

## **FORESTRY DEVELOPMENT IN NGHE AN PROVINCE: THE CURRENT STATUS AND POLICY RECOMMENDATIONS**

**Tran Thi Thu Ha, Nguyen Minh Thanh, Chu Thi Thu, Nguyen Thi Xuan Huong**

*Vietnam National University of Forestry*

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### **ABSTRACT**

Nghe An has the biggest area of forest and forestland in the North Central region and play an important role in environmental protection, biodiversity conservation, poverty reduction and social stability. Nghe An forestry sector has achieved many results in forest protection and development, forest cover is increasing, biodiversity is preserved, the economic structure of the industry has changed positively. However, the management and protection of forest resources and the organization of forestry production currently have many limitations and shortcomings, and have not brought into full play the potential and advantages of the sector. The study was conducted to assess the status of forestry development in the period 2016-2020 and to propose policy recommendations to develop the province's forestry sector in the 2021-2030. The main research method is to collect and analyze secondary data sources from related units. In addition, primary data and information were collected from individual interviews and group discussions with officials and local people in the province. The results have assessed the status of forestry development in the period 2016-2020 in terms of forest protection and natural conservation, concentrated new forest plantation, timber and NTFPs harvesting, forest enterprises, wood processing, payment for forest environmental services, and a number of recommendations has been made to promote forestry development in Nghe An province.

**Keywords:** forest production, forest production growth, forestry development, Nghe An province.

### **1. INTRODUCTION**

Nghe An is a province in the North Central region with a total forest area of 1,008,740.67 ha, accounting for 61.18% of the total natural area, with 962,896.97 ha of forest, of which natural forest is 788,991.10 ha (accounting for 81.94%) and plantation forest 173,905.87 ha (accounting for 18.06%) of the total forest area. Forest resources in Nghe An are rich and diverse, the value of forest resources is a potential source of raw materials for industries producing all kinds of forest products and forest environmental services. The forests play an important role in environmental protection, biodiversity conservation, and is also a potential means of production for hunger eradication and poverty reduction, social stability and security protection.

Recently, with the objectives in the strategic orientation of forestry development in Vietnam approved by the Prime Minister in Decision No. 18/2007/QĐ-TTg dated February 5, 2007; On the basis of actual local conditions, Nghe An Forestry sector has achieved many results in forest protection and development, forest cover is increasing,

biodiversity is preserved, capacity of watershed protection, environmental protection, job creation, income increase, hunger eradication and poverty alleviation for mountainous ethnic minorities and forest workers. The economic structure of the industry has changed positively, gradually forming concentrated raw material areas associated with processing and consuming forest products.

However, the management and protection of forest resources and the organization of forestry production currently have many limitations and shortcomings, and have not brought into full play the potential and advantages of the sector. The most obvious manifestations are the low quality and efficiency of planted forests, the limited area of large timber plantations; the exploitation and processing of wood and non-timber forest products has not been comprehensively developed from raw materials to production and product consumption; the planted forest products are mainly exported as raw materials or are simply preliminarily processed, the commodity value chain is low; deforestation,

encroachment on forest land and illegal logging still occurred; Investment value for forestry is limited, so it has not met development requirements.

**2. RESEARCH METHODOLOGY**

The study was conducted in Nghe An province to assess the status of forestry development in the period 2016-2020 and to propose policy recommendations to develop the province's forestry sector in the 2021-2030 period. The main research method is to collect and analyze secondary data sources of the Department of Statistics, Forest Protection Department, Department of Agriculture and Rural Development and related units. In addition, primary data and information were collected from individual interviews and discussions with 21 officials from Forest Protection Department and 06 group of local people in Tuong Duong, Con Cuong and Anh Son districts, Nghe An province.

The analytical methods for secondary data are mainly descriptive statistics, comparative statistics and content analysis to assess the status of forestry development of the province in the period 2016-2020. Primary information

from the results of individual interview and group discussions was synthesized to analyze the causes of the current situation and solutions for forestry development in the period 2021-2030.

**3. RESULTS AND DISCUSSION**

**3.1. Forest and forest land resources**

According to the People's Committee of Nghe An province [1], as of December 31, 2021, the total forest and forest land is 1,008,740.67 hectares. The province's forest area is 962,896.97 ha, of which natural forest is 788,991.10 ha (accounting for 81.94%) and plantation forest is 173,905.87 ha (accounting for 18.06%) of the total forest area. In the area of natural forest, primary forest accounts for nearly 3% with 23,375.66 ha, all of which are distributed in special-use forests, while the majority is secondary forest with 765,615.44 ha, accounting for over 97%. natural forest area. The area that has been planted but not yet forested is 45,843.70 ha, of which the area is mainly production forest. The rate of forest cover in 2021 reach 58.41% of the total natural land area of the province.

