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Community Forest Management (CFM): Does it work?

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with *Baikuntha Aryal* and *Charles Jumbe*

Outline:

1. Introduction
2. Why should CFM conserve forest and raise income?
3. Nepal story
4. Malawi story
5. Some global evidence
6. Concluding remarks

1. Community forest management (CFM)

- Other names: LFM, JFM, CBFM, FCM, FUG, SF, ….
- CFM: involving local communities in forest management, but varies from:
  - real ownership, to
  - ‘light’ involvement, to
  - local implementation of central regulations (conservation)
- Global trend: 20-25 % of worlds forest under some sort of CFM (and forests ¼ of earth’s land surface)
- Does it work?
  - Forest income (total income, e.g. include possible reduced agric income, or spinoffs on other sectors)
  - Forest conservation
  - Empowerment?

2. Theoretical perspectives:

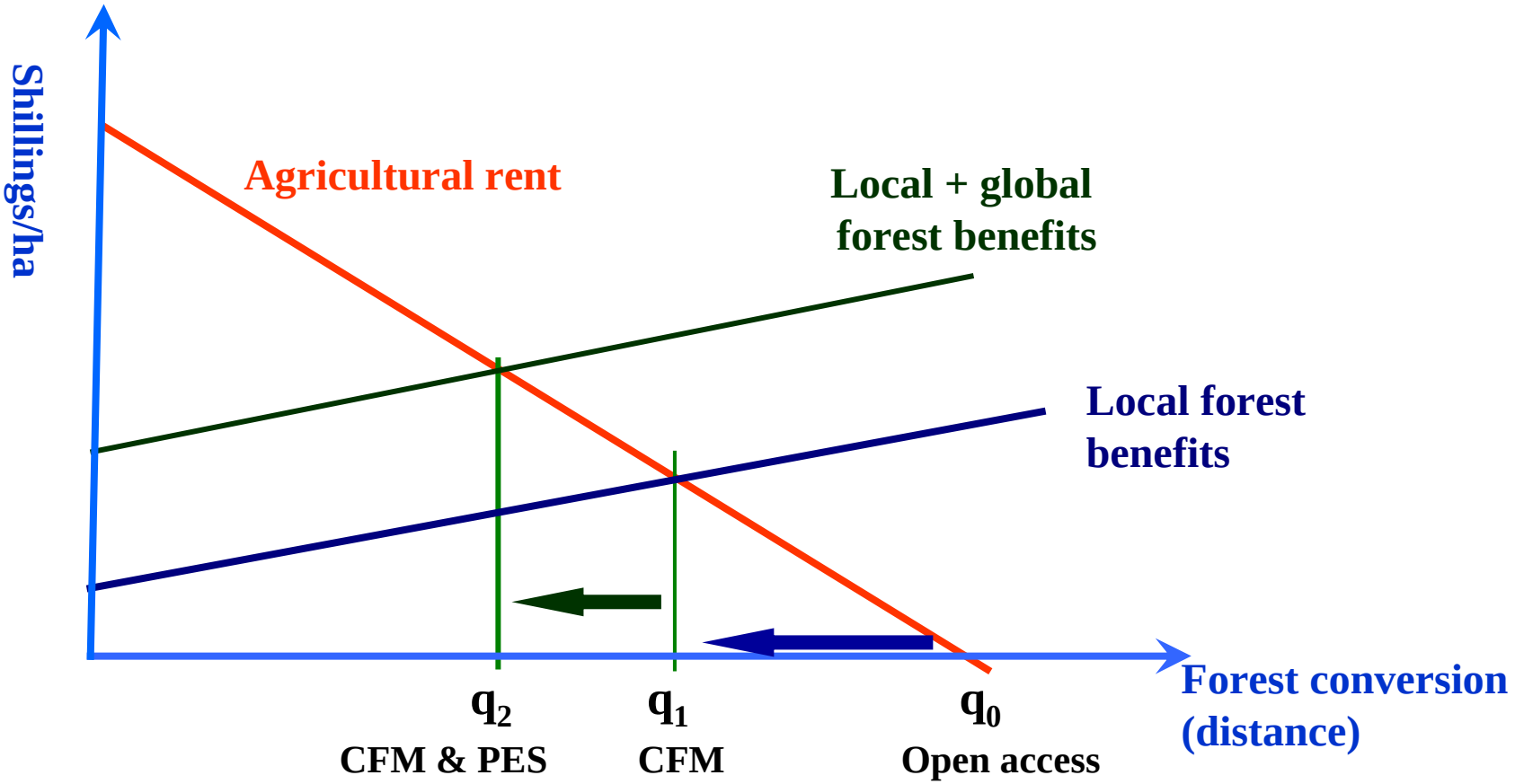
Why should CFM benefit local communities?

