

# WORKSHOP

## Statistics on forest products in Viet Nam

### SCIENTIFIC RESEARCH, MANAGEMENT OF PLANTATION FORESTS

Hoàng Văn Thắng

Vietnamese Academy of Forest Science (VAFS)

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# FORESTRY SCIENTIFIC RESEARCH

## Objectives:

- Science & technology development strategy for the period 2011-2020 (Decision No. 3246/QĐ-BNN-KHCN)
- Proposal on agricultural restructuring towards raising added values and sustainable development (Decision No. 899/QĐ-TTg)
- Target program for sustainable forestry development for the period 2016-2020 (Decision No. 886/QĐ-TTg)
- Proposal on sustainable forest management and forest certification (Decision No. 1288/QĐ-TTg)

## Tasks:

- Select and develop the production of fast-growing forest tree species (acacia, eucalyptus), indigenous large timber species, NTFP species with high competitiveness
- Research to develop optimal technical package for transformation from small timber plantations to large timber plantations, and intensive afforestation
- Research to develop technological procedures in harvesting and processing of timber and NTFP, production of supporting materials for the purposes of production of joinery for export and construction timber from domestic raw materials
- Transfer research results into practice

# TYPES OF TASKS

- At national, ministerial, provincial and academy levels
- Program, projects, regular tasks

*Bil. VND*

No.	SCIENCE, TECHNOLOGY ACTIVITIES	2013	2014	2015	2016	2017	2018
<b>I</b>	<b>Total of the Ministry</b>	<b>881,355</b>	<b>732,075</b>	<b>746,190</b>	<b>702,220</b>	<b>781,604</b>	<b>943,905</b>
1	National-level tasks	238,340	126,110	160,000	113,123	137,554	267,590
2	Ministerial-level tasks	643,015	605,965	586,190	589,097	669,050	675,315
<b>II</b>	<b>Budget</b>	<b>75,300</b>	<b>77,090</b>	<b>71,642</b>	<b>78,648</b>	<b>95,539</b>	<b>103,389</b>
1	National-level tasks	15,392	25,659	5,885	11,770	13,407	9,069
2	Ministerial-level tasks	27,628	20,250	21,400	20,435	27,150	31,700

*Source: Department of Science, Technology and Environment, 2018*



# FORESTRY SCIENTIFIC RESEARCH ACTIVITIES OF VAFS

- Seek tasks from numerous sources (budget in 2017 increased by 50.7% compared to that in 2016)
- Attach to production
- In accordance with major programs
- Chain-based research
- Produce final products (seedlings, technical advances, useful solution).
- Attach to transfer (forestry extension task)
- Coordinate with business (testing production project)
- Towards autonomy in forestry scientific research
- Carry out the academy's tasks

# MAIN ACHIEVED RESULTS IN THE PERIOD 2013-2018

- 110 seedlings (14 national-level seedlings and 96 seedlings of technical advances) were recognized by MARD
- 13 technical advances (silviculture: 7 and forest industry: 6) were recognized by MARD
- 76 Vietnamese standards (silviculture: 26, forest industry: 49, technical regulation: 1) were developed
- Useful solutions/author right certificates: 10.
- Coordinated with VNFOREST to prepare a draft set of standards for sustainable forest management and forest certification under PEFC
- Established 150ha of seed orchards, 73ha of seedling forests, converted 316ha of seedling forests, selected more than 2,000 dominant trees of species
- Developed technical guidelines for more than 30 indigenous tree species
- Developed 76 positioning standard plots/4 types of forests and data software



