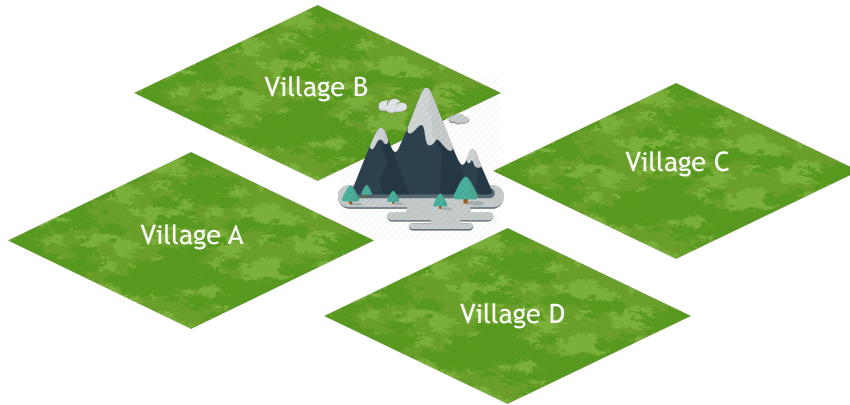




Community Forestry



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Topics

- ▶ What is community forestry ?
- ▶ How does it work ?
- ▶ How can it be explained by economics?
- ▶ Community forest and climate change: Who should benefit from REDD+?

What is community forestry?

- ▶ *“any situation which intimately involves local people in a forestry activity. It embraces a spectrum of situations ranging from woodlots in areas which are short of wood and other forest products for local needs, through the growing of trees at the farm level to provide cash crops and the processing of forest products at the household, artisan or small industry level to generate income, to the activities of forest dwelling communities”.*

FAO (1978)

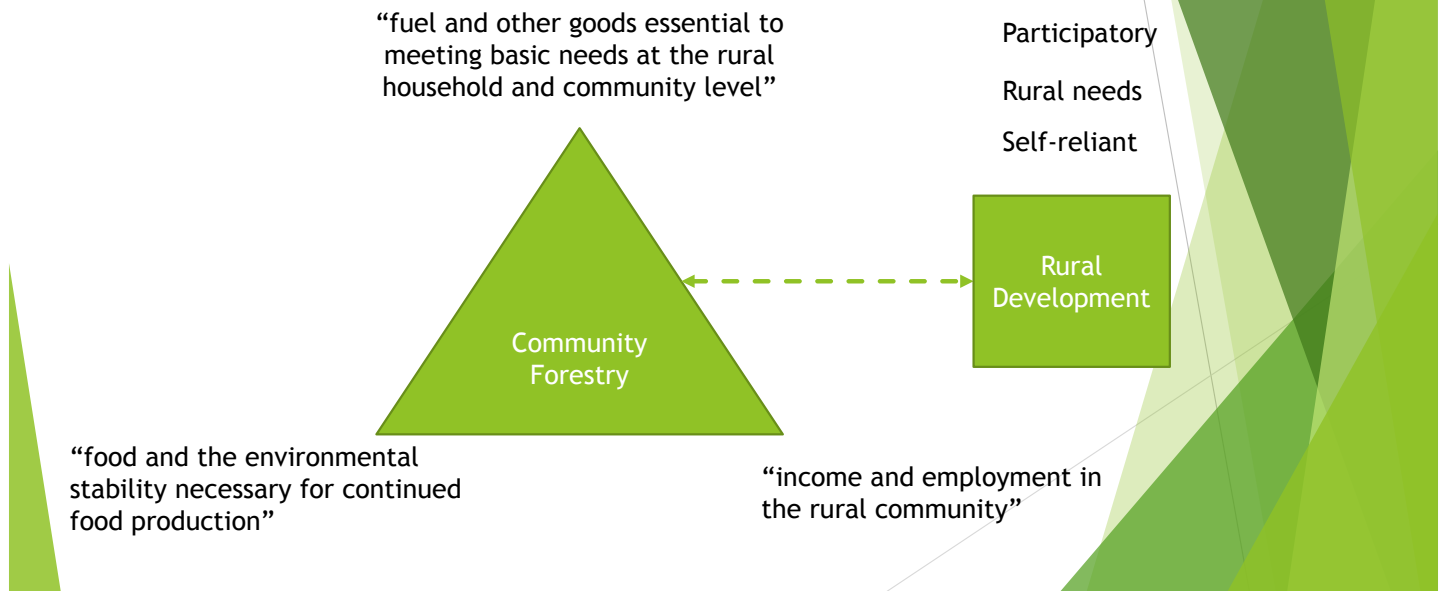
- ▶ Why did community forestry become an issue in the 1970s but not earlier?



