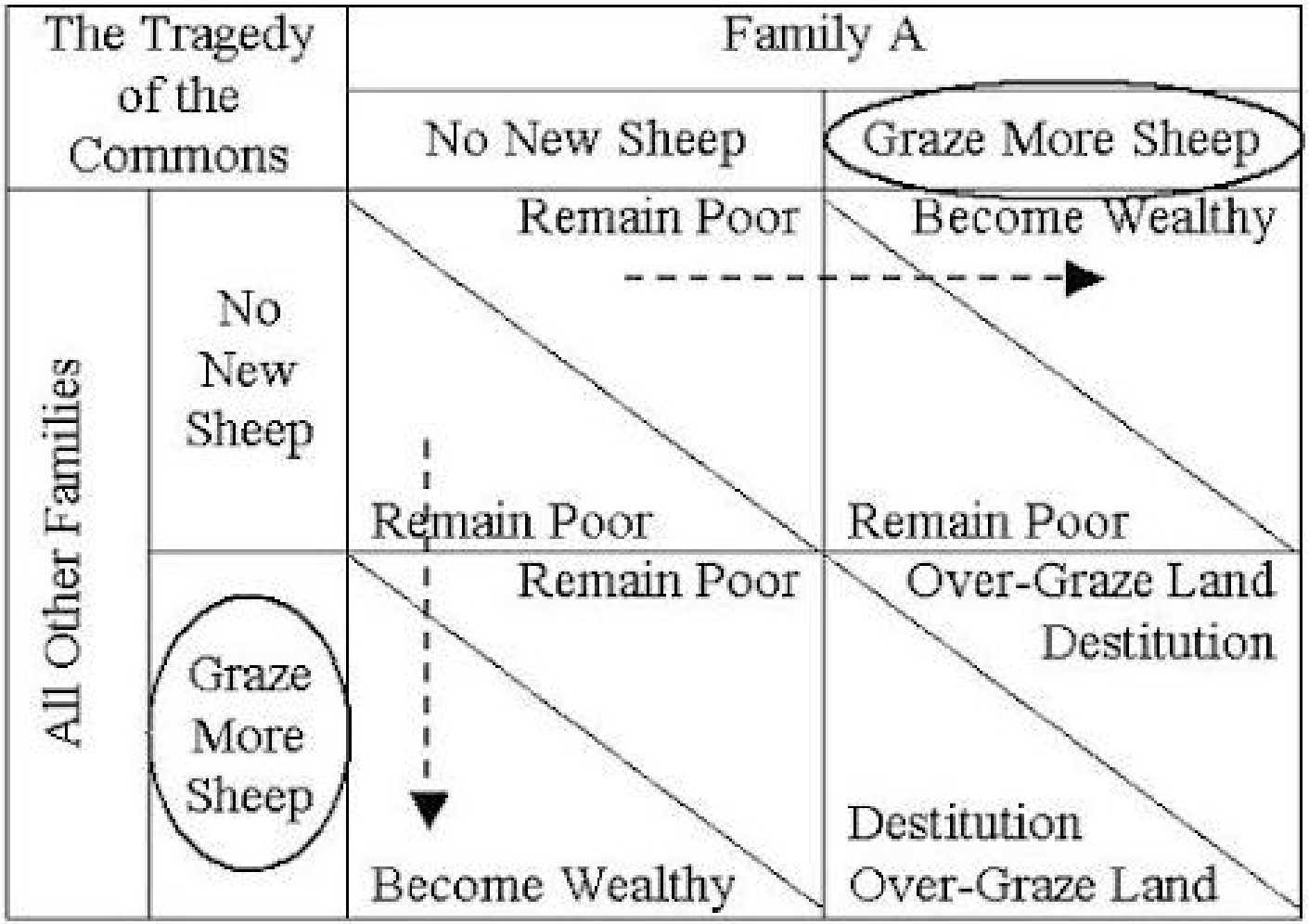
- Graze land → Open Access to All
- Sheepherders → free access but future cost from land degradation
- Equal share of this cost
- If sheepherders are rational → maximize benefits today before degradation