# SHORTCOMINGS

- Lack of infrastructure for research activities, equipment, working offices, understandard laboratories
- Significant decrease of science and technology tasks in recent years
- Due to long business cycle of forest trees, some tasks have not yet assessed the final products
- Science and technology tasks have mainly focused on application researches, basic researches are paid less attention
- Although recognized seedlings are numerous, the transfer of these seedlings into practice is limited, mainly focusing on acacia, eucalyptus, pine, macadamia, maleleuca
- New recognized technical advances are not much, there are no technical advances for native trees
- Coordination in research, especially with enterprises, is limited, not yet attracting large enterprises to participate in research and transfer of science and technology
- Research tasks are mainly focusing on fast-growing trees, indigenous trees and NTFP. Researches related to natural forests, forest environment, climate change, agro-forestry, forestry policies have not been paid attention

# KEY TASKS TO 2025

- Select key imported and indigenous seedlings to develop large timber; high-productivity, high-quality and competitive NTFP
- Complete procedures for intensive plantation of large timber forests and NTFP to achieve high economic efficiency, suitable to each key planting site
- Develop technological process, design and manufacture of equipment, development of advanced supporting materials in harvesting, preserving, processing timber and NTFP to meet requirements of domestic and export markets
- Sustainable forest management and forest certification
- Research solutions to restore and sustainably manage poor natural forests
- Strengthen the transfer of technology and technical advances into production
- Towards autonomy in science research





# MANAGEMENT OF PLANTATION FORESTS

## Forest inventory in 2017:

- 4.2 million ha of plantation forests
- 2.86 million ha of planted production forests
- 1.63 million ha is managed by small forest owners, acacia and eucalyptus are mainly used to produce woodchip, cycle of 4 – 7 years, low productivity (15 – 20 m<sup>3</sup>/ha/year)
- 250 – 300 thousand ha are harvested and re-planted annually

# STATUS

POTENTIAL  
PRODUCTIVITY  
> 30 m<sup>3</sup>/ha/year

- Seedlings
- Soil condition
- Silvicultural technique
- Pests and diseases

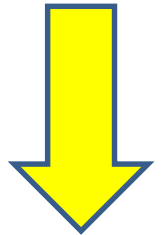
ACTUAL  
PRODUCTIVITY  
< 20 m<sup>3</sup>/ha/year



# STATUS



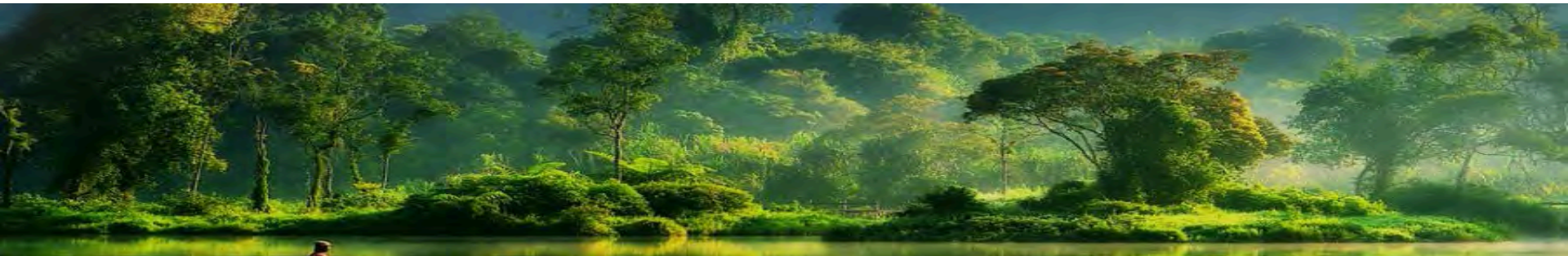
## Popular planting cycle of households



Ảnh: Trần Lâm Đồng, 2018

# TECHNICAL ADVANCES RELATED TO MANAGEMENT OF PLANTATION FORESTS

- Use of phosphorus in planting acacia in the Central and South East regions (increasing the growing stock from 12.8% to 28.4%, corresponding to forest productivity of over 2.3 -5.1 m<sup>3</sup>/ha/year)
- Fertilizer using and appropriate planting density for plantation of acacia on inland sand soil in the North Central
- Production process and application of mixed bio products in the form of pellets MF1, MF2, AM in poor nutrient land (pine, acacia, eucalyptus): growth increases by 20-30%, diseases reduce by 80%
- Technique to propagate NTFP species (macadamia, ...) by grafting