Before 1970s

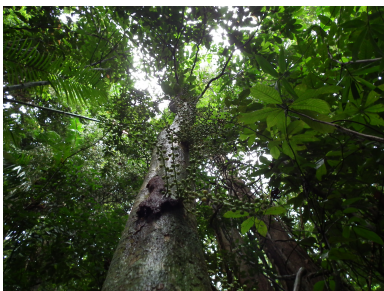
- ▶ Separate emphasis between forestry industry and agricultural sector, while ignoring trees and forests maintained by rural people.
- ▶ Development strategies in 1950s and 60s emphasized on industry-led growth theories and program. However it did not work. Benefit from growth was not distributed equally. The poor were still poor.
- ▶ Forest for People (1978) - International development agencies, such as World Bank and FAO, as well as national government including Thailand officially recognized community forestry as a tool for sustainable forest management as well as for improving well-being and livelihood of indigenous people in developing countries.

Elements of Community Forestry (FAO)



Types of forest covered by community forestry

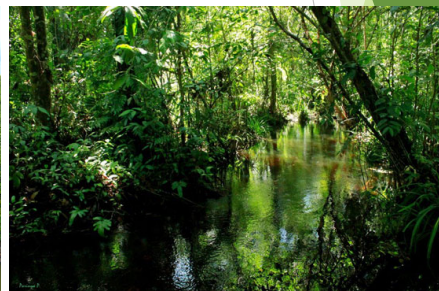
Forest



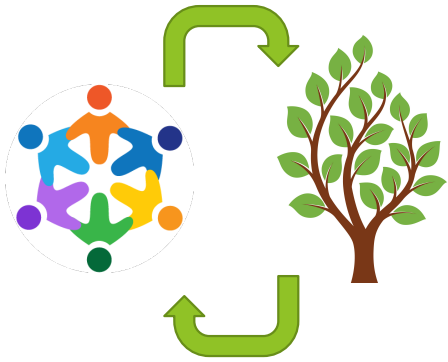
Mangrove Forest



Peat swamp forest



Factors that indicate which forest is a Community Forestry



Interdependency between the community's social economic and cultural system and the forest ecosystem

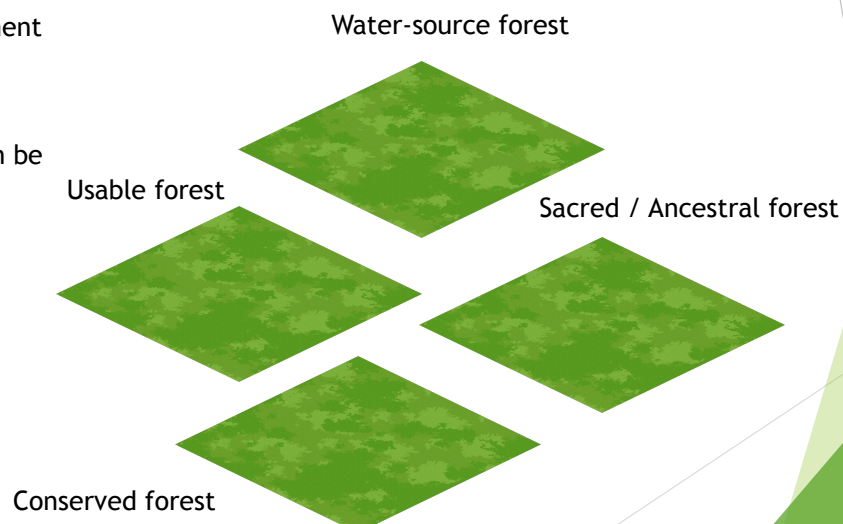


Holistic natural resource management

Factors that indicate which forest is a Community Forestry

Diversity in management patterns and rules

Plot division of each community forest can be different.



