

INCREASING CARBON SEQUESTRATION THROUGH MARKET-BASED PUBLIC, PRIVATE, AND COMMUNITY PARTNERSHIPS: SUSTAINABLE ACACIA VALUE CHAIN DEVELOPMENT IN HOA BINH PROVINCE

INTRODUCTION

In Vietnam and worldwide, widespread forest degradation from illicit timber harvesting, forest land conversion and poor forest management practices, is leading to increased carbon emissions, which threatens the environment, communities, and livelihoods. Despite national increases in overall tree coverage, Vietnam’s natural forests are reducing in area and worsening in quality.

From 2020-2025, the USAID Sustainable Forest Management Project (the Project) is linking communities, local authorities, the national government, and the private sector to jointly address the drivers of forest conversion and degradation in targeted areas. The Project aims to avoid carbon emissions from natural forest conversion and degradation; increase carbon sequestration through better management of plantation forests; and improve the quality, diversity, and productivity of natural production forests— all to protect Vietnam’s threatened forest resources.

PRODUCTION FORESTRY STATUS IN HOA BINH

Hoa Binh Province is located 100 kilometers northwest of Hanoi. Its total area is 459,614 ha, of which about 76 percent consists of forests and forestry land (areas that are planned for forestry purposes) and the remaining 24 percent is land without forests, which is distributed across 10 districts and Hoa Binh City. The total production forest area is 149,425 ha, of which plantation forests accounts for 62 percent (or 92,470 ha). Within these plantation areas, individual household forest owners account for 68 percent of the total land. Other forest owners, such as protection forest management boards and state-owned companies, account for 32 percent (See Table 1).

Table 1 Production Forest Areas in Hoa Binh, 2020

#	Province-District	Total production forest area (ha)	Natural production forest (ha)	Plantation production forest (ha)			Other land (ha)
				Plantation forest (ha)	Households forest owner (ha)	Other forest owners (ha)	
	Total (ha)	149,425	27,034	92,470	63,371	29,099	29,921
1	Hoa Binh city	15,316	541	1,313	6,150	5,163	3,462
2	Cao Phong district	7,873	2,574	2,462	1,862	600	2,837
3	Da Bac district	25,937	6,364	14,426	9,081	5,345	5,148
4	Luong Son district	14,575	723	11,450	7,503	3,947	2,402
5	Tan Lac district	14,720	2,850	7,428	7,065	363	4,442
6	Mai Chau district	17,299	7,935	5,440	1,688	3,752	3,923

7	Lac Son district	13,862	797	11,363	7,312	4,051	1,702
8	Yen Thuy district	7,816	479	6,454	5,458	996	882
9	Lac Thuy district	10,016	1,442	7,510	6,192	1,318	1,063
10	Kim Boi district	22,013	3,330	14,625	11,059	3,565	4,058

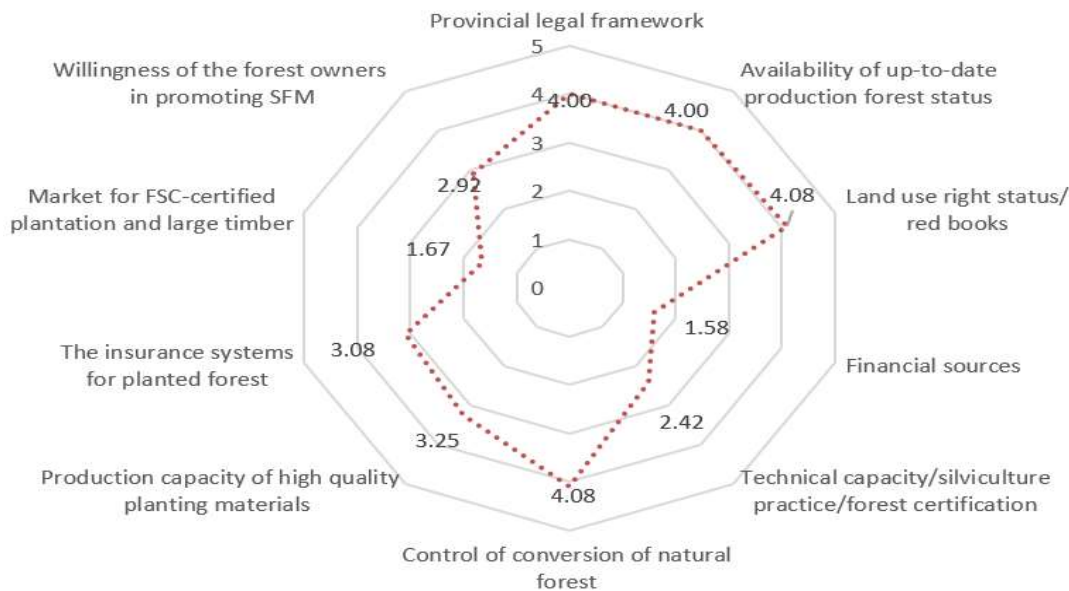
Source: USAID Sustainable Forest Management- Assessment of Barriers and Opportunities for SFM, 2021