# SEEDLINGS

- Manage seedling origin and seed orchards
- Small number of recognized seedlings used in practice
- People are difficult to access good seed sources and quality seedlings



# SOIL CONDITION

- Identify suitable land condition for planting trees (large timber, small timber)
- Manage post-harvesting organic materials
- Prevent soil erosion in land preparation, tending and harvesting of forests
- Use fertilizers (MF1, MF2, AM) and chemicals



# SOIL CONDITION



*Experimental management of 18-month-old acacia and eucalyptus in Qang Nam province - vafs.*

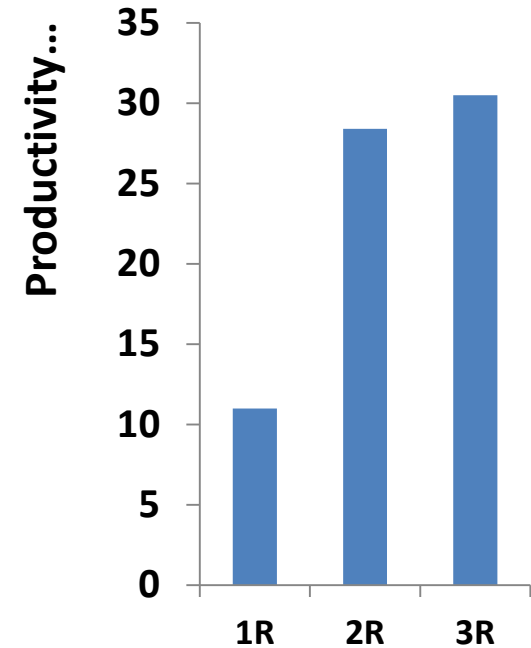
*Ảnh: Trần Lâm Đồng, 2018*

# SOIL CONDITION

## Experimental soil management of acacia in Binh Phuoc province

Experimental formula	Volume (m <sup>3</sup> /ha)	Productivity (m <sup>3</sup> /ha/year)
Clean leaves, branches	157.2	31.4
Leave branches	169.4	33.9
Leave branches + fertilize	185.6	37.1

Source: Vũ Đình Hưởng, 2015



Cycle 1: 1995 – 2002



Cycle 2: 2002 – 2008



Cycle 3: 2008 – 2015



# SILVICULTURAL MANAGEMENT

- Product-oriented silvicultural procedure (large timber, small timber)
- Large forest tending (thinning, pruning)

