

Financing household tree plantations in Vietnam

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Key messages

- Households require access to external finance to establish and manage commercial tree plantations.
- The Government of Vietnam has recognised the benefits of giving households access to external finance for planting trees. State reforestation programmes and the state-owned banking system offer households exceptional access to financial support.
- Reforestation programmes and state-owned banks currently use different kinds of financial mechanisms to provide finance to households.
- The financial mechanisms perform differently with regards to their sustainability, leakage, access, cost to households, risk to households and match with finance requirements.
- No mechanism performs better than the other mechanisms on all criteria. Vietnam's policymakers thus face critical trade-offs when they design finance programmes in support of household tree plantations.
- The first trade-off is between financial sustainability and the provision of accessible, affordable and low-risk support. A mechanism that provides easily accessible support at low cost and low risk entails transaction costs that make the programme dependant on continuing subsidies.
- The second trade-off is between leakage and financial sustainability. A mechanism that includes systematic monitoring for avoiding leakage incurs transaction costs that reduce its sustainability.
- The interests of Vietnam's tree-planting households and the Government of Vietnam may be best served by a loan-based approach coupled with suitable monitoring of loan use.

In Vietnam as elsewhere, access to external finance critically influences farm households' ability to plant trees for commercial purposes. Households tend to manage trees in more intensive ways and under longer rotations if they have access to external finance. External finance is defined as finance that is not generated within the household but raised from banks, state support programmes, private individuals, or by other means. Household plantations, in turn, are of significant importance in

Vietnam because they are currently one of the primary suppliers of industrial wood. In addition, they may become a significant source of raw materials to the burgeoning furniture industry in the future, alleviating the pressure to import timber from other countries.

The Government of Vietnam has recognised not only the importance of household tree plantations but also the benefits of giving households access to external finance. In 2007, the Government issued Decision 147 on the promotion of forests for productive purposes. The 661 Program shifted away from natural forest protection towards plantations in its last five years of operation. More generally, the Government has transferred around a quarter of Vietnam's forestland to households over the past two decades and uses state-owned banks to offer farm households access to credit, which is exceptional by international standards.

The challenge to the Government of Vietnam is to develop suitable mechanisms for the provision of finance to households planting trees. This Infobrief analyses existing finance mechanisms and recommends an improved mechanism for future support to household tree plantations in Vietnam. It focuses on the financial requirements of surplus-oriented households; such households form the majority of Vietnam's rural households, whose primary concern is to generate a modest surplus at the end of every productive cycle in contrast to the less common investment-oriented households, who calculate the costs and returns of specific investments. In addition, the brief develops an improved mechanism that supports a transition from short rotations to medium-term rotations in the dominant *Acacia* and *Eucalyptus* plantations, as such a transition would help to increase the domestic supply of timber and enhance financial returns to households (Hoang 2011).

Households' financial requirements for tree plantations

A survey of 179 randomly chosen households conducted in four villages of Phu Tho and Binh Dinh provinces in 2008 shows that, at present, most households harvest the dominant *Eucalyptus* and *Acacia* stands after only 3 or 4 years. Yet there are also some households who harvest their trees after 6–7 years, purchase high-quality tree seedlings and apply some fertiliser. These households often hire labour to undertake silvicultural management, seek professional extension advice, and market the harvested wood proactively to wholesale traders or directly to processing factories.

The finance requirements of such plantations are significant. Households need to front cash expenditures of VND 3–4 million/ha in the first year (VND 3–4 million is equivalent to US\$150–\$200/ha based on the exchange rate at the end of 2011). Over the first 2–3 years, they have to cover some VND 10 million/ha (\$500/ha), including the costs of their own and hired labour. The plantations generate returns only after 6–7 years, typically amounting to around VND 30–35 million/ha (\$1500–\$1750/ha). In consequence, the finance requirements of medium-rotation plantations typically exceed surplus-oriented households' financial capacity. The households therefore require access to external credit to finance plantations of any significant size.

When they plant trees, surplus-oriented households seek to finance the required investment from the available surplus in a given year and to safeguard the generation of surplus in the following years. To surplus-oriented households, the eventual returns on plantation investment are of secondary importance. Their primary concern is that the amount of surplus generated from all kinds of activities in the preceding year suffices to cover the initial expenditures of tree-planting, and that they will have a surplus available again the following years. By implication, their initial investment may be relatively low as it is constrained by the available surplus, even though they may consider selling productive assets, such as cattle, to increase the available amount of cash. Also, households practice significant cross-financing between activities, using the surplus generated in some activities to finance plantations, and drawing on the surplus made in plantations to finance other investments.