BARRIERS AND OPPORTUNITIES FOR SUSTAINABLE FOREST MANAGEMENT IN HOA BINH PROVINCE

To identify appropriate interventions to promote sustainable production—especially plantation forest management—the Project conducted an initial assessment on the barriers and opportunities at the national level and across seven Project provinces. At the national level, the Project reviewed the legal framework and current data on sustainable forest management (SFM), forest certification and large dimension timber plantation development (LDTPD) in Vietnam; identified the Government of Vietnam’s strategies and priorities in SFM and forest certification; and analyzed the market for Forest Stewardship Council (FSC)-certified wood and large dimension timber.

At the provincial and district levels, the Project employed ten criteria to assess the barriers and opportunities for SFM, forest certification, and LDTPD. To ensure a participatory process, the Project brainstormed criteria with key stakeholders in Hoa Binh province, such as the Department of Agriculture and Rural Development (DARD), and Forest Protection Sub-department (FPD).

Figure 1 Strengths and weaknesses of ten assessment criteria for SFM in Hoa Binh province, Assessment on B&O Report, 2021



Based on the scores (ranging from 1-weakest to 5- strongest) given by respondents from Hoa Binh Province, the Project drew up a spider map (see Figure 1) based on the strengths and weaknesses of each criterion. The results indicate that the province has strong legal framework in place, available forest and forest land data, land use certificates granted (“red books”), control of conversion of natural forest, and insurance for planted forests as all these criteria were given scores greater than 3.0 (out of 5.0). Stakeholders also identified the following weaknesses: financial resources, technical capacity on silviculture, SFM and forest certification, and household forest owners’ lack of willingness to apply SFM practices. Based on these findings, the Project worked closely with Hoa Binh DARD and FPD to come up with more appropriate interventions to improve weaknesses/barriers while still promote opportunities for scaling up viable technical interventions.

MARKET-BASED PPCP FOR PROMOTING SUSTAINABLE ACACIA DEVELOPMENT VALUE CHAIN

Based on the identified findings, the Project applied the market-based Public, Private, and Community Partnership (PPCP) approach, which is a model for achieving sustainable development in which three parties (the private sector, public sector, and communities) jointly develop a business unit or service of mutual benefit while also providing maximum benefits to the wider community. Within this framework, the private sector gains long-term benefits from the balanced inclusion of producers and consumers; the public sector gains additional resources from investments and the assurance of participation and ownership from all parties; and the community gains new skills, knowledge, and technologies. The Project designed relevant interventions and prioritized resources to address the weaknesses/barriers while also promoting strengths/opportunities.

Table 2 Details on Sustainable Acacia Value Chain Development in Hoa Binh Province

