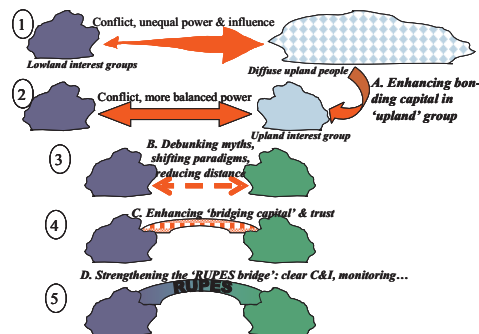
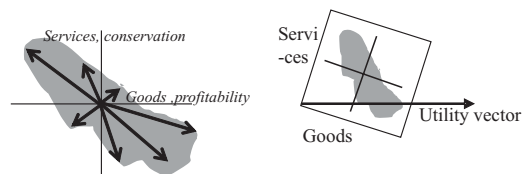


6) Recognize stages of conflict and collective action



Social capital comes in two flavours: 'bonding' capital and trust within a local community, and 'bridging' capital or trust with outside agencies. Some level of 'bonding' capital is usually needed before 'bridging' capital can be formed but strengthening local institution can also bring tensions with the outside world onto a more open conflict stage. By reconstructing local experience in engagement with the outside world and the degree of internal structures within a community, an assessment can be made of relative strengths and opportunities.

7) Understand agents of land use change and stakeholders views on the goods versus services tradeoff



Elements of land use change and their associated drivers involve shifts in the goods (profitability) versus services (conservation) tradeoff. Depending on the position on the landscape in between protected areas, we want to understand the potential relevance of ES rewards (rotating the field so that more of the 'services' project on the utility vector, compatible with the commoditized goods)

Next steps

Details of the methodology will have to be adjusted to local circumstances and the previous levels of engagement of the DriLUC partners. The analysis can go hand in hand with the PALA approach to participatory landscape analysis and the PAPOLD approach to poverty analysis. DriLUC can identify the main issues in agroforestry technology and/or environmental services that merit further study, e.g. through the use of the RAFT, RHA, RABA and RACSA tools. DriLUC will also help to define the framework for any land use change scenario analysis and use of simulation models (such as FALLOW).

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RAPID APPRAISAL of DRIVERS of LAND USE CHANGE (DriLUC)

*Trees in Multi-Use Landscape in Southeast Asia (TUL-SEA)
A negotiation support toolbox for Integrated Natural Resource Management*

Drivers and responses

Land use is dynamic. It is the resultant of decisions and choices made by many actors and agents, and the consequences of the change has many stakeholders. At an early stage of involvement in Integrated Natural Resource Management of a certain landscape, the key features of the resultant 'system' need to be mapped and understood. Looking at a dynamic landscape as a system implies a concept of 'internal' (endogenous) and 'external' (exogenous) drivers of change (even though the system boundary is fluid). The system is subject to 'pressure', has 'response options', 'time lags' and 'feedback mechanisms' that allow learning and internal adjustment. Yet, we shouldn't lose sight of the disconnect, conflicting interests and sometimes open conflicts between the various stakeholders and actors. A 'political ecology' view on the multiple interests and stakes in the landscape can help to form a platform for discussions and negotiations among stakeholders.

Objectives of DriLUC

The primary objective of DriLUC is to provide a systems-level understanding of the way local drivers of land use change in a relatively broad landscape relate to external conditions and the types of local/regional/national feedback that currently relate impacts on livelihoods and the provision of goods and services.

DriLUC in seven steps

- 1) Document changes in land cover, demographics, economic indicators, road/river access; analyze 'conditions and trends'

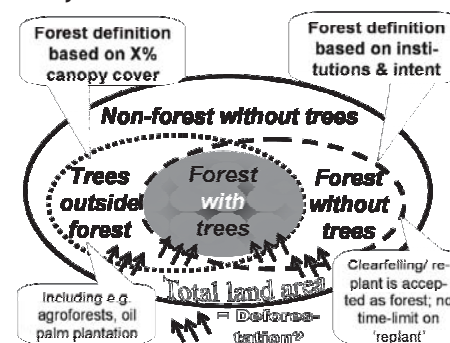
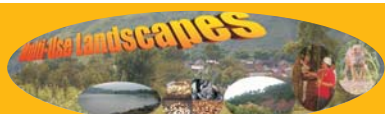


Figure 1. Institution and vegetation based interpretation of the term forest and the resultant four classes of forest/ non-forest lands with or without trees.

Please be aware that the term 'forest' has many operational definitions and that available statistics on 'deforestation rates' can refer to change in woody biomass, change in institutional control or any combination of the two. Similarly, data on demography tend to be weak on issues of migration and temporary movement of people. There are several ways to define poverty and data may not be comparable. A GIS can combine data based on administrative boundaries with data from remote sensing, GoogleEarth and similar sources.



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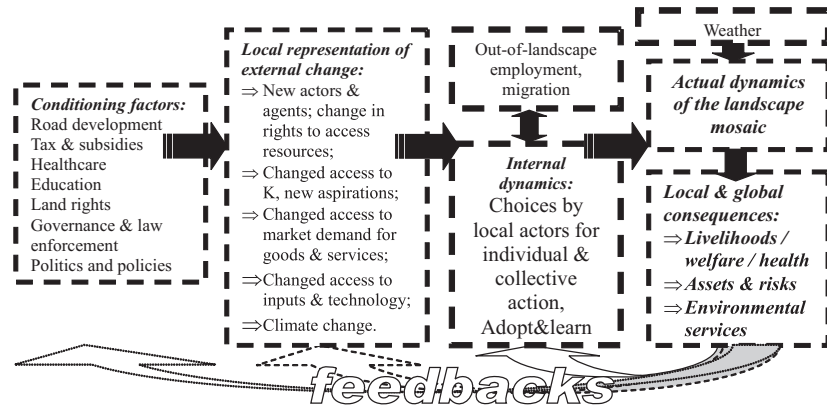
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- 2) Discuss with key stakeholders the way choices made about changing land uses. This includes 'internal' learning and dynamics, and on the local representation of external change, which may respond to conditioning factors that originate at national scale:



As the diagram indicates, one of the main drivers in change can be the 'new' actors and agents to the landscape through changes in access rights, and the temporary employment outside the landscape (which may grade into permanent outmigration). In the short-term, such out-of-landscape jobs lead to remittances to the family members who stay behind, connect social safetynets that reduce risk for all family/ network members, and stimulate change in aspirations and knowledge through exchange.

