Swidden, Rubber and Carbon:
Can REDD+ work for people and the environment in Montane Mainland Southeast Asia?

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Research questions

Will REDD+ policies affect land users equally in different countries of MMSEA with different land-use policies and histories?

Will REDD+ policies that incentivize transitions from swidden to rubber create carbon gains?

Is it possible to design REDD+ policies that are likely to contribute to the reduction of CO_2 emissions and also enhance development and food security objectives in MMSEA?

Methods

Review land-use polices and assess their impact on smallholders;

Review biome-averaged above- and below-ground carbon biomass estimates for land covers found in the study region including short-, intermediate-, and long-rotation swidden fallows, rubber, oil-palm, and forest.

Review the net benefit of rubber to farm households and the possibility of REDD+ payments being able to meet the opportunity cost of foregoing rubber.

Main findings

1. Land-use policies are leading to an increasingly homogenous landscape dominated by rubber trees but the impact of those policies on the livelihoods of smallholders and their food security diverge immensely.

2. REDD+ policies that seek only to increase tree cover can have a range of impacts on smallholders' livelihoods that vary from beneficial to destructive.

3. Given all the uncertainties regarding carbon sequestration associated with swidden fallows and rubber trees, it is impossible to predict the impact of REDD+ policies involving swidden-rubber transitions.

Policy lessons

1. REDD+ policies should not preclude maintaining or rehabilitating traditional swidden systems with fallow periods that are sufficiently long to allow regeneration of mature secondary forests.

2. In other parts of the region secondary forest fallows will be converted to permanent agriculture, largely dominated by tree crops such as rubber, coffee, and cashews. A REDD+ project that seeks to improve the livelihoods of smallholders must provide economic support for small-scale, diversified, agroforestry systems.
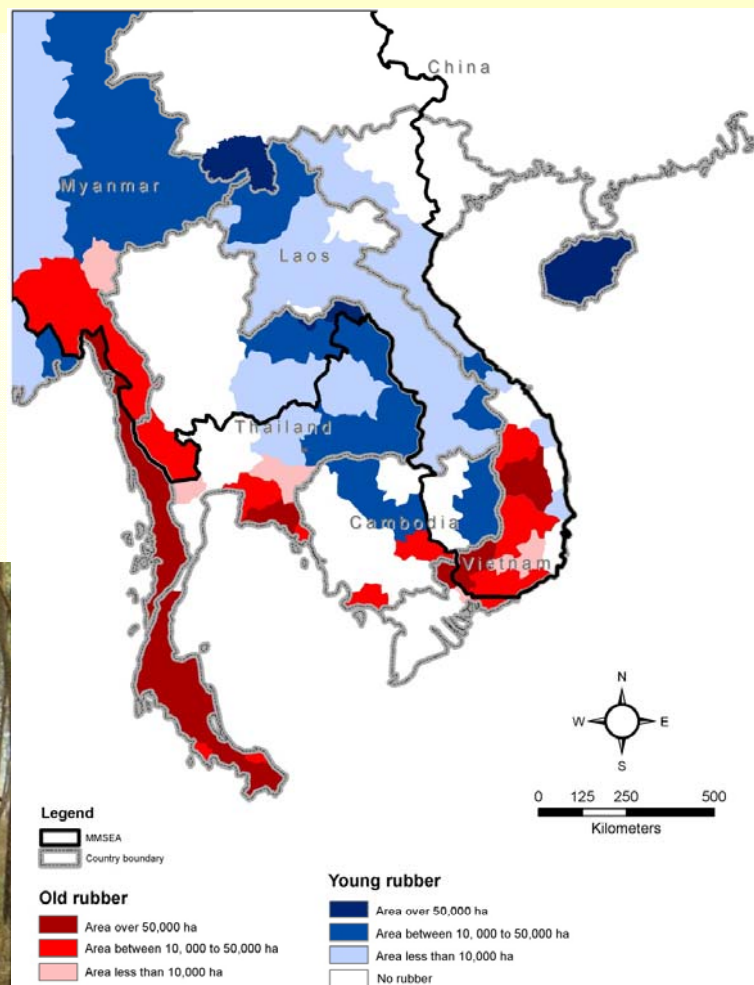
Legend
- MMSEA
- Country boundary

Old rubber
- Area over 50,000 ha
- Area between 10, 000 to 50,000 ha
- Area less than 10,000 ha

Young rubber
- Area over 50,000 ha
- Area between 10, 000 to 50,000 ha
- Area less than 10,000 ha
- No rubber

Fig 1. Traditional and non-traditional rubber growing areas in Mainland Southeast Asia based on 2007 - 2009 statistics.

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