1. Bigger share of the cake:
   - Forests are valuable, and that value captured by outsiders (state, timber companies, middlemen, …)". Through CFM, a higher share of that value given to the communities
2. The cake is made bigger:
   - Avoiding "the tragedy of open access"
   - Payment for Environmental Services (PES)

Avoiding the tragedy of open access

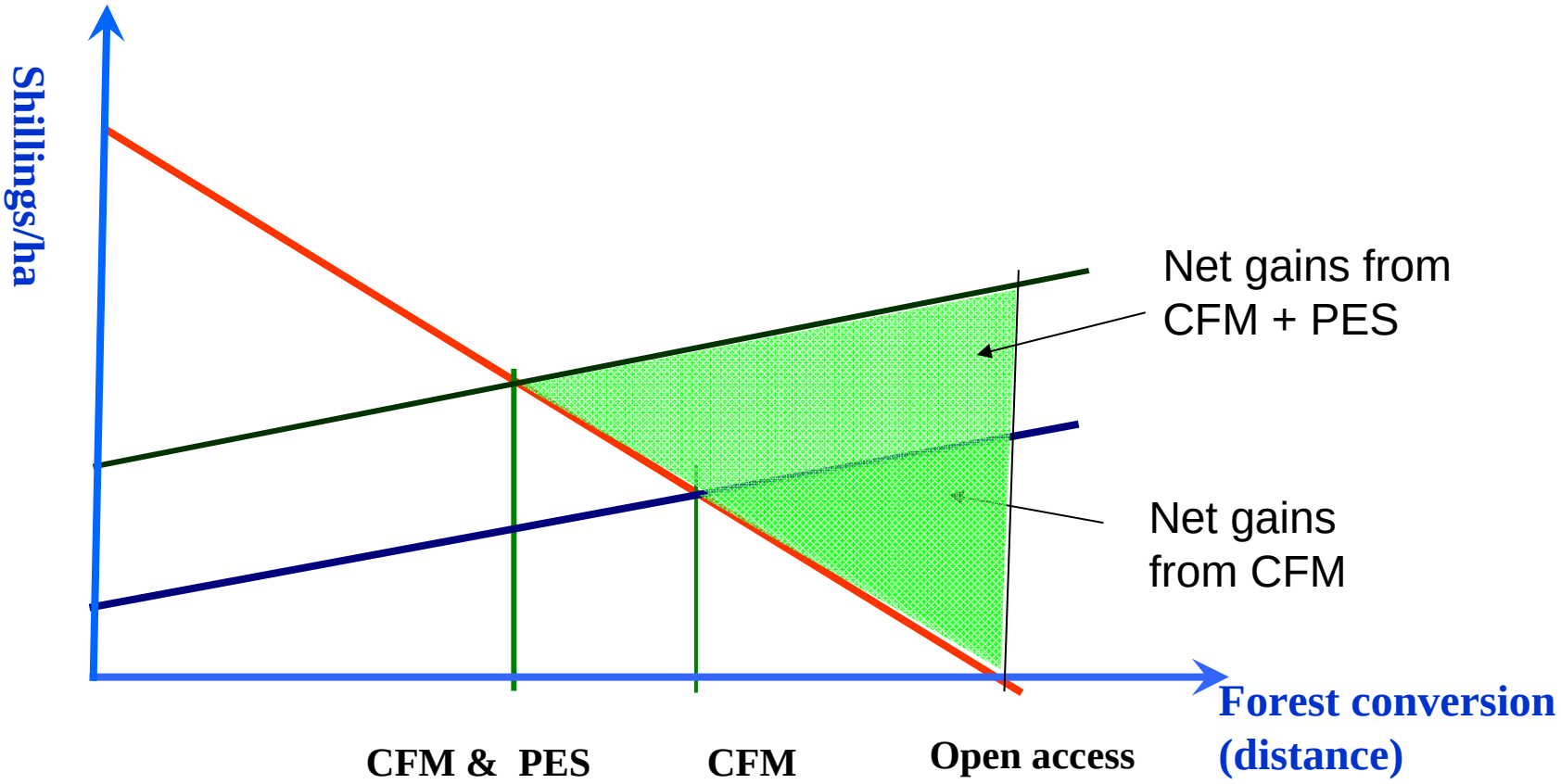
- Three types of forest benefits:
  1. Conversion of forest land to agriculture (agric rent).
     A private good.
  2. Local environmental benefits (watershed protection, prevention of soil loss,…)
     + forest products (fuelwood, poles, timber, NTFPs) from standing forest.
     A local public good.
  3. Global environmental benefits (carbon storage, biodiversity conservation, amenity) from standing forest:
     A global public good.

