Constraints on Smallholder Plantation Forestry in Vietnam

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Forests in Vietnam

Vietnam has lost a lot of its original forests between early 1940s and 1990s.

The natural forests declined from 14.3 million ha (43% country cover) to only 8.3 million ha (25%) by 1990.
- In 1992 Government of Vietnam commenced a major reforestation program (Decision 327), the following one is “5 million ha program” (Decision 661, 1998)

- Aimed to reforest bare hills - used natives (mostly Pinus) and exotic species (Eucalyptus, Acacia)
Rapid increase in plantation area

Plantation area (million ha)

- 1976: 0.1
- 1985: 0.5
- 1990: 1
- 1995: 1.5
- 2005: 2
- 2010: 3
- 2014: 3.5
- Initially most reforestation done by government bodies

- But in 1995 two key policy decrees was to begin allocating land to farmers ("Red Books" for 50 years) and long-term leases from state forestry enterprises ("Green Books" for 20 - 30 years for forestry and agro-forestry) and extendable.

- Some land for crops but some land specifically for reforestation

- Areas mostly < 3 ha

- Farmers encouraged to undertake reforestation
Much reforestation done by smallholders

Small-holder plantations as % total plantation area

2002 2005 2010 2013
Typical smallholder plantations

Eucalyptus

Acacia
Policies used to encourage smallholders

- Supply seedlings of appropriate species
- Silvicultural advice
- Financial incentives
- Assistance with finding markets for timber
Current forestry land / plantation ownership

**Plantation owners**
(additional 0.7-1 million ha leased land from state companies?)

Normally, each household has 1 – 3 ha plantation only

**Forests management entity**
(all forest types: natural & planted)
This reforestation program has been very successful

has led to

• decline in further loss of natural forests (although continued importation of logs from natural forests elsewhere)

• increase in national forest cover

• improvement in farmer incomes and decline in poverty
  – Investment In Acacia: US $500-800 per ha
  – Return (after 6 years US $2000 – 4000)

• Substantial export income (woodchips)
Increasing woodchip exports (Faostat)
But now three new challenges for smallholder plantation owners in Vietnam
Problem 1: Can the industry change from producing (low value) woodchips to high value furniture?

• High timber demanding from booming furniture industry

• Shortage of domestic saw logs.

• Imports costly. In 2014, Vietnam imported 2 million m$^3$ of sawn timber and 1.4 million m$^3$ of logs. It cost US $1.7 billion

• Price for timber for woodchips low: US$ 30 - 40 m$^3$ at mill gate.

• Government wishes to restructure agricultural sector (including forestry sector)

• Thinking of introducing woodchip export tax 5 – 20 %?
Potential solutions

• Introduce financial and economic incentives for smallholders to grow saw log timbers rather than chipwood

• Diversifying species used for saw log plantations, especially native species (e.g. Diptercarpus, teak…)

• Improvement of governance system to reduce transaction costs for timber industry including transport costs.
Problem 2: Pests and diseases

• High ratio of trees in *Acacia* plantation affected by fungal root rots and ‘pink’ diseases (a case study in South Eastern Vietnam reported 90% of trees in plantation at age 6 were affected). A major diseases problem of *A. mangium* occurring in neighbor countries including Malaysia and Indonesia.

• Problem increases with age - hence difficult to grow *Acacia* on long rotations for saw logs

• In addition – evidence that the large area of Acacia monocultures is also vulnerable to other pests & diseases
Potential solutions

• Find new *Acacia* species, provenances or hybrids resistance to these pests & diseases? Vietnamese Academy of Forest Sciences (VAFS) has successfully developed several diseases resistance *Acacia auriculiformis* & mangium

• Develop silvicultural regimes to minimize pest & disease problems. E.g. VAFS has piloted different planting density, mixed species models, land preparation, site management and got promising results
Problem 3: Financial & economic issues

• Labor costs are rising as consequence of labor market demand and rapid income growth

• Smallholders are generally poor and need rapid cash returns. Long rotation for saw logs are not attractive

• There is increasing competition from other land uses (industrial trees - rubber, coffee & crops – cassava bring more cash per ha)
Potential solutions

- Introduce silvicultural systems for smallholder plantations that require less labour

- Increase timber quality to get higher return from plantations
  - Change species
  - More pruning
  - More thinning

- Introduce payments for forest ecosystem services to increase income for plantation owners
Future changes that may affect plantation owners

- Urbanization – people are migrating to urban zones
  - Will it lead to plantation aggregation?
  - Will this lead to more competition in plantation timber industry?

- Forest ecosystem services market
  - Already pilot programs for water catchments.
  - Carbon? May mean conversion from exotic to longer rotation native species?

- Diversifying timber markets
  - wood for biomass energy (e.g. wood pellets)
Future importance of small-scale forestry in Vietnam

Much of the population of Vietnam will continue to live in rural areas
• total is 63 million or 70%
• mountain region has over 22 million

Small-scale forestry will continue to be important for these people and these regions
The challenge is to find ways of making it an attractive land use that improves rural livelihoods and ecosystem services for sustainable development

Sharing information and experiences