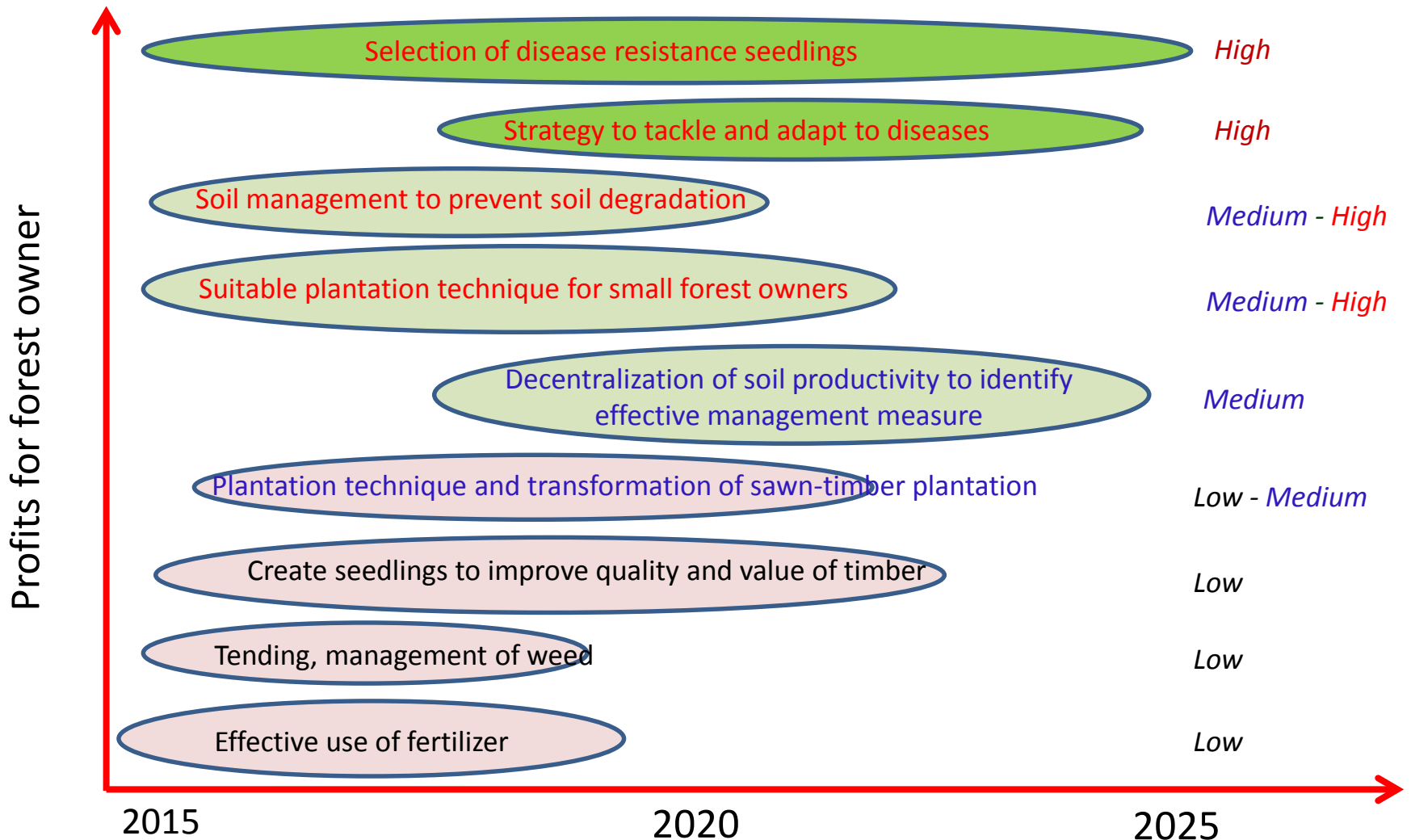


# PESTS



# SOLUTIONS

## Priorities for research and development of acacia plantation forest in Viet Nam





# SOLUTIONS

- **Technique:**
  - Seedlings: use good seedlings
  - Soil management, maintenance and improvement of soil fertility
  - Silviculture:
    - Technical procedures for different product objectives
    - Suitable technical procedures for small forest owners
  - Maintenance of forest health (anti-pests, diseases,...)
- **Management:**
  - Strengthening management of seedlings, seed orchards
  - Enhancing transfer of recognized seedlings to localities
  - Forest growers can access good seed sources, information about science, technique and market
  - Enhance capacity and knowledge about seedlings and sustainable forest management for relevant stakeholders, agricultural extension
  - Technology transfer for production through trainings, experimental production, agricultural extension,...

# THANK YOU!

Kertangular Snip

An aerial photograph of a terraced agricultural landscape. The foreground and middle ground are dominated by vibrant green, terraced fields that follow the contours of rolling hills. The terraces are separated by dark, narrow paths or ditches. In the background, more green hills are visible under a bright blue sky filled with scattered white clouds. The overall scene depicts a well-maintained and productive agricultural environment.