Factors that indicate which forest is a Community Forestry

Diversity in management patterns and rules

Village Committee / Headman

Community Forest Committee

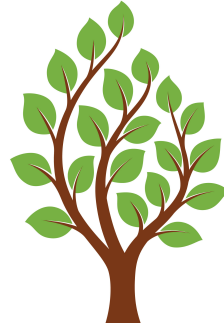
Cultural/traditional management practices and organizations



Appropriation Rules



Provision Rules



Factors that indicate which forest is a Community Forestry

Community members directly benefit from the forest, mainly for their livelihood.
This is the major incentive for the community to conserve the forest.



Conserved forest

Usable forest

Timber and non-timber forest product

Water-source forest

Non-timber forest product

Sacred / Ancestral forest

Non-timber forest product

Non-timber forest product

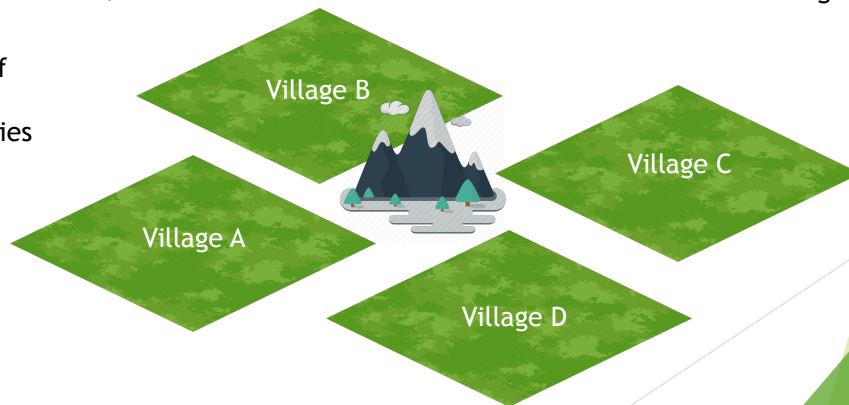
Factors that indicate which forest is a Community Forestry

Clear boundary. Sometimes a community have to cooperate with other communities nearby to protect the forest area that is larger than the community.

Different types of forest, different levels of difficulties to protect the boundary

Examples in Thailand

- Mae Win district
- Phu Phan mountain range



Factors that indicate which forest is a Community Forestry

The community must have at least entry, usufruct and management rights.

Government officers grant permission to the communities to entry, use, and manage the forest and its resources

Government property

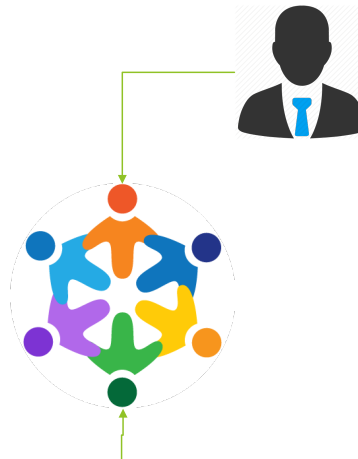


Factors that indicate which forest is a Community Forestry

The community forestry is a collective-choice arrangement.

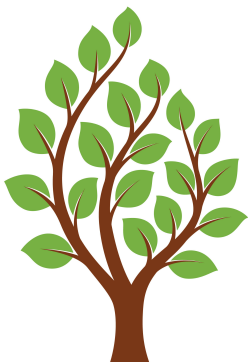
- Designed and accepted by the communities.
- Meet the needs of the community.

The management system is transparent, open for scrutiny from community members, the government and the public.



Community Participation
(Collective-Choice Arrangement)

How can Community Forestry be explained by economics?



- ▶ Forest is a common-pool resource.
 - ▶ Resource system: Forest
 - ▶ Resource Units: Timber, Non-timber forest products
- ▶ Ultimate problems of common-pool resources are the followings
 - ▶ Difficulty to exclude → ?
 - ▶ Subtractability → ?

THE PRISONER'S DILEMMA GAME

“Quite simply, these paradoxes cast in doubt our understanding of rationality and, in the case of the Prisoner’s Dilemma suggest that it is impossible for rational creatures to cooperate. Thus, they bear directly on fundamental issues in ethics and political philosophy and threaten the foundations of social science...”