Category	Description
Sub-sector	Acacia value chain development
Location	Yen Thuy, Lac Son, Tan Lac, Lac Thuy, Kim Boi districts and Hoa Binh city, Hoa Binh Province.
Private partners	<ul style="list-style-type: none"> • Hoa Binh Biomass Limited (BVN) Company. https://www.bvnbiomass.com/bvn-hoa-binh • Hoa Binh Forestry Company • 13 nurseries from Yen Thuy, Lac Son, Tan Lac, Lac Thuy, Kim Boi districts and Hoa Binh city
Legal Framework	<ul style="list-style-type: none"> • Resolution No.27/NQ-TU dated July 30, 2020 by Provincial Communist Party on Promoting the Sustainable Development of Production Forest till 2025 and orientation toward 2030; • Resolution No. 46/NQ-HDND dated October 13, 2021 by the Provincial People's Council Committee on Approving the Investment Policy for Forest Protection and Development Project in Hoa Binh; • Decision No. 1505/QĐ-UBND dated July 26, 2022 by Hoa Binh PPC on Approving the Implementation of the Forest Protection and Development Project in Hoa Binh; • Decision No.79/QĐ-UBND dated November 15, 2019 by Hoa Binh PPC on Approving the Investment Policy for the Hoa Binh BVN Pellet Company; • Decision No. 195/QĐ-UBND, dated March 11, 2020 by Lac Son DPC on Appointing the Material Areas for BVN with 22,000 ha in Lac Son district; • Decision No. 2384/QĐ-UBND, dated August 25, 2022 by Hoa Binh DARD on Agreeing the Proposal of the Hoa Binh BVN Company to Implement FSC/FM Activities districts of Hoa Binh Province; and • Decision No. 69/QĐ-UBND, dated February 2, 2023 by Tan Lac DPC on Allowing the Hoa Binh BVN Company to Implement FSC/FM Activities in Tan Lac district.
Aim/ Objective	To improve 31,500 ha of production forest in five districts of Hoa Binh Province (of which, 15,000 ha from using quality planting materials, 8,000 ha from improved sustainable forest plan implementation, 7,000 ha from certified FSC in Lac Son and Tan Lac districts), and 1,500 ha from replanting, thinning, and pruning practices.
Expected Impact	A contribution to improved livelihoods of at least 18,000 people and increased carbon sequestration of 313,895 tons CO₂ (of which: 244,603 tons CO ₂ are expected to be sequestered from 24,500 ha Acacia planting; and 69,929 tons CO ₂ are projected to be sequestered from 7,000 ha certified FSC Acacia planting in 2023 and till 2025).
Project's Key Interventions	The Project provides technical assistance on five key interventions: <ol style="list-style-type: none"> 1. Improving planting materials including seedlings. 2. Promoting large timber plantation by thinning. 3. Building and implementing sustainable forest management plans.

	4. Promoting replantation applying more appropriate planting techniques; and 5. Promoting certification for sustainable forest management
Immediate Outcomes	Create an expected 10 percent added value of acacia products for around 4,500 households by maintaining sustainable forest management, including certification.
Beneficiaries	At least 18,000 local forest dependent people, relevant communities and forest protection management boards in the five districts and Hoa Binh city listed above.
Project's Role	Provide mainly technical and institutional assistance
Value of the partnership	Total value for this PPCP is approximately US \$29 million ; of which: <ul style="list-style-type: none"> • Public sector: US \$1.3 million (based on Decision 1505/ QD-UBND dated July 26, 2022 on Approving the project of Forest Protection and Development in Hoa Binh (counting only 25 percent of total State investment budget); • Private Sector: a total investment from the BVN Hoa Binh of US \$22 million (investment capital of US \$20 million for building the BVN Hoa Binh Factory in Lac Son district plus US \$2.0 million in operations costs including technical staff (trained by the Project) and technical assistance to forest owners/growers; • Forest owners and Community (nurseries): US\$ 4.9 million (which consists of US \$4.75 million from individual forest owner investment and US \$195,000 from 13 nurseries; and • USAID Sustainable Forest Management Project: US\$ 795,000, which consists of technical assistance, including trainings and planting material support.
Progress as of March 2023	<ul style="list-style-type: none"> • One Partnership Agreement (PA) with BVN Hoa Binh Signed and 13 Memorandum of Understanding (MOUs) signed between the Project and the Company/ Nurseries. • Various technical assistance activities on addressing specific barriers (such as financial resources, technical capacity on silviculture, SFM and forest certification, and willingness of household forest owners on applying SFM practices) undertaken (for more detail, see the next section).