**Table 1. Forest and forest land by function in 2021**

*Unit: ha*

Indicators	Areas	By function		
		Special-use forest	Protection forest	Production forest
<b>Total areas</b>	<b>1,008,740.67</b>	<b>167,496.02</b>	<b>298,904.20</b>	<b>542,340.45</b>
<b>I. Forest areas</b>	<b>962,896.97</b>	<b>167,278.61</b>	<b>297,188.81</b>	<b>498,429.55</b>
- Percentages (%)	100	17.37	30.86	51.76
1. Natural forest	788,991.10	164,457.76	278,650.96	345,882.38
- Percentages (%)	81.94			
2. Plantation forest	173,905.87	2,820.85	18,537.85	152,547.17
- Percentages (%)	18.06			
<b>II. Unforested areas</b>	<b>272,748.16</b>	<b>5,394.73</b>	<b>70,163.98</b>	<b>197,189.45</b>
1. Planted but not yet forested	45,843.70	217.41	1,715.39	43,910.90
2. Forest regeneration	75,039.78	1,882.69	31,208.70	41,948.39
3. Others	151,864.68	3,294.63	37,239.89	111,330.16
<b>II. Forest cover rate (%)</b>	<b>58.41</b>			

*(Sources: Nghe An Provincial People's Committee, 2022)*

By function, special-use forest is 167,278.61 ha, accounting for 17.37%; protection forest 297,188.81 ha accounted for 30.86% and production forest 498,429.55 ha accounted for

51.76% of the total forest area, which similarly with the structure of 3 types of forests nationwide (special-use forest 14.81%; protection forest 31.92%; production forest

53.27%). For special-use forests, the entire area is distributed in special-use forests, including three national parks, nature reserves and landscape protection areas. The province's protection forests include watershed protection forests, water source protection forests, windbreaks for sand and waves for encroachment.

The forest cover rate of Nghe An province is always higher than the general forest cover rate of the North Central region and much higher than the national rate. In 2020, the national forest cover rate was 42.01%, the North Central region was 57.35%, while Nghe An province reached 58.50%. The area not yet forested is 272,748.16 ha, accounting for 16.54% of the total natural land area, including planted but not yet forested, regeneration and other land areas. Especially, the other land area is 151,864.68 ha. In terms of forest quality, rich and medium forests are 243,547 ha, accounting for 25.8%; estimated reserves of 91 million m<sup>3</sup> of wood of all kinds; high biodiversity and many kinds of rare and precious forest animals and plants [1].

### **3.2. Areas and structure of forest and forest land by localities**

Forests are distributed in 376 communes in 21 districts/cities/towns of the province. Most of the forest area is concentrated in the western and northwestern districts of Nghe An. Of the 21 districts/towns/cities, 04 districts (Tuong Duong, Que Phong, Con Cuong and Ky Son) have forest and forest land of over 100,000 ha. All four districts have the common characteristic that the area of natural forest accounts for almost absolute proportion, respectively 97.95%; 97.81%; 95.83% and 99.71%. Tuong Duong district has 225,994.68 hectares, of which 222,556.30 hectares of forest account for over 23% of the total forest area of the province with a forest cover rate of 79.26%. Tuong Duong is also the district with the largest area of production forest land in the province with 105,845.10 ha. The district with the highest forest cover rate is Con Cuong with

83.19% with a forest area of 144,585.41 ha, of which the area of special-use forest is 73,882.07 ha. In the whole province, there are 09 districts/towns/cities with forest area under 10,000 ha, of which Cua Lo town and Vinh city have negligible forest area [1].

### **3.3. Forest users and organizations assigned to manage forests**

General information about forest users and organizations assigned to manage forests is shown in Table 2. Forest users got allocated forest land in Nghe An province including special-use and protection forest management boards; business; armed forces; science and technology; education and training; households and individuals; community and foreign investment enterprises. Forest users are classified into 2 groups: (i) Group I: forest users include households, domestic individuals and residential communities; (ii) Group II: forest users include organizations such as forest management boards, forestry companies, science and technology organizations, armed forces, non-business units and project owners [1].

Among forest users, armed forces and foreign-invested enterprises are allocated insignificant areas with 1,098 ha and 639 ha respectively. The three largest forest owners are protection forest management boards (24.70%), special-use forest management boards (21.05%), and domestic households/individuals (19.39%). The protection forest management board is also managing over 95,000 ha of unforested area, most of which is zoning for regeneration and other land. Households and individuals are currently managing over 57,000 hectares of unforested land, in which mainly planted forest areas have not yet met the criteria of becoming forests and other land areas [2].

Commune People's Committees are currently responsible for managing a rather large forest area of 184,241 ha, accounting for 17.09 % of the total forest area of the province, while the Commune People's Committees are not forest users legally, have no resources, and

are not entitled to any investment. This area is not well managed and protected, the land use

efficiency is not high, and forest resources are often threatened [2].