Surplus-oriented households may take out a loan to raise the investment made in tree plantations, as illustrated in Figure 1. They may do so in the expectation that they can repay the loan from the surpluses made in subsequent years, independent of when the actual returns on the plantation investment are realised. The key issue for them is to produce sufficient surplus from other activities in the following years to

cover the expenditures of tree-planting and loan repayment. This is also the main reason why many households prefer to repay loans in annual instalments. In this way, surplus-oriented households use tree plantations and loans to build up savings. They use the surplus generated in the initial years to produce a big pay-out in the form of the eventual wood sale, as they have repaid the loan by the time the wood is harvested. This savings function of productive investments and loans sets surplus-oriented households apart from investment-oriented households, the latter following a conventional financial rationale that weighs the costs and returns of each investment individually. A key difference between the two kinds of finance practices is that investment-oriented households separate plantation investments from other activities whereas surplus-oriented households deal with plantations within an integrated household economy.

Current finance mechanisms

Vietnam has ample experience with the provision of external finance for household tree plantations. One can distinguish the following four types of finance mechanisms used in recent reforestation programmes and activities:

- Grants in kind, such as the free seedlings and fertiliser distributed under the Government's 661 Program. This programme was designed to support reforestation on 750 000 ha between 2006 and 2010 through direct support to households in the total amount of VND 1.9 billion (US\$95 million).
- Targeted loans, such as the reforestation loans disbursed by the Bank for Social Policies (BSP) under the World Bank-funded Forest Sector Development Project (FSDP). The loan agreement included \$33 million (VND 660 billion) for transfer to the BSP in support of 66 000 ha of new plantations between 2006 and 2010.
- Grants in kind and cash, such as the free inputs and savings books used in the Project on Forest Rehabilitation

Table 1. Overview of four finance mechanisms

	661 Program	FSDP	PFRSFM	BSP
Type	grant	targeted loan	grant	general loan
Amount (VND million/ha)	1.5	10–15	4–6	10–30
Amount (US\$/ha)	75	50–75	200–300	500–1500
In kind or cash	in kind	cash	in kind and cash	cash
Duration (years)	n/a	7–15	6	4
Disbursement	once	3 times	6 times	once
Inspection of plots	3 times	?	annual	no
Interest rate (%/month)	0	0.65	n/a	0.65
Repayment	n/a	end	n/a	yearly
Collateral	n/a	land certificate	n/a	none
Group formation?	no	yes	no	yes

and Sustainable Forest Management (PFRSFM) and other reforestation projects funded by Kreditanstalt für Wiederaufbau (KfW). The PFRSFM has a total budget of \$18 million (VND 360 billion) to fund reforestation of 22 700 ha between 2005 and 2012.

- General loans such as those offered by the BSP throughout rural Vietnam. At the end of 2007, the BSP had total outstanding loans of VND 34 300 billion (roughly \$1.8 billion at that time).

The finance mechanisms differ from each other in the amount of finance available to households, duration, timing of disbursements, monitoring, interest rate, repayment conditions, and collateral requirements (see Table 1).

How do the finance mechanisms perform in comparison?

The four finance mechanisms perform differently against a set of assessment criteria (Table 2).

Sustainability. None of the four finance mechanisms is financially sustainable (considering the costs of capital depreciation). The loans offered by the BSP and under the FSDP may be operationally sustainable (excluding capital costs). The 661 Program and the PFRSFM rely on external budget allocations.

Leakage. The finance programmes differ in the degree to which they avoid leakage, meaning the use of finance for productive activities other than the contractually specified one. Leakage is not an issue in the 661 Program and PFRSFM due to the in-kind support provided and, in the latter, monitoring by local forest officers. It is a significant problem with the loans offered by the BSP and under the FSDP, as there is no monitoring if loans are used for the purpose stated in the loan application.

Access. Individual households enjoy relatively easy access to 661 projects and the BSP loans, as they are available to most households in areas with coverage and land titles are not absolutely necessary. In addition, the savings and loans groups initiated by and registered with the BSP ease access to loans significantly. Access to FSDP loans is more restricted as it is tied

to certain conditions, such as land titles and land preparation, which have led households to withdraw applications. The PFRSFM provides financial and technical support to land titling in preparation of tree planting, significantly reducing access restrictions.