USAID SUPPORT FOR IMPLEMENTATION OF ACACIA VALUE CHAIN IN HOA BINH

With support from USAID, the Project has been working closely with provincial partners to implement Acacia value chain development activities. The Project aims to improve at least 31,500 ha of production forest in five districts of Hoa Binh Province (of which, 15,000 ha is from using higher-quality planting materials, 8,000 ha from improved sustainable forest plan implementation, 7,000 ha from certified FSC in Lac Son and Tan Lac districts, and 1,500 ha from replanting, thinning, and pruning practices). This activity will also benefit around 18,000 local forest dependent people by 2025. The Project applies six key interventions to achieve these targets, as follows:

1. Advocating for policies that encourage sustainable CFE development.

Following the inauguration of MARD's Circular 21/2021/TT-BNNPT—which guides the classification of wood processing and exporting enterprises into different categories, with different management mechanisms for each—the Project has supported four of its partner provinces to develop inter-agency coordination protocols to implement the Circular, a process that involves many provincial agencies. Hoa Binh was the first province to develop and sign such protocols, which are now implemented by up to nine provincial agencies. The Project's support helps accelerate the process of classification, offering favorable conditions for timber enterprises in Hoa Binh to bring their products to domestic and international markets. Additionally, the Project is supporting Hoa Binh to develop technical guidelines for seven forestry trees species that have high income potential for forest growers. Once applied, these guidelines will ensure consistent cultivation practices and help increase the forested areas in the province.

2. Improving planting materials, including nursery management and high-quality seedlings.

Although the production capacity of high-quality planting material in Hoa Binh is relatively strong (a score of 3.25 out of 5), only 10 companies and cooperatives (out of 71 production units) were fully granted business licenses to produce quality planting materials. Unfortunately, the remaining 61 small-scale planting material production units—mostly households and individuals—have not fully registered and/or have inadequate production to receive licenses. Collectively, these small units can produce approximately 15 million seedlings/planting materials per year.

To address this gap, USAID provides training on compliance with legal documents for nursery owners. The Project also provides technical training on the production of improved quality planting material (IQPM) and propagation materials, such as seeds, bottled tissue culture plantlets, and original germplasm for production of IQPM. Once IQPMs are produced, the nurseries will supply these materials to farmers to develop plantations with higher productivity and yields. So far, the Project conducted training on nursery management skills for 36 participants (39% women) coming from 24 nurseries. The Project also provided silviculture and high-quality planting materials production skills for 19 participants (42% women) from 19 nurseries. Finally, the Project has already provided 192 kg of seeds to 13 selected nurseries to produce IQPM for 5,000 ha of forests. These seedlings will demonstrate the benefits of investing in high quality seeds to convince producers to replicate this approach.



Figure 2: Project Staff conducted pre-selection of potential vendors to provide registered seedlings in Phu Tho Province.

To ensure sustainability, the Project will conduct a rapid assessment to evaluate the impact of the project’s assistance, comparing nurseries that received support from USAID to those that did not, from baseline to endline. The findings will enable the Project to advocate to Hoa Binh DARD to implement legal guidance that encourages local forest owners to use registered quality planting materials from selected and verified nurseries. After establishing a mobile application on nursery management nationwide, the Project will work closely with the Hoa Binh FPD to map out and highlight these 13 nurseries, as well as other competent nurseries to improve their access to larger clients who will be interested in purchasing registered quality planting materials from them. After boosting demand for registered quality, then these nurseries are expected to invest in improving their nursery management and continuing to provide IQPM to meet market demand, which will lead to increased incomes and sustainable and viable business models.

3. Promoting large timber plantation by thinning.

USAID provides technical assistance to farmers who commit to apply thinning practices (i.e., removing unhealthy trees to allow other stronger trees for growing up faster) and to prolong their plantation rotation up to at least eight years to produce large timber. The Project targets achieving 500 ha of thinning and pruning as a practice demonstration. So far, the Project has already thinned 13 ha, with four additional ha of re-planting underway. In addition to the technical assistance, the Project is also developing communications materials, including a video, podcast, and flyers using local dialects and/or subtitles to reach local ethnic groups to promote large timber plantation through thinning/conversion activities.



Figure 3. Field thinning activity in Vu Ban commune, Lac Son district, Hoa Binh province

4. Building and implementing SFM plans.

The Project provides technical assistance to develop SFM plans for certification groups and Protection Forest Management Boards who signed contracts with farmers for plantation development/management and farmer groups. Once these SFM plans are approved, the Project will continue to provide technical assistance to implement activities articulated in the plans, including silviculture best practices, such as unburnt site treatment, tree planting, tending, pruning, thinning, GIS application, and remote sensing techniques to monitor forest management activities.