**Table 2. Areas devided by forest users and organizations assigned to manage forest**

*Unit: ha*

Forest types	Special-use forest manag't board	Protection forest manag't board	Forestry companies	Science & technology; education & training	Households and individuals	Local Community	Communal People's committee
Total areas	212,484	251,126	61,780	39,374	221,207	36,789	184,241
<i>Percentage (%)</i>	<i>21.05</i>	<i>24.70</i>	<i>5.83</i>	<i>3.79</i>	<i>19.39</i>	<i>3.44</i>	<i>17.09</i>
A. Forest areas	212,334	249,139	58,793	38,207	195,622	34,719	172,387
<i>Percentage (%)</i>	<i>22.05</i>	<i>25.87</i>	<i>6.11</i>	<i>3.97</i>	<i>20.32</i>	<i>3.61</i>	<i>17.90</i>
1. Natural forest	209,705	232,885	44,848	30,041	119,733	31,866	118,624
2. Plantation forest	2,628	16,254	13,945	8,165	75,889	2,853	53,763
B. Not yet forested	11,530	95,343	6,998	10,582	57,542	11,869	78,359

*(Sources: Nghe An Provincial People's Committee, 2022)*

Regarding the results of forest allocation in association with the allocation of land use rights to group I forest owners (including households, individuals and communities), according to data from Nghe An Forest Protection Department [3] as of 2020, People's Committees at all levels have assigned 16,764 households, individuals and communities to 109,676.64 ha. In which, forest allocation on land has allocated forest land use rights to 9,366 households and communities with an area of 38,735.00 ha; new forest allocation associated with the allocation of forest land use rights to 7,398 households and communities with an area of 70,941.64 ha. Thus, up to now, there are still 118,202.36 hectares (out of a total of 227,879 hectares of forest and forest land allocated for management) that have not yet been granted a forest land use right certificate for group I forest owners. This shows that the work of forest allocation associated with the allocation of forest land use rights to group I forest owners needs to be completed as soon as possible, creating favorable conditions for local people and communities in forest conservation, management, protection and development of production forests.

**3.4. The results of forestry development for the period 2016-2020**

**3.4.1. Forest protection and natural conservation**

The results show that, there are 964,474 hectares of existing forest in the province are well protected from different sources of investment and support policies and programs [4]. The results of the implementation of specific targets for the period 2016-2020 are summarized in Table 3.

The implementation of support policies for forest protection and contracted forest protection has been carried out quite well and has reached the rate of over 97% compared to the plan, applied to special-use forests, protected forests and production forests are natural forests. For forest protection contract support, the policies are being implemented to apply the beneficiaries under the Government's Resolution No. 30a/2008/NQ-CP dated December 27, 2008 on the Program on Rapid and Sustainable Poverty Reduction and Dcree 75/2015/CP of the Government on mechanisms and policies to protect and develop forests in association with the policy of rapid and sustainable poverty reduction and support for ethnic minorities in the period 2015 – 2020; and subjects not covered by the above two policies. The average annual area benefiting from the support policy of contracted forest protection is about 98,565 hectares, of which the districts that are the beneficiaries of Resolution 30a/2008/NQ-CP account for nearly 50%.

Table 3. The results of forest protection of the period 2016-2020

Indicators	Unit	2016	2017	2018	2019	2020
<b>1. Forest protection and natural conservation</b>						
- Special-use forest increasing	Ha		229	27	298	298
- Damaged forest areas	Ha	282.9	661.4	125.7	77.9	480.1
- Legal violation cases	Case	967	730	566	503	559
<b>2. Contracted forest protection support</b>						
Resolution 30a/2008/NQ-CP	Ha	81,529	28,564	28,408	39,521	43,521
Decree 75/2015/CP	Ha	28,670	28,640	27,983	32,145	28,223
Others	Ha	43,343	46,034	14,613	10,667	10,961
<b>3. Forest protection support</b>						
Decree 75/2015/CP	Ha	-	-	-	-	17,124
Decision 24/2012/TTg	Ha	16,275	16,197	1,990	1,542	1,409
Document 2602/BNN-TCLN	Ha			139,497	101,134	101,872
Decision 2242/QD-TTg	Ha	10,468	7,821	12,356	12,190	12,169
Decision 07/2012/QD-TTg	Ha	609	609	609	609	605
Payment for forest environment services (PFES)	Ha	271,520	289,324	300,014	411,873	462,938

(Sources: Nghe An Department of Agriculture and Rural Development, 2021)

For the implementation of policies to support forest protection, an average of 438,153 hectares per year benefited from the above policies, but only accounting for over 20% of the total area, while most of the forest protection support comes from PFES with an average annual rate of 347,134 ha, accounting for over 79.2% of the total benefit area. The unit price in 2016 ranges from 28,000 VND/ha/year to 401,000 VND/ha/year; in 2019 ranges from 12,979 VND/ha/year to 600,000 VND/ha/year. Although the unit price is not high, it can be seen that the revenue from the PFES policy is a significant source of socialization contributing to forest protection.