Reduced deforestation from CFM and PES



- Assumption: Effective local organization

Local benefits from CFM and PES



- Critical assumption: all forest benefits go to local community
- Distribution within community

3. Two stories (Nepal and Malawi)

1. Who participates?
2. Do participants have higher or lower forest income than non-participants?
3. Does participation increase or reduce forest income?

Nepal story

- The birthplace of CFM (1978->)
- > 14 000 FUG, 1.6 mill households (35 % of population), 1.2 mill ha (2006)
- 2004 PhD (UMB) survey: 452 hh, 16 villages in Central Nepal (Baikuntha Aryal)
- Quite effective in forest conservation

Who participates?

- Net benefits of participation:
  - + Legal access to community forest
  - + access to other benefits
  - - restrictions on forest use
  - - costs of membership (time)

Four types of households

	Non-member	**Member**
User	Free riders, the poorest	Middle income households
Non-user	Rich, less dependent on forests	Rich, members for influence & control of FUG revenue

Membership and forest use

	Free-riders (non-members & users)	**Members & users**	**Members & non-users**	**Others (non-members & non-users)**
Number of households (hh)	85	188	33	146
Total income (Rs.)	**70,267**	116,030	**138,759**	133,502
Forest income (CF + others)	10,430	9,186	12,045	16,466
Forest income share (%)	16.3	12.8	9.4	11.3
Land size (ha)	0.63	0.61	0.79	0.74
Educated hh members (%)	**12.7**	57.1	43.2	11.8
Lower caste hh (%)	**35.3**	19.7	15.1	26.7
Migrated hh (%)	10.6	20.2	30.3	79.4

Key results

- Middle income participants
- Poor free riders (income 40 % below average)
- Some rich participants (and non-users): political (& social) influence
- Lower forest income among members (question 2)

4. The Malawi story

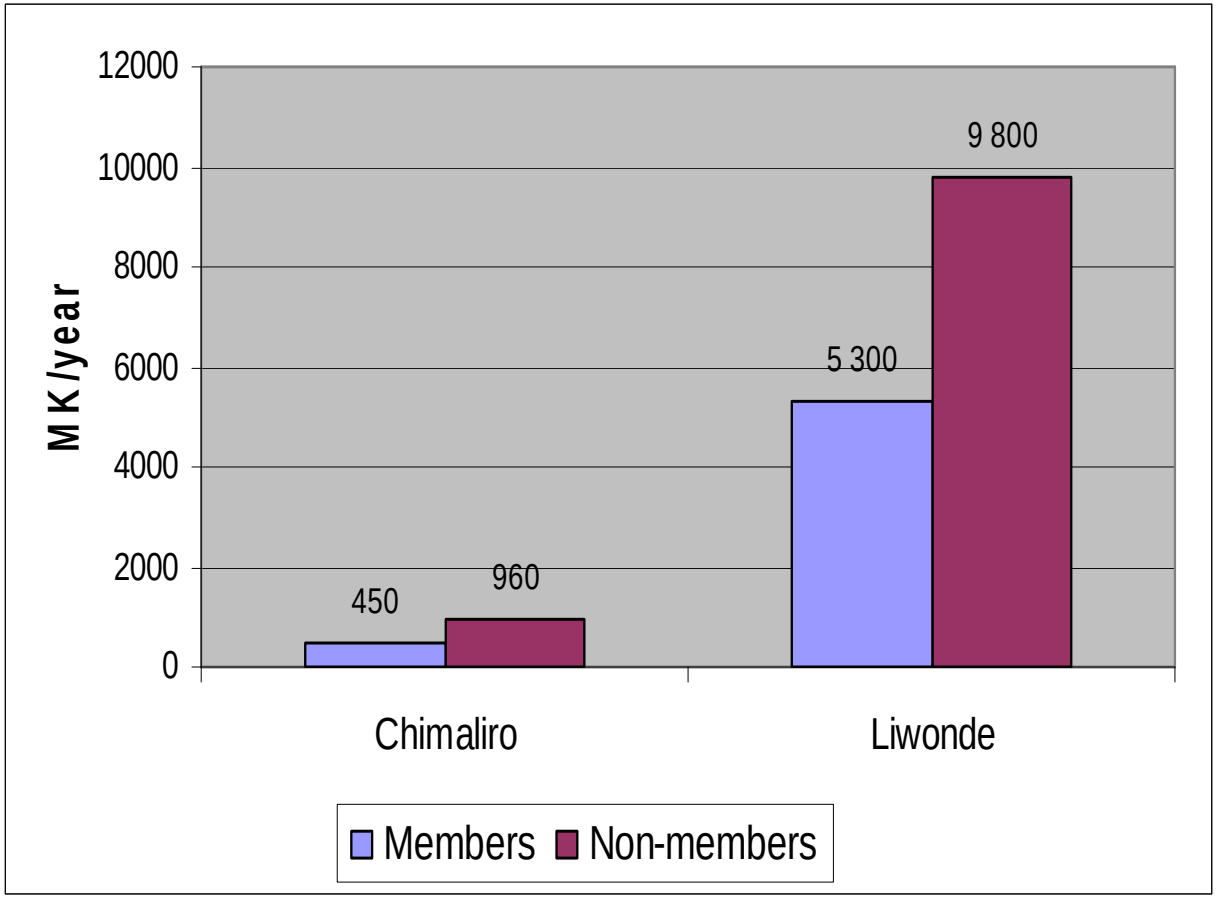
- 1996: Two FCM pilot areas (DfID & WB):
  - Chimaliro (central/north, remote, homogenous)
  - Liwonde (south, good access, heterogeneous)
- Forest reserves divided into blocks (3 each), managed by surrounding villages (forest management committees).
- Survey in 2002 (Charles Jumbe): 400 hh in the two sites
  - Follow up in 2006-2007 as part of CIFOR PEN (38 studies, 26 countries, 9000+ households, quarterly income data)