Campbell 1985, p.3

Paradoxes of Rationality and Cooperation

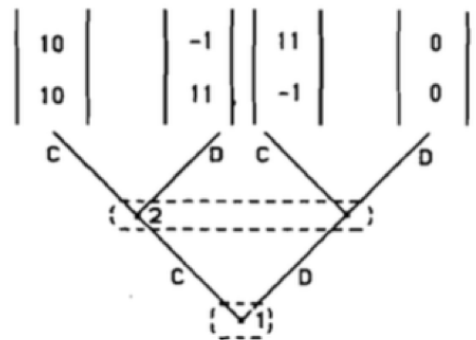


Figure 1.1. Game 1: The Hardin herder game.

The ONLY Way?



Leviathan (enforcement from powerful external actors such as government) as the only way

vs



Privatization as the only way

What are the weaknesses of these options ?

Weakness of Leviathan option

y = Probability that the central agency will punish defections (correct response)

x = Probability that the central agency will punish cooperative actions (erroneous response)

If the central agency has complete information, then $x = 0$, $y = 1$.

If the central agency has incomplete information, then supposed that $x = 0.3$, $y = 0.7$.

Incomplete information about regeneration rate of the resources.

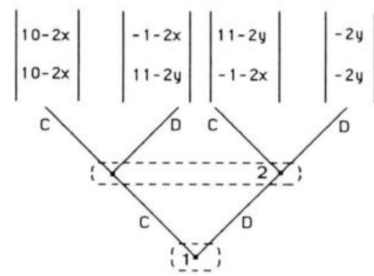


Figure 1.3. Game 3: The central-authority game with incomplete information.

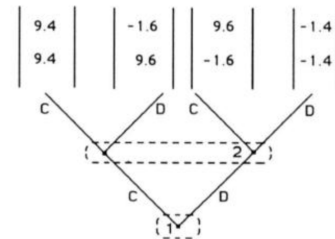
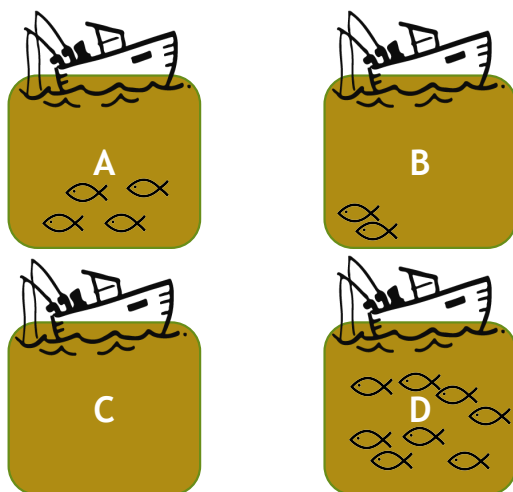


Figure 1.4. Game 4: An example of the central-authority game with incomplete information.

Weakness of Privatization



Privatization has no problem regarding incentives and information.

The problem occurs when ecological variability is taken into account, for example, migration of fish, or variability of rainfall.

An Alternative Solution

In the absence of external enforcers, what would rational economic agents do to create a binding contract and commit themselves to a cooperative strategy ?

e is the cost of enforcing an agreement.

C = Cooperate; D = Defect

A = agree ; $\sim A$ = disagree

Both actors can always disagree with the agreement and end up in the tragedy of the commons scenario, unless the agreement is fair and acceptable for both.

The enforcement can be done by the resource users themselves or they can share the cost of hiring private enforcer.