However, the activities of forest management and protection are not really stable, and the coordination between agencies and forest owners in the same area is not fully efficient. The handling of forest law violations by the authorities is sometimes not resolute. Although the forest area has increased, the quality of the forest and the biodiversity of the natural forest are still declining (60% of the natural forest area is poor forest), and the natural production forest which has not been paid much attention as protection and special-

use forests, the loss of natural forests still occurs. The funds allocated for forest protection are still limited, only meeting over 55% of the regulations, not enough for the protection activities of the entire existing forest area in the province.

#### 3.4.2. Concentrated new forest plantation

The area of concentrated new plantations by forest type in the period 2016-2020 is summarized in Table 4. The results show that the province's forest development has performed quite well, the annual new planting area is from over 16,000 ha to over 22,000 ha, with most of the growth rates reaching over 100%, of which in 2017 it reached over 113%, in 2018 and 2019 alone, the growth rates reached over 86.5% and over 93.4% respectively. In the period 2016-2020, production forests account for a large proportion, while the area of newly planted protection and special-use forests is very low. Thus, the province's forest development mainly focuses on the area of production forest when the forest owners replant the forest after exploitation, while the newly planted area concentrated on protection and special-use forests is still limited.

**Table 4. The concentrated forest plantation by function of period 2016-2020**

Year	Total areas		By function					
	Area (ha)	Annually growth rate (%)	Special-use forest		Protection forest		Production forest	
			Area (ha)	Annually growth rate (%)	Area (ha)	Annually growth rate (%)	Area (ha)	Annually growth rate (%)
2016	19,620	100.57	100	200.00	750	92.06	18,770	100.67
2017	22,327	113.80	93	93.00	403	53.73	21,831	116.31
2018	19,314	86.51	9	9.68	257	63.77	19,048	87.25
2019	18,055	93.48	-	-	137	53.31	17,918	94.07
2020	18,533	102.65	-	-	154	112.41	18,379	102.57

(Sources: Nghe An Provincial Statistic Office, 2021)

A number of indicators to evaluate the results and effectiveness of production afforestation are summarized in Table 5. The average productivity of planted forests at the main exploitation tends to increase markedly at 13m<sup>3</sup>/ha/year in 2016 increase to 18m<sup>3</sup>/ha/year by 2020. This is a high average yield compared

to the whole country, currently only about 15m<sup>3</sup>/ha/year. During this period, the province has also accomplished over 3,467 hectares of converting from small timber forests into large timber business, achieving over 115% of the plan.

**Table 5. The results and efficiency of production forest of the period 2016-2020**

Indicators	Unit	2016	2017	2018	2019	2020
Average production forest productivity	m <sup>3</sup> /ha/year	13	15	15	18	18
The area converting from small to large- timber business	Ha	254.42	816.62	848.4	1,255.2	292.4
Percentage of area are seedling control	%	17.16	35.00	65.00	70.00	80.00
Sustainable forest management certified area	Ha	-	-	-	-	8,252.37

(Sources: Nghe An Department of Agriculture and Rural Development, 2021)

Regarding the management, production and trading of forest seedlings, the Department of Agriculture and Rural Development has issued documents regulating the production and supply of seedlings for afforestation. However, in fact, only inspecting and controlling the quality of afforestation seedlings under the program and project funded by the state budget. According to a report of the Forest Protection Department, the quality control of forest plant varieties will reach 80% in 2020 compared to 17.6% in 2016. For the areas local people invest by their own capital to plant forests, checking the origin and quality of seedlings is the responsibility of the District People's Committee, which is very difficult to control in reality.

However, the quality and the productivity of planted forests are not in line with the potential,

the plant group is still monotonous, the quality of plant varieties is not fully guaranteed. Economic efficiency has not met the needs of forest growers, and the level of forest intensive farming is still limited. The reason is that the consumption market and economic efficiency have not convinced people to invest in afforestation (especially production forests) meanwhile the State's financial support policy is still inadequate. Moreover, the demand for forest land for other land use purpose is increasing, affecting the development of intensive plantation forests.

### **3.4.3. Timber and non-timber forest product harvesting**

Timber production in the 2016-2020 period increased steadily over the years with an average growth rate of over 15%, of which 2019

had the highest annual growth rate of 20.01%, while in 2018 only reached 2.97%. Although Nghe An has a fairly large production forest area with 538,601 ha, most of it is natural forest (347,120 ha, accounting for 64.45% of the production forest area), so almost 100% of timber output is harvested from the plantation forest due to the Government's policy of natural forests logging ban. This is an issue that needs to be addressed in the 2021-2030 period,

especially for forestry companies that are currently managing large natural production forests to ensure both the goal of natural forest conservation and efficient production and business. Forest companies are currently assigned to manage a large natural production forests, mainly located in forested districts such as Con Cuong, Tuong Duong, Que Phong, and Ky Son.