Key results

1. Forest conservation?
   - Effective in Chimaliro
   - Ineffective in Liwonde
   - Pressure (demand firewood)
   - Homogeneity/village leadership

Forest income

1. Non-participants have much higher forest income
2. Much higher in Liwonde
   - Short term exploitation

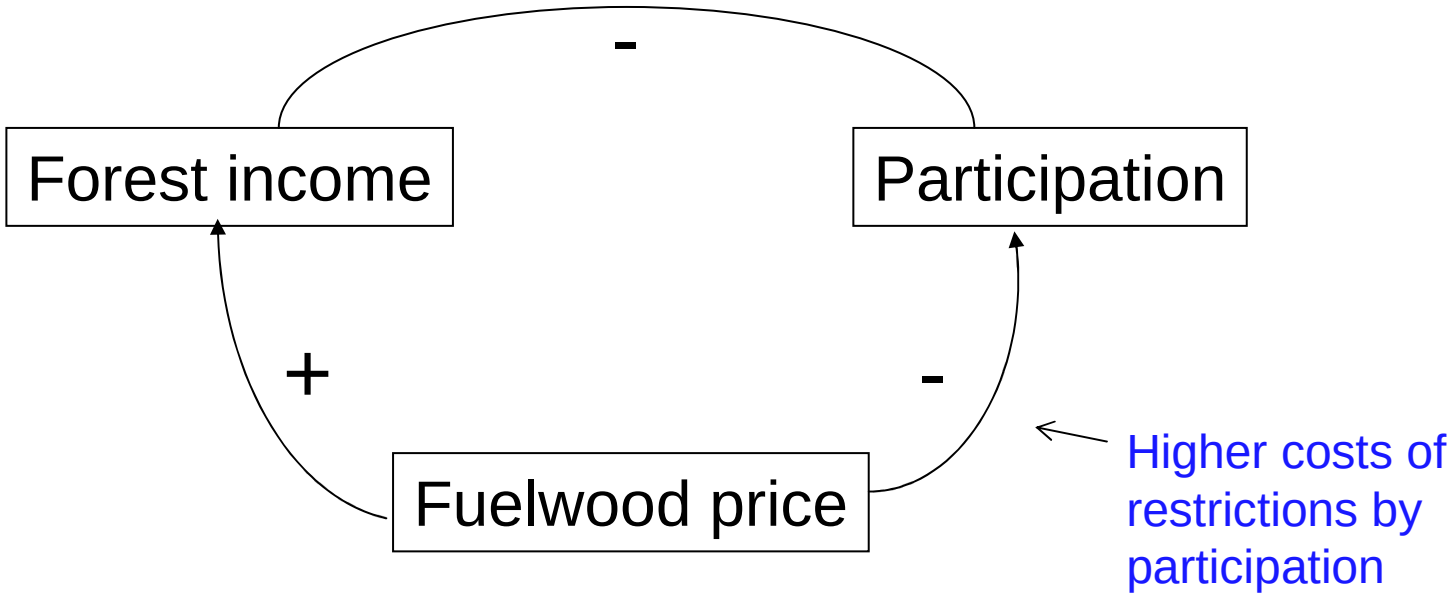


Effects of participation on forest income (question 3)

