



# TRAT FOREST RESTORATION RESEARCH AND DEVELOPMENT, THAILAND

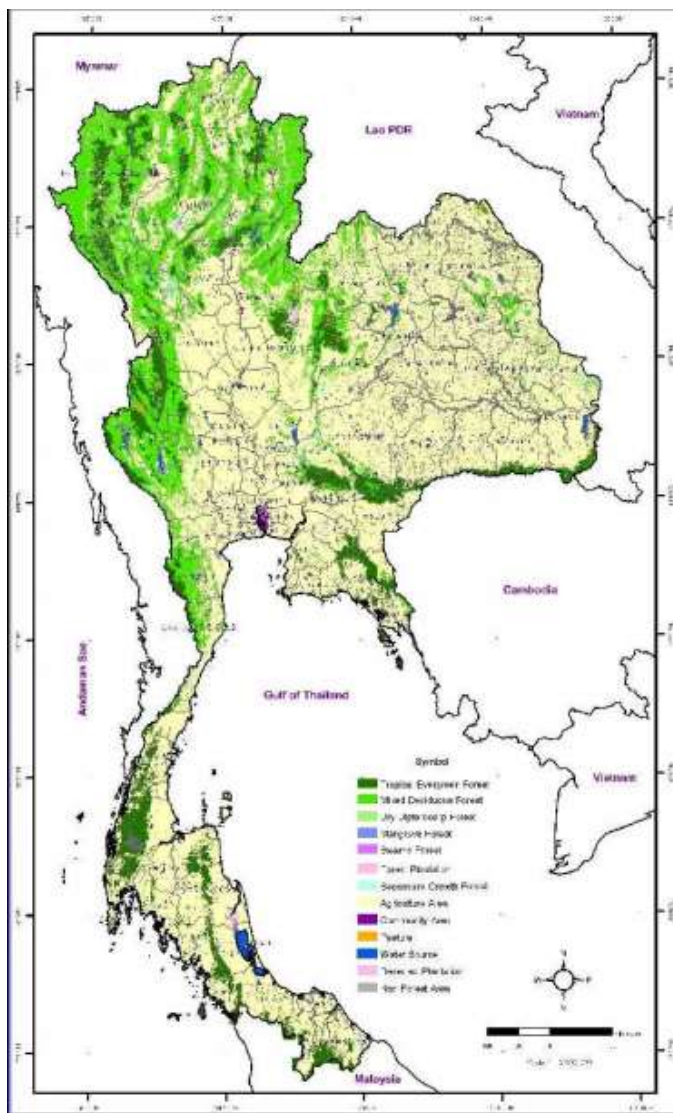
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Faculty of Forestry  
Kasetsart University

11 2 2008

Asia-Pacific Forestry Week  
AKECOP SIDE EVENT

15 Years of AKECOP: Experiences and Lessons Learned  
Date: February 24, 2016

# THAILAND: GENERAL INFORMATION



- Country area: 514,000 sq.km
- Forest cover by policy: 40%
- Forest cover in 2007
  - 30.92 %
- Types