**Table 6. Production of timbe and NTFPs harvested in the period 2016-2020**

Forest product types	Production by year				
	2016	2017	2018	2019	2020
Timber (m <sup>3</sup> )	791,876	938,909	966,802	1,160,320	1,319,677
- From natural forest	6,670	2,862	1,518	1,417	803
- From plantation forest	767,945	936,047	965,284	1,158,903	1,318,874
Percentage (%)	96.97	99.70	99.84	99.88	99.94
Paper mill material (m <sup>3</sup> )	519,028	685,229	707,142	907,904	1,071,557
Percentage (%)	65.54	72.98	73.14	78.25	81.20
Firewood (ster)	1,035,630	1,031,914	1,030,375	1,035,393	1,021,389
Bamboo (1.000 stems)	41,725	40,850	41,078	44,827	46,123
Rattan (tonne)	857	933	955	1,047	1,095
Resin (tonne)	3,510	3,681	3,726	3,735	3,570
Bamboo shoot (tonne)	37,453	39,724	40,615	41,078	39,406

(Sources: Nghe An Provincial Statistic Office, 2021a)

The results (Table 6) show that the percentage of paper materials tends to increase, in 2016 it is 65.54%, by 2020 it was 81.20%. This is a negative trend because in the future the paper industry will shrink due to the reduced demand for paper and large environmental trade-offs. Therefore, the wood processing industry should focus on non-paper products, deep-processed products with large wood materials to boost exports, increase added value, and enter the world wood processing product market more effectively. The annual amount of firewood harvested is above 1 million ster, which also shows that the timber utilization rate is still low and the demand for firewood for domestic consumption is quite large [5].

Timber production of the state economic sector (forestry companies and other state organizations) accounts for a small proportion, ranging from over 3% to over 8% and tends to decrease gradually year by year. The non-state sector, in which households and individuals have a high timber output, always accounts for

a high proportion and tends to increase gradually over the years, contributing mainly to the supply of raw timber materials.

The output of timber harvested from planted forests has increased rapidly, but the raw material areas are not concentrated, the planning of raw material areas in many regions is not appropriate, lacks feasibility, and there is no material area meeting international standards, leading to passive forest production and business and the key export markets are narrowed.

#### 3.4.4. Forest enterprise development

Out of total 426 enterprises in the agro-forestry-fishery sector, there are about 30-40 enterprises in the forestry sector and related services, accounting for less than 10%, of which mainly are State-owned Forestry Company, a few private enterprises in the field of afforestation and facilities providing forest tree seeds and other services. The enterprises have less than 50 employees, most of which are less than 10 employees and capital scale is less than 10 billion.

**Table 7. Forest enterprise development period 2015-2019**

Indicators	2015	2016	2017	2018	2019
Number of active enterprises	30	27	38	32	40
Total labour	670	631	625	634	477
Average capital per year (Bilion VND)	289.7	494.5	597.2	850.8	1,201.8
Value of fixed assets and long-term financial investment (Bilion VND)	201.9	367.9	367.1	386.5	474.4
Net revenue (Bilion VND)	131.8	136.6	212.5	357.4	350.3
Profit before-tax (Bilion VND)	22.0	11.0	19.9	10.2	9.9
Profit-to-sales ratio (%)	16.69	8.05	9.36	2.85	2.83

(Sources: Nghe An Provincial Statistic Office, 2021b)

Some performance indicators of forestry enterprises in the period 2015-2019 are summarized in Table 7, showing that although the average production capital per year and the value of fixed assets and long-term financial investment are increased, but profit before tax and profit-to-sales ratio tended to decrease sharply. This shows that most forestry enterprises are facing difficulties in improving production and business efficiency.

**3.4.5. Wood processing development**

The total number of enterprises in the wood

processing is 186, of which the enterprises processing wood and products from bamboo are 129, the enterprises producing beds, cabinets, tables and chairs are 57. All enterprises have less than 50 employees, of which less than 10 employees per enterprise account for nearly 57%. By capital size, 128/186 enterprises have an investment capital range from 500 million to less than 10 billion VND (68.8% of the total number of enterprises), enterprises with capital from over 10 billion accounted for about 29% [6].

**Table 8. Production and business results of wood processing enterprises in the period 2015-2019**

Indicators	2015	2016	2017	2018	2019
<b>I. Net revenue (Bilion VND)</b>					
1. Enterprises processing wood and products from bamboo	3,883.2	1,618.3	3,402.9	4,044.8	4,300.0
2. Enterprises producing beds, cabinets, tables and chairs	270.3	291.3	305.8	285.5	286.8
<b>II. Profit before-tax (Bilion VND)</b>					
1. Enterprises processing wood and products from bamboo	32.2	- 174.4	- 345.0	- 478.1	- 430.9
2. Enterprises producing beds, cabinets, tables and chairs	2.6	0.2	0.1	- 1.7	0.2
<b>III. Profit-to-sales ratio (%)</b>					
1. Enterprises processing wood and products from bamboo	0.83	- 10.78	- 10.14	- 11.82	- 10.02
2. Enterprises producing beds, cabinets, tables and chairs	0.96	0.07	0.03	- 0.60	0.07