Figure 4. Local participants in Lac Son district are practicing acacia silviculture practices provided by the Project

To date, the Project has organized 10 training courses on silviculture techniques for 479 people (60% female and 97% ethnic minority group members) from certification groups, farmers, and MBFP members. The Project also organized two meetings and field trips, which resulted in the Hoa Binh Forestry Company agreeing on an action plan to reach 8,000 ha of forest with improved forest management. The Project will provide training on QGIS for staff of the Company to upgrade their monitoring and management system. Both the Project and the Company agreed to conduct trainings on unburnt site treatment, tree planting, tending, pruning, thinning, and forest fire prevention before applying these techniques in the field.

5. Promoting replantation through appropriate planting techniques.

USAID will provide IQPM to farmers who commit to plant for multi-purpose plantations. The Project encourages farmers to keep their plantation up to eight years to produce large timber and is supplying one million seedlings for replanting on 1,000 ha. To date, the Project provided seedlings to be planted on 500 ha (344.16 ha for 305 households in Lac Son district and 155.84 ha for 78 households in Yen Thuy district). These farmers will re-plant their forests right after the timber harvest from their previous planting cycle, while applying registered quality seedlings, with standard density, proper pruning and thinning, and other appropriate silviculture techniques.

6. Promoting certification for sustainable forest management

USAID is also working to promote FSC certification in Hoa Binh by creating conditions for participating farmers/ forest owners to achieve sustainable management and FSC certification of their plantations. The Project is encouraging farmers to produce large and small dimension certified timber and to sell this timber to the Hoa Binh Biomass Limited (BVN) Company as the first option buyer, providing them a direct link to a buyer in the market. Through the Project's partnership agreement with BVN Hoa Binh, USAID is ensuring that participating farmers receive long-term technical assistance from BVN Hoa Binh and from the Project to continue improving the quality of their production in the long-term.



Figure 5. The BVN Hoa Binh Factory was built in Lac Son District with a total investment capital of \$20 million. The factory has been authorized to use 22,000 hectares of planted acacia for production. The factory mainly produces wood pellets with a capacity to produce 150,000 tons per year.

To implement these activities, the Project worked closely with BVN Hoa Binh to develop a joint action plan. BVN Hoa Binh built a wood pellet and wood processing factory in Lac Son district, Hoa Binh province (see photo). BVN Hoa Binh is the legal representative for the participating farmer groups/cooperative, through which it establishes FSC/FM certification groups and purchases FSC®/FM certified timber from farmers' groups/cooperatives.

As part of the partnership, the Project provides technical assistance to farmers' groups on a range of topics, including establishment of cooperatives; improved silviculture practices, certification process, conducting assessments of thematic topics such as social impact assessments, environmental impact assessments; SFM planning and monitoring; and internal audits, among other topics to bolster business practices and silviculture practices.

Through USAID's assistance, 10 forest certification groups were established (500 members, 32% females) and received trainings on certification practices/ silviculture techniques, covering an area of 540 ha in Lac Son district. Through the partnership with the Project, BVN Hoa Binh also invested their own resources among 131 certification groups, consisting of 4,524 households in 19 communes in Lac Son district. As a result of the assistance, by the end of 2023, 6,106.86 ha of forest lands were certified, after, meeting the international standards set by FSC.

The Project provides training on silviculture and certification skills for group leaders for 131 certification groups in Hoa Binh. These trained group leaders then provide basic trainings on silviculture to their group's members.

SO WHAT?

The Project's market-based PPCP approach is demonstrating initial improvements in partnerships among government authorities from the national to provincial, district, and communal levels, and among CFEs, small forest households, and forest-dependent communities when they engage in acacia value chain development in Hoa Binh province. These strengthened partnerships have enabled Hoa Binh's forest owners and farmers to gain access to additional resources of USD 29 million to better manage their natural and forest resources. These improvements are benefiting more than 18,000 local forest-dependent people, who are earning higher incomes that will encourage them to implement more sustainable practices to better protect and preserve their forests. This, in turn, will lead to increased tons of CO₂ sequestered, estimated at more than 300,000 tons of CO₂ by 2025, thereby contributing to Vietnam's nationally determined commitments and supporting the country's transition towards green growth.