Barrier analysis

In technical terms the WNoTree protocol clarifies the 'barriers' that an external support project can address in forms of Clear Development Mechanism. Removing a barrier provides for 'additionality' of landscape C-stocks.

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Barrier Analysis for Tree Enhancement: WNoTree

Analysis of reasons for shortage of trees in the landscape

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

Why no trees? Are they not useful and profitable?

Agroforestry as land use based on planted trees, provides productive and protective (biological diversity, healthy ecosystems, protection of soil and water resources, terrestrial carbon storage) forest functions that societies care about in the debate on sustainable forest management. Yet, the trees planted in agroforestry systems are excluded in formal definitions and statistics of 'forests' and are often overlooked in the legal and institutional framework for sustainable forest management. A paradigm shift is needed in the forestry sector and public debate to redress this oversight.

Current relationships between agroforestry and plantation forestry are perceived to be complementary, neutral or competitive, depending on the ability of (inter)national policy frameworks to provide a level playing field for the provision to society at large of productive and protective forest functions. In conditions where large-scale plantations operate with substantial government subsidies (direct or indirect, partly justified by environmental service functions), in contrast to non-existent or minimal subsidies for agroforestry, the potential to produce wood and simultaneously provide for many forest benefits and ecological services with agroforestry is placed at a disadvantage, to the detriment of society at large.

The 'why no trees?' protocol examines five aspects that hinder a regreening revolution based on farmer tree planting to contribute to sustainable forest management.

A. Property right aspect: Issues of terminology for forests, plantations and reforestation that linked to ***land tenure and land use restrictions***.
B. ***Access to high quality planting material*** of proven suitability remains a challenge, especially at the start of a farmer-tree-planting phase of a landscape.
C. ***Management skill and information*** often constrain production for high market values.
D. Market aspect: ***Over-regulation*** often restricts access to markets for farmer grown timber and tree products, partly due to rules intended to curb illegal logging from natural forests or government plantations.
E. Financial competition aspect: ***Lack of reward mechanisms*** for environmental services provided by agroforestry and/or high discount rate and lack of investment.

Approach

WNoTree surveys will generally have three stages:

I. Use check-list of potential issues in focus group discussions with farmers and local government agencies to identify the most significant constraints to tree management and domestication (incl. planting and harvesting) in the local context;

II. Design follow up surveys to test the hypotheses that emerge from these consultations, in combination with spatial analysis of actual tree presence in the landscape;

III. Action research engagement with local communities and governments to address the primary constraints, and provide a direct test of the preceding analysis.

Phase I: Checklist of issues to pursue in focus group discussions

A. Issues of terminology for forests, plantations and reforestation are linked to ***land tenure and land use restrictions:***

1. Lack of land and tree tenure: physical or economic ***access to land*** for tree planting is linked to use rights of tree products; lack of clarity on future use rights stops farmers from planting trees.
2. ***Fire***: reasons for starting fire, lack of fire control: conflicts over land may enhance the use of fire in the landscape and/or reluctance to protect trees that are not bringing direct benefits.

B. ***Access to high quality planting material*** of proven suitability remains a challenge, especially at the start of a farmer-tree-planting phase of a landscape:

3. Lack of suitable, ***high-quality planting stock*** adapted to soil, climate, pests and disease, intercropping systems, local preferences and markets.
4. Poor ***delivery mechanisms*** for high quality planting material.

C. ***Management skill and information*** often constrain production for high market values:

5. Lack of ***physical performance*** of the tree due to drought, floods, grazing animals, pests, diseases, suboptimal thinning and pruning.
6. Lack of knowledge, labour or inputs for ***managing tree growth*** in intercropping or monoculture plantations.

D. ***Overregulation*** often restricts access to markets for farmer grown timber and tree products, partly due to rules intended to curb illegal logging from natural forests or government plantations:

7. Lack of local ***demand*** and/ or physical and institutional ***access to markets*** for tree products.
8. High ***transaction costs*** (permits, formal and informal taxes) for harvesting trees and tree products.

E. ***Lack of reward mechanisms*** for environmental services provided by agroforestry:

9. Lack of perception and appreciation of ***non-economic or cultural benefits***.
10. High ***opportunity costs***: no-tree land use options are more profitable than tree-based ones; in fact this may be the only 'economically valid' reason for a lack of trees in the landscape unless high discount rates and lack of investment are primary hurdle in otherwise profitable tree-based land use.

An example of such analysis for Indonesia and the Philippines is provided by Roshetko et al., 2008 and van Noordwijk et al., 2008.

Phase II: Detailed surveys to test hypotheses generated in Phase I

Box 1. Analyzing underlying causes of fire

After the 1997/1998 forest fires, a rapid analysis suggested that 'fire as a tool' and 'fire as a weapon' were major components of the causation (Tomich et al.). Subsequent research tested these hypotheses and documented the location-specific causes (Chokkalingam et al., 2005; Suyanto, 2005). As one of the case studies, analysis of the fires in Trimulyo, West Lampung (Suyanto et al, 2004) found that, even with the use of military force, forest policy and management had largely failed to protect forest resources when local communities were not involved. The burn scar pattern in 1994 was similar to the burn scars in 1997; both burn scars were very large and contiguous. A major reason for these fires had been the tenure conflicts; fires had been intentionally caused by discontented villagers to take revenge on efforts to relocate them. Since then, the area became an unproductive grassland (*Imperata cylindrica*) that had become prone to annual fires. The analysis suggested that providing more secure land rights in part of the landscape, through which livelihood expectations could be realized, could lead to more sustainable land management by local communities. The subsequent experience has confirmed this hypothesis. Burn scars became small, indicating fire control.

Phase III: Action research engagement in addressing constraints

Box 2: Lessons learnt from national tree planting campaigns

The Indonesian movement for forest restoration and tree planting, Gerhan, has provided substantial funding for tree planting efforts in areas identified as 'critical lands'. Implicit in the program design has been the analysis that the lack of trees derives from a lack of tree planting and availability of tree seedlings and other planting material. The limited success rate for tree survival and establishment suggests that other reasons for lack of trees in the landscape are at least as important. The success rate for tree planting under conditions where land tenure and future benefit flows are clear is substantially higher than in conditions where the trees are seen either as public or as government controlled good, on land that has multiple claims of ownership and use rights.

Box 3: Experience in stability forest-village gradient in Batang Toru

Positive incentives for appropriate land management need to be created to counter the incentives for negative change in the landscape. Working with community members and other local partners to develop new ways for them to earn income without disturbing the forest or the orangutans, may provide win-win solution in the orangutan conservation program. Survey results of ICRAF and Winrock International identified a number of non-timber forest products (NTFPs) that are produced in the Batang Toru and that have potential to diversify and secure viable livelihood in a landscape with orangutan and other biodiversity. In all the land use systems (mixed tree gardens, agroforests, and natural forests) planning and management is limited. Thus, improvement in managing the species/crops and developing market linkages could benefit the productivity, profitability and sustainability of these systems. Community strategies were developed to provide improved technical approaches that enhanced the productivity and/or profitability of non timber forest products (NTFP) in their agroforestry livelihood systems compatible with the protection of orangutan habitat and to catalyze the communities' capacity for marketing those products. A series of training events became the corner stone for building the farmers' capacity to manage their agroforest garden into more productive, market oriented and environmentally friendly ways (Martini et al. 2008 and Roshetko et al. 2007).