(Sources: Nghe An Provincial Statistic Office, 2021b)

The production and business results of wood processing enterprises in the period 2015-2019 are summarized in Table 8, showing that enterprises in wood processing and manufacturing products from wood and bamboo from 2016 to 2019 has a pre-tax profit and a negative profit-to-sales ratio, especially in

2019 having a profit-to-sales ratio of 0.2 is a very low level. Enterprises producing beds, cabinets, and chairs have much lower net revenue than wood processing enterprises and manufacturing products from bamboo, but their business results are also not satisfactory with other indicators such as profit before tax and



profit-to-sales ratio are very low.

The development of the forest processing industry is still slow, inconsistent, and has not brought into full play its potential advantages in terms of land, raw materials, and human resources in the locality; The majority of forest product processing enterprises are small and medium enterprises, with limited production capacity, lack of capital, slow innovation and new investment in facilities and technology; Analysis and forecast of markets, especially export markets, have not been paid due attention; The domestic product consumption market has not been exploited well, has not had a long-term orientation, has not built a brand and promoted product brands; The planning of the concentrated raw material area has many shortcomings, the projects to develop the raw material forest have not brought into full play their potential, especially the management and exploitation of planted forests leading to the production of timber for processing has not been improved, on the other hand, the wood processing network in the province has not been unified to use raw materials.

**3.4.6. Payment for forest environmental services**

The results of PFES for the period 2016-2020 are summarized in Table 9 show that, during this period, the area and value of PFES payments increased rapidly over the years. The total area to be paid is 1,734,681 hectares with a total payment value of 384,146 million VND, an average of 221,450 VND/ha. In which, the area of self protect and management by organizations accounted for 20.48% in terms of area and 15.90% in terms of payment value, averaging 171,959 VND/ha; while the contracted area for forest management and protection to local people is paid for 79.52% in area and 84.10% in value, averaging 234,198 VND/ha. Although the average payment per hectare is not high, the implementation of the PFES policy in Nghe An province has contributed quite a lot to the increase of investment capital from socialization sources in addition to the state budget, official development assistance (ODA) and other legal capital sources to implement the activities of the provincial forestry sector.

**Table 9. Payment for Forest Environmental Services in the period 2016-2020**

Year	Total		Divided to			
	Area (ha)	Value (Million VND)	Self manage & protect by organizations		Contract manage & protect to HHs and communities	
			Area (ha)	Value (Million VND)	Area (ha)	Value (Million VND)
2016	271,520.00	74,175.83	32,152.65	4,166.66	239,367.35	70,009.17
2017	289,338.57	45,141.74	37,986.13	4,083.79	251,352.44	41,057.95
2018	300,014.42	87,404.63	38,072.15	5,932.61	261,942.27	81,472.02
2019	411,873.88	87,656.46	96,806.66	18,494.26	315,067.22	69,162.20
2020	461,934.54	89,768.26	150,265.66	28,417.14	311,668.88	61,351.12
<b>Total</b>	<b>1,734,681.41</b>	<b>384,146.92</b>	<b>355,283.25</b>	<b>61,094.46</b>	<b>1,379,398.16</b>	<b>323,052.46</b>
<i>Percentage (%)</i>	<i>100</i>	<i>100</i>	<i>20.48</i>	<i>15.90</i>	<i>79.52</i>	<i>84.10</i>
Average (VND/ha)		221,450		171,959		234,198

(Source: Nghe An Forest Protection and Development Fund, 2021)

The results show that the capital mobilized from PFES accounted for 22.39% of the total investment and support capital for Nghe An forestry sector, mainly supporting forest protection activities. In the context of limited budget funds for forest management and protection, revenue from PFES has contributed

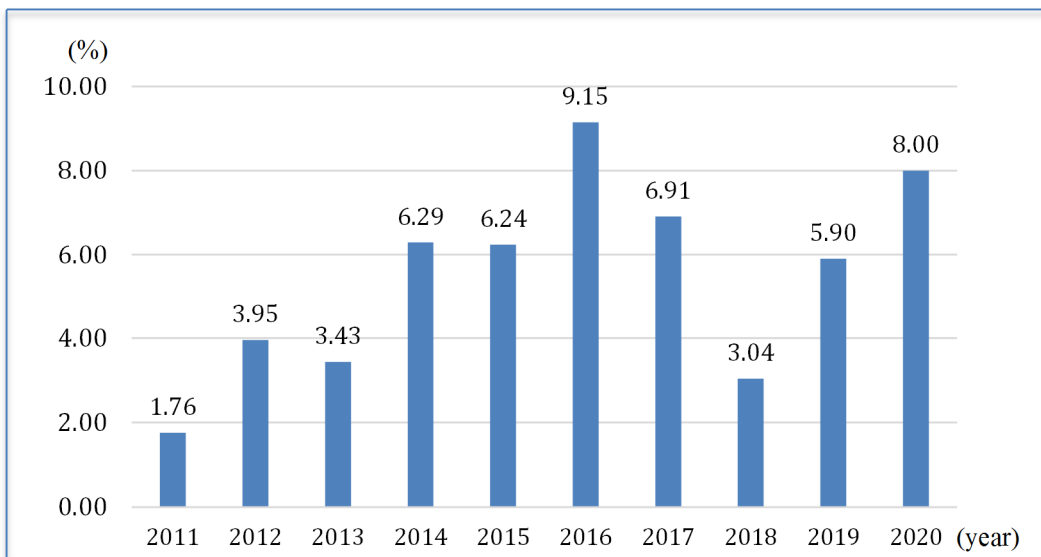
to maintaining stability, reducing pressure on the state budget while improving livelihoods and increasing income for forest workers, contributing to maintaining national security, social order and safety in forested areas [7].