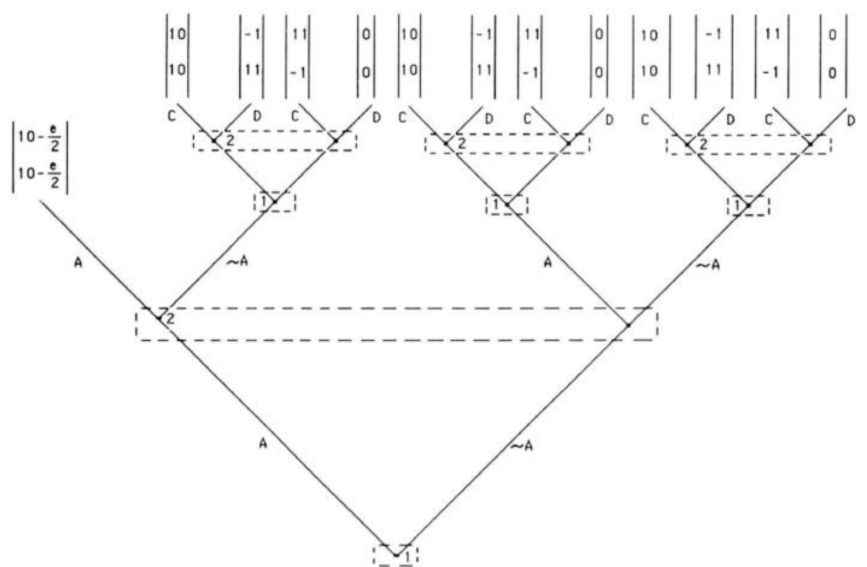
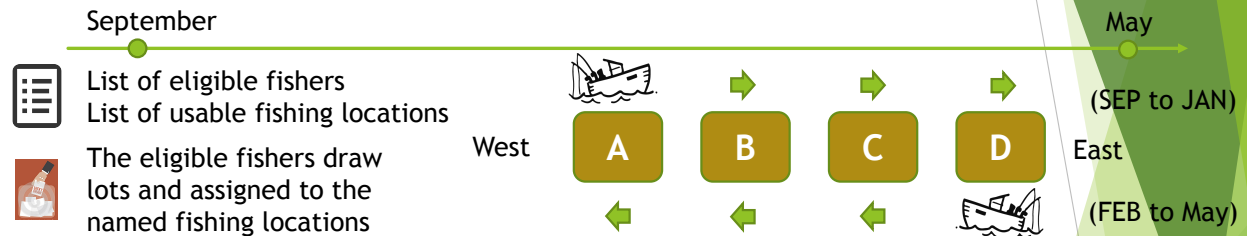


Figure 1.5. Game 5: Self-financed contract-enforcement game.

An empirical alternative: local fishing cooperative, Alanya, Turkey in 1970s



Three puzzles to be solved

Problem of Supply of Institution

- Institution is a public good, which is another dilemma. How can rational economic agents solve this dilemma?
- One has to signal to others that they want to cooperate.
- Trust and Sense of community

Problem of Credible Commitment

- People may say that they would commit to the rules. But when they face certain situation, they might decide to break the rules...
- How could the members believe that other will commit?
- Without credible commitment, no one would follow the rules.

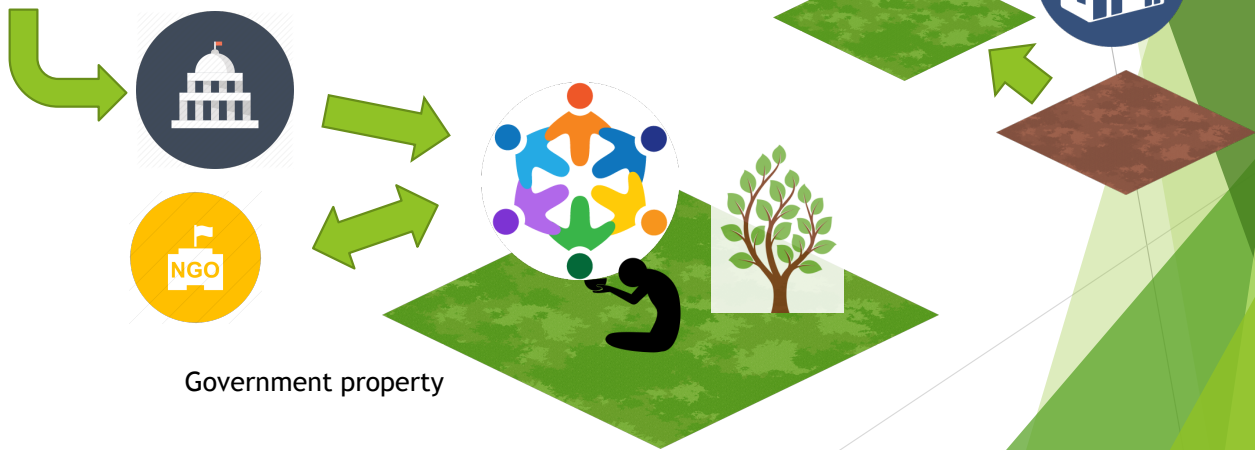
Problem of Mutual Monitoring

- How could the system be set to encourage mutual monitoring?