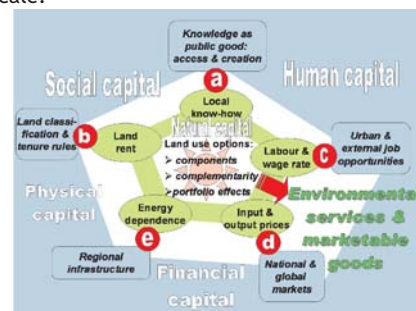
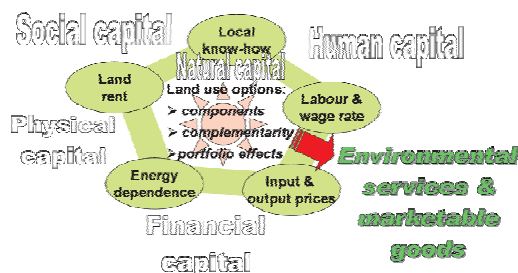
3) Identify Local -National linkage of the 5 capitals

The livelihood approach introduced and supported by DFID recognized five interacting types of 'capital' or 'assets': natural (N), human (H), social (S; incl. political), physical (P) and financial (F) capital. The approach broaden the measures of conversion among capitals from financial-term only to more inclusive aspects of livelihoods. Asymmetric changes apply especially to natural and social capital which can be rapidly destroyed but take a long time to (re)build.

In this context, we can identify five dominant dimensions of rural poverty:

- Lack of access to and use rights of land (social * natural capital)
- Lack of access to clean water and local agrobiodiversity, e.g. causing health problems (natural * human capital, modified by physical and social capital)
- Lack of investment funds for clean development (financial * natural capital, interacting with social and human capital)
- Lack of income opportunities (human * financial capital)
- Lack of (political) voice, being scapegoats of environmental destruction (social * natural capital).

Analysis of the local forms of these five capitals and their interaction need to be seen in the broader context, where the capitals are considered at national scale.

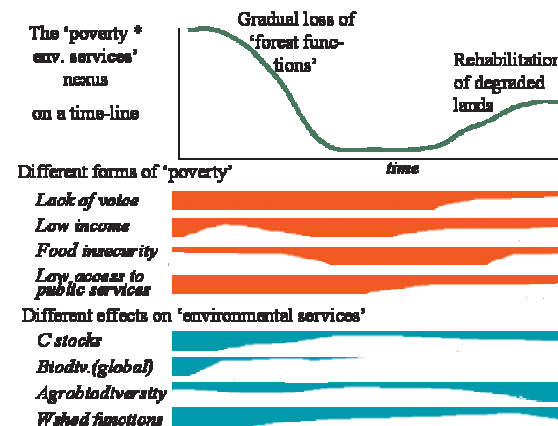


Five major policy domains link the local representation of the primary constraints to land use, to the national one:

- Creation and access to knowledge through responsive research and extension systems
- Policies of (forest) land classification and access rules to land
- Overall economic development and creation of (urban or rural) jobs out of the primary agricultural production sector
- Price policies, subsidies and regulation of market access
- Development of regional infrastructure for transport, water flows, energy supply and the provision of health and education services.

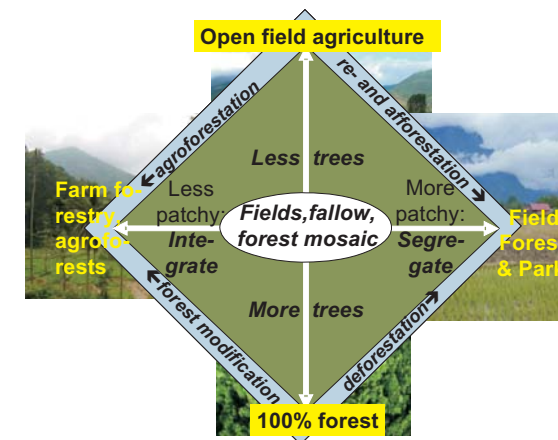
All these five policy domains are embedded in the overall context of governance and poverty reduction strategies.

4) Determine position on the (agro)forest transition baseline



Many landscapes experience or have experienced phases of 'degradation' where the initial opportunities of resource extraction led to non-sustainable use. A transition to resource recovery phase usually requires development of tenurial control that provides returns to investment, and an increased physical, economic and political access to markets. The resulting agro-forest transition curves can have multiple forms. The x-axis can be time, population density or overall economic indicators. The Y-axis can refer to forest cover or provision of environmental services.

5) Dynamics along the segregate-integrate axis



Land cover change is usually described in terms of tree cover (the vertical axis in the graph). However, especially at intermediate forest cover equally important characteristics is the spatial pattern of the various land cover types. We should distinguish fully 'segregated' or zoned systems from those that are more integrated and multifunctional. The driving forces to increase or decrease functional integration are as important as changes in tree cover (deforestation/ reforestation).