**3.4.7. The growth in production value and restructuring of the forestry sector**

The production value at constant prices in the period 2010-2019 of the agro-forestry- fishery inter-sector increased by an average of 4.62%/year, mainly due to the stable development of agricultural production while the forestry and fishery sectors have a relatively fast growth rate. The production value of the agricultural sector increased by an average of 3.95%/year, the forestry sector increased by an average of 5.24%/year and the fisheries sector increased by an average of 8.25%/year [5]. In 2020, although the province's GRDP increased by 2.19% lower than in 2019 due to the impact of the Covid-19 epidemic (4.71%), the agro-forestry-fishery inter-sector still achieved a high growth rate of 5.07% compared to 2019. In

4.71% of the overall growth, the agro-forestry-fishery inter-sector contributed 1.10 percentage points, lower than the 2.32 percentage point of industry-construction sector and 1.20 percentage points of the service sector [5].

In the period 2011-2020, the forestry production value at constant prices in 2010 increased by an average of 5.24% per year but fluctuated unevenly over the years (Figure 1). From 2014 to 2017, the growth rate of forestry production value was at a high rate of over 6%, especially in 2016 it increased by 9.15% but decreased sharply in 2018. The growth rate of forestry production value in Nghe An province reached 8% in 2020 [5].



**Figure 1. The growth in production value of forestry sector in the period 2011 - 2020**

*(Source: Nghe An Provincial Statistics Office, 2021)*

Therefore, it can be seen that, although Nghe An forestry sector has had a growth in production value, the proportion of added value is relatively high and the movement within the agro- forestry-fishery inter-sector is positive. However, because forestry production value only accounts for a small proportion of the total production value of the region, the contribution to the growth of the industry is not much and is not commensurate with the potential of land, forest resources, labor, public and private investment and support. The work of innovation and development of production organization forms is still slow; small household economy, increasingly revealing limitations and weaknesses; State-owned forestry enterprises,

after being rearranged and transformed into forestry companies, have not yet realized their business autonomy, are unable to access loans for production or do not have a mechanism to generate a stable source of income for forest owners.

**3.5. Recommendations for Nghe An province forestry development in the period 2021-2030**

*First*, implement synchronously solutions to accelerate the restructuring of the forestry sector according to Decision No. 1565/QĐ-BNN-TCLN dated July 8, 2013 on the approval of the forest sector restructuring project and Decision No. 255 /QĐ-TTg dated February 25, 2021 of the Prime Minister on the approval of the agricultural restructuring plan for the period of

2021-2025, which ensures a reasonable structure among 3 types of forests, focusing on developing large timber forests and non-timber forest products to meet basic needs for the wood processing industry and the forest product market.

*Second*, focus on attracting highly qualified human resources in forestry such as forest resource management, silvicultural techniques and breeding, forest product processing, forestry economics, meeting the needs of the labor market for the development of forestry production and the conservation of forest resources in a modern direction; improving the capacity of local people and communities to participate effectively in forest protection and development activities, and forest product processing through strengthening forestry extension activities, developing a basic forestry extension system and voluntary at commune and village levels.

*Third*, continue to replicate effective models of forestry production on the basis of harmonious development between economy and society associated with protection of the ecological environment; focusing on promoting the application of technical advances in high-quality forestry plant varieties and developing infrastructure for seed production; prioritizing investment in the development of fine processing industry, deep processing, technological innovation, advanced and modern equipment.

*Fourth*, continue to effectively implement the forestry development support policies on forest protection, investment in afforestation, silvicultural infrastructure, and promotion of the conversion and planting of large timber forests; continue to raise awareness and promote the formation of a sustainable forest management model according to FSC standards; develop and replicate value chain linkage models between forest growers and processing enterprises.

*Fifth*, effectively mobilize and integrate investment capital sources for forest protection and development and forestry economy in the province with approved national target programs such as Target program for socio-

economic development in ethnic minority and mountainous areas in the period of 2021 - 2030; National target program on building new rural areas in the period of 2021 - 2025; National target program on poverty reduction and sustainable social security for the period of 2021 - 2025.