Market-based management

- Game with Prisoner Dilemma (PD)
- 2 herders with their own sheep
- Land carrying capacity → L sheep
- If each herders bring L/2 sheep, each gains 10 units of benefit
- But if one of them increases the number of sheep, both tend to maximize number of their sheep,
- Then, over-exploitation → both gain nothing
- Other example: over-fishery

		Herdsman 1	
	No. of animals	1	2
Herdsman 2	1	5, 5	6, 3
	2	3, 6	4, 4

Market-based management



Management by state

- Market-failure → well-defined property rights
- Policy makers → No common-pooled resources should be left ‘open’, but state-owned
- State-owned property → with cost privatization through taxes or other mechanism

Management by state

1. Direct governance

- Protected areas, public irrigation, world heritages
- Assumption: government have better information and have perfect enforcement

2. Concession

- Assumption: Private sector has good incentives in resource management

Management by state

- **Government failure**
- Lack of efficiency
  - Limited capacity: human resources/ budgets
  - Rent-seeking behavior/ conflict of interest
  - No incentives for monitoring the performance of concession contract

Management by state

Khao Iam, Karnchanaburi

Tublan, Korat

Management by state

Sirinat, Phuket

Phrae

Management by state

- Sand exploitation, Kalasin

Community-based management

- Elinor Ostrom **:** "Governing the Commons" (1990)

Community rights can successfully manage the ***'Common-pooled resources'*** without the centrally-controlling government or resource privatization

Community-based management

- Why community?
  - More knowledge
  - Norms! → members' behaviors
  - Monitoring and Social Sanction with relatively low enforcement costs
  - 'Learning' from actions/experiences → more information on costs/outcomes from actions → better alternatives

Community-based management

Laboratory & field experiments

- more communication → more collaboration
- The samples are willing to pay some costs for monitoring & enforcement
- The enforcement from outside → reduce the level of voluntary cooperation

Community-based management

- Community rules: 3 levels

1) Operational Rules

- When/how many resources to be utilized / by which mean

2) Collective-Choice Rules

- how the resources be manage

3) Constitutional Rules

- who have rights to participate the rules-making

Community-based management

Making change?

$$Di = BNi - BOi$$

$$If\ Di > (C1i+C2i+C3i) \rightarrow Change\ occurs!$$

C1 : Costs of time and efforts spent devising and agreeing upon new rules

C2 : Short-term costs of adopting new appropriation strategies

C3 : Long-term costs of monitoring and maintaining a self-governed system over time

$$Dk > (C1k+C2k+C3k)$$

Community-based management

- Some common factors
  - Salience: Appropriators are dependent on the resource system for a major portion of their livelihoods
  - Common understanding: Appropriators have a shared image of how the resource system operates and how their actions affect each other and the resource system
  - Discount rate: Appropriators use a sufficiently low discount rate in relation to future benefits
  - Distribution of interests: Appropriators are similarly affected by a lack of coordinative patterns

Community-based management

- Some common factors
  - Norms of trust, reciprocity, and punishment: Appropriators trust one another to keep promises and relate to one another with reciprocity
  - Autonomy: Appropriators are able to determine access and harvesting rules without external authorities countermanding them
  - Local leadership and prior organizational experience: Appropriators have learned at least minimal skills of organization through participation in other local associations

Community-based management

- Institutional designs
  - Clearly defined boundaries
  - Fair distribution of benefits
  - Collective-choice arrangement
  - Monitoring
  - Sanction
  - Conflict resolution mechanism
  - Minimal recognition of rights to organize

Community-based management

- Community failures
  - Market forces
  - Rent-seeking behaviors
  - Population growths
  - Inappropriate rules