Cost to households. On the one end of the spectrum is the 661 Program, which provides free inputs at minimal transaction costs. On the other is the PFRSFM, under which households incur significant opportunity costs due to the obligation to mix fast-growing with indigenous species.

Risk to households. Households participating in the 661 Program incur virtually no risk as they receive inputs for free. Under the FSDP, households bear all the risk incurred by tree plantations. The PFRSFM and BSP are somewhere in-between, as households and supporting institution share the risks.

Match with finance requirements. Surplus-oriented households benefit from the finance provided through the 661 Program, the PFRSFM, and the BSP. The three mechanisms match their primary concern with the generation and use of annual surplus as they raise the available surplus without endangering households' capacity to repay the assistance. The savings books under the PFRSFM are particularly advantageous because they mimic the savings function of tree plantations (the BSP deposits the full amount to households' books initially, but releases them gradually over time only). The BSP loans increase the available finance for plantation establishment and allow households to service the loans in suitable ways due to their limited amount and the possibility to repay the principal in annual instalments.

Key findings and policy implications

The comparison above shows that there is no single mechanism that scores high on all criteria. The Government of Vietnam consequently faces difficult trade-offs in the design of suitable finance mechanisms for household tree plantations. Two trade-offs are particularly critical.

- Sustainability versus the goal to provide accessible, affordable and low-risk support to households. A mechanism that provides easily accessible support to

Table 2. Comparative performance of four finance mechanisms

	Sustainability	Leakage	Access	Cost	Risk	Match
661 Program grants	require subsidy	none	easy	none	project	good
FSDP loans	operational	some	medium	medium	household	weak
PFRSFM grants and savings books	require subsidy	none	?	high opportunity costs	project and household	very good
BSP loans	operational	high	easy	low	household	very good

households at low cost and low risk, such as the PFRSFM, entails costs that make the programme dependant on continuing subsidies. A finance mechanism that prioritises sustainability, such as the FSDP, provides barriers of access, increases the costs, and raises the risks to households.

- Leakage versus sustainability. Finance mechanisms that aim for sustainability do not include procedures required for effective monitoring of loan use. As a result, households may use support taken up with the stated purpose of tree plantation investments for other productive or unproductive purposes. Conversely, a mechanism that includes systematic monitoring incurs programme costs that reduce its sustainability, in particular due to the need for finance institutions to cooperate with third parties able to perform the required monitoring of actual loan use.

The findings thus highlight the benefits of using a loan-based approach coupled with suitable monitoring of loan use. Loans offer the only means for providing accessible, affordable and low-risk support and making this support relatively independent of continuing external allocations, even though financial and even operational sustainability may be elusive goals. Monitoring of loan use is crucial for preventing leakage of reforestation finance to other activities.

In addition, the provision of finance to household tree plantations should incorporate seven key elements (Box 1). Loans should span seven years to match the financial requirements of medium-rotation plantations and be charged the applicable commercial interest rate for the sake of sustainability. The Bank for Social Policies may be in the best position to manage the loans due to its extensive network of branches and transaction points, and because of the savings and loans groups operated by the Bank. The groups help to reduce transaction costs and can play an important function

Box 1. Key elements for the provision of finance

Future provision of finance to commercial tree plantations operated by surplus-oriented households should include the following elements:

- loans offered by the BSP
- 7-year duration
- commercial interest rate (currently 1.25%/month)
- savings and loans groups monitoring loan use and repayment
- medium amount (VND 7 million/ha, equivalent to US\$350/ha)
- annual repayment of principal
- households carry the investment risk

in monitoring the appropriate use of loans in order to avoid leakage. Surplus-oriented households will require medium-sized loans to finance medium-rotation plantations. As household members perform most of the required activities, loans of roughly VND 7 million/ha (US\$350/ha) would suffice. Surplus-oriented households would repay part of the principal every year in light of the savings function of plantations. The relatively modest loan size and annual repayment would enable households to carry the full investment risk without hampering loan uptake or endangering households' livelihood security.

References

- Son, H.L. 2011 Participatory financial analysis of tree planting at household level in Vietnam. Unpublished project report. CIFOR, Bogor, Indonesia.
- Sikor, T. 2011 Financing household tree plantations in Vietnam: current programmes and future options. Working Paper 69. CIFOR, Bogor, Indonesia.



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