*Sixth*, increase socialization of revenue sources and reinvestment in the forestry sector through payment for forest environmental services (PFES), extended to landscape services for ecotourism, carbon sequestration services for industries in addition to the current revenue sources for hydropower and clean water.

#### **4. CONCLUSION**

Nghe An is a province in the North Central region with a total forest area of 1,008,740.67 ha, accounting for 61.18% of the total natural area. Forest resources in Nghe An are rich and diverse, the value of forest resources is a potential source of raw materials for industries producing all kinds of forest products and forest environmental services. The forests play an important role in environmental protection, biodiversity conservation, and is also a potential means of production for hunger eradication and poverty reduction, social stability and security protection.

However, the management and protection of forest resources and the organization of forestry production currently have many limitations and shortcomings, and have not brought into full play the potential and advantages of the sector. The most obvious manifestations are the low quality and efficiency of planted forests, the limited area of large timber plantations; the exploitation and processing of wood and non-timber forest products has not been comprehensively developed from raw materials to production and product consumption; the planted forest products are mainly exported as raw materials or are simply preliminarily processed, the commodity value chain is low; deforestation, encroachment on forest land and illegal logging still occurred; investment value for forestry is limited, so it has not met development requirements.

To enhance the forestry development in

Nghệ An province, a number of recommendations has been proposed as following: (i) implementing synchronously solutions to accelerate the restructuring of the forestry sector, which ensures a reasonable structure among 3 types of forests, focusing on developing large timber forests and non-timber forest products to meet basic needs for the wood processing industry and the forest product market; (ii) attracting highly qualified human resources in forestry sector and improving the capacity of local people and communities to participate effectively in forest protection and development; (iii) promoting the application of technical advances in high-quality forestry plant varieties and developing infrastructure for seed production, investment in the development of fine processing industry, deep processing, technological innovation, advanced and modern equipment; (iv) continuing effectively implement the forestry development support policies on forest protection, investment in afforestation, silvicultural infrastructure, and promotion of the conversion and planting of large timber forests; (v) effectively mobilizing and integrating investment capital sources for forest protection and development and forestry economy in the province with approved

national target programs; (vi) increasing socialization of revenue sources and reinvestment in the forestry sector through payment for forest environmental services.

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## PHÁT TRIỂN LÂM NGHIỆP TỈNH NGHỆ AN: HIỆN TRẠNG VÀ ĐỀ XUẤT CHÍNH SÁCH

Trần Thị Thu Hà, Nguyễn Minh Thanh, Chu Thị Thu, Nguyễn Thị Xuân Hương  
*Trường Đại học Lâm nghiệp*

### TÓM TẮT

Nghệ An có diện tích rừng và đất lâm nghiệp lớn nhất vùng Bắc Trung Bộ, có vai trò quan trọng trong bảo vệ môi trường, bảo tồn đa dạng sinh học, xóa đói giảm nghèo và ổn định xã hội. Ngành lâm nghiệp Nghệ An đạt nhiều kết quả trong công tác bảo vệ và phát triển rừng, độ che phủ rừng ngày càng tăng, đa dạng sinh học được bảo tồn, cơ cấu kinh tế ngành chuyển đổi tích cực. Tuy nhiên, công tác quản lý, bảo vệ tài nguyên rừng và tổ chức sản xuất lâm nghiệp hiện nay còn nhiều hạn chế, bất cập, chưa phát huy hết tiềm năng và lợi thế của ngành. Nghiên cứu được thực hiện nhằm đánh giá thực trạng phát triển lâm nghiệp giai đoạn 2016-2020 và đề xuất các khuyến nghị chính sách phát triển ngành lâm nghiệp tỉnh Nghệ An giai đoạn 2021-2030. Phương pháp nghiên cứu chủ yếu là thu thập và phân tích nguồn dữ liệu thứ cấp từ các đơn vị liên quan. Ngoài ra, thông tin sơ cấp được thu thập từ các cuộc phỏng vấn và thảo luận với cán bộ và người dân địa phương trong tỉnh. Kết quả của nghiên cứu đã đánh giá thực trạng phát triển lâm nghiệp giai đoạn 2016-2020 trên các khía cạnh bảo vệ rừng và bảo tồn thiên nhiên; trồng rừng mới tập trung; khai thác gỗ và lâm sản ngoài gỗ; phát triển doanh nghiệp lâm nghiệp; công nghiệp chế biến gỗ; chi trả dịch vụ môi trường rừng. Một số những kiến nghị và đề xuất chính sách đã được đưa ra để thúc đẩy phát triển lâm nghiệp trên địa bàn tỉnh Nghệ An trong giai đoạn tới.

**Từ khóa:** phát triển lâm nghiệp, sản lượng rừng; tỉnh Nghệ An, tốc độ tăng sản lượng lâm nghiệp.

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