Does community forest solve these puzzles?

Community Forest and Climate Change: Who should benefit from REDD+

REDD+



Our focus

- ▶ Who should benefit from REDD+? Rationales and Realities (Luttrell et al. 2013)
- ▶ Reviewing the existing REDD+ programs, using data Global Comparative Study on REDD+ of CIFOR (Center for International Forestry Research)
- ▶ Based on the data, develop an analytical framework to identify the main rationales put forward by actors to justify how benefits should be shared.

Three main types of REDD+ benefits

- ▶ Benefits from implementation of a REDD+ project, program or policy
- ▶ Benefits from changes in forest use. (e.g. indirect ecosystem benefits such as protection of soil and water quality)
- ▶ Indirect benefits from REDD+ implementation (e.g. strengthening tenure rights and law enforcement, technology transferred, enhanced participation in decision making).

Source: Who should benefit from REDD+? Rationales and Realities (Luttrell et al. 2013)

Objectives of REDD+

- ▶ The 3E Criteria
- ▶ **Effectiveness:** a measure of “The amount of emissions reduced or removal increased by REDD+ actions”
- ▶ **Efficiency:** a measure of “The costs of these emissions reductions or removal increases”
- ▶ **Equity:**
 - ▶ Distributive Equity: allocation of outcomes and their impacts on different stake holders in terms of cost, risks, and benefits
 - ▶ Procedural Equity: participation in decision making and inclusion and negotiation of competing views.
 - ▶ Contextual Equity: Equity to access to resources and market

Source: Who should benefit from REDD+? Rationales and Realities (Luttrell et al. 2013)

Cases

- ▶ The article focuses 4 main countries: Brazil, Indonesia, Tanzania and Vietnam.
- ▶ In the meantime, the REDD+ program has just started. Most of the activities are related to preparing actors, institutions and governance as a whole to be ready for the program.
- ▶ Examples
 - ▶ TFCG - Making REDD work for communities and forest conservation (Tanzania)
 - ▶ Transamazon- Sustainable settlements in Amazon (Brazil)
 - ▶ Project improving land management and livelihood alternatives (Vietnam)
 - ▶ REDD pilot project development, Community Carbon Pools (Indonesia)

Source: Who should benefit from REDD+? Rationales and Realities (Luttrell et al. 2013)

Typology of Benefit-sharing Rationales

- ▶ **“Legal rights” rationale:** benefits should go to actors with legal rights
- ▶ **“Emission reductions” rationale:** benefits should go to those actors achieving emission reductions
- ▶ **“Stewardship” rationale:** benefits should go to low-emitting forest stewards
- ▶ **“Cost-compensation” rationale:** those actors incurring costs should be compensated
- ▶ **“Facilitation” rationale:** benefits should go to effective facilitators of REDD+ implementation
- ▶ **“Pro-poor” rationale:** benefits should go to the poorest

Table 3. Relationship between selected principles of distributive equity (following McDermott et al. 2012 and Pascual et al. 2010) and the benefit-sharing rationales.

Theory	Principle for the distribution of benefits (and costs)	Benefit-sharing rationale
Merit-based	Distribution should be proportional to the contribution or inputs of the stakeholders (Pascual et al. 2010). Konow (1996) uses the term “accountability principle” to suggest that distribution should be relative to work effort and Miller (1999) refers to “desert”: that superior performance should attract superior recognition. Pascual et al. (2010) distinguish between the criteria of “compensation” for foregone benefits related to the provision of the service and the “actual provision” of the service.	Emission reductions Facilitation Cost compensation
Needs-based	Distribution should be according to needs and those with the greatest needs should receive a higher reward (Rawls 1979, Dobson 1998, Konow 2001) in order to ensure that the position of the least advantaged individuals is as high as possible (Pascual et al. 2010).	Pro-poor Stewardship
Egalitarian	Distribution should be equal among all providers of a service independent of the cost and level of service provision (Pascual et al. 2010).	Stewardship
Libertarian	Distribution should be according to property rights and the moral of liberty of action. Right-libertarianism supports private rights and argues that natural resources should be appropriated by those who discover them, claim them, or provide labor inputs. Left-libertarianism advocates for common ownership and that those who claim rights should pay others for the value of those rights (Vallentyne 2010).	Legal rights

Sources: Luttrell et al. 2013