- The difference between question 2 (difference Participants and Non-participants) and question 3 (impact of participation):
- If participation was random, as in an experiment, then no difference 2 and 3.
- But participation voluntary, and more attractive for certain groups:
  self selection!

Self-selection

- Example: simultaneous impact of fuelwood price. Might drive the negative correlation between participation and forest income



Matching method

- Must compare households that have the same characteristics, e.g., face same fuelwood price
- Matching techniques tries to do that, e.g., ‘nearest neighbour’
- Surprising result:
  - Participation gives **higher** forest income for full sample, and Chimaliro, but **lower** for Liwonde.
  - Also when did the analysis for low income and female headed households, participation gave **higher** forest income

5. Global evidence

- Emerging consensus (e.g., Pagdee et al. 2006):
  - Relatively successful in forest conservation
  - Relatively **un**successful in raising forest income
- Why?
  - Driven by a conservation (& cost saving) agenda
  - The valuable resources (timber, some NTFPs, and now carbon?) not handed to local communities
  - An incomplete reform
- Participation in CFM often limited:
  - Nepal & Malawi: < 50 %
  - Understanding participation ≈ understanding success

Some evidence from Africa

Author	Country	Conserve forests		Reduce poverty		Remark
		Yes	No	Yes	No	
Owubah et al, 2001	Ghana		√		√	**Lose-lose**
Lindsay	Zanzibar (TZ)		√		√	**Lose-lose**
Schoeder, 1999	Gambia		√		√	**Lose-lose**
Jumbe & Angelsen 2005	Malawi (Chimaliro)	√			√	**Win-lose**
	Liwonde		√		√	**Lose-lose**
Banana & Ssembajjwe, 1998	Uganda (Mbale)		√		√	**Lose-lose**
Wily (1999)	Tanzania (Duru-Haitemba)	√		√		**Win-win**

Some evidence from Asia

Author	Country	Conserve forests		Reduce poverty		Remark
		Yes	No	Yes	No	
Chakraborty, 2001	Nepal (Banke)	√		√		**Win-win**
Varughese & Ostrom, 2001	Nepal (Baramchi)		√		√	**Lose-lose**
Wickramasinghe,1997	Sri-Lanka	√		√		**Win-win**
Song et al, 1997	China	√		√		**Win-win**
Kumar, 2002	India (Jharkhand)	√			√	**Win-lose**
Kijima et al., 2000	Japan	√		√		**Win-win**
Saigal, 2000	India	√			√	**Win-lose**
Adhikhari, 2000	Nepal (Sindhu Palchowk & Kabhre Palanchok)	√			√	**Win-lose**

Some evidence from Latin America

Author	Country	Conserve forests		Reduce poverty		Remark
		Yes	No	Yes	No	
Marrow& Hull, 1996	Peru (Palcazu)	√			√	**Win-lose**
Larson, 2002	Nicaragua	√		√		**Win-Win**
Gibbsson & Koontz, 1998	Indiana (Oak)		√		√	**Lose-lose**
Klooster, 2000	Mexico		√	√		**Loss-win**
Becker & Gibson, 1998	Ecuador		√		√	**Lose-lose**
Morrel, 1992	Mexico & Central America	√		√		**Win-win**

6. Concluding remarks on CFM

- *“Most devolved natural resource management (NRM) reflects rhetoric than substance…”*

  (Shackleton et al. 2001)

- Mixed results, performed better on forest conservation than enhancing local (forest) income
- Challenges:
  - A genuine reform: not using communities to implement forest conservation, rights to the valuable stuff (timber and carbon)
  - Require local institutions and organization, not always there (cannot solve the basic open access problem, including ‘free riding’)
  - REDD and PES: avoiding elite capture

Concluding remarks on methods

- Very few solid studies, much vague storytelling with potential biases (Ken is right!)
- Without proper evaluation methods, one cannot tell much (and risk drawing the wrong conclusions)
- Key lesson when embarking on REDD pilots (demonstration activities)
- Do we (read: *you* or *they*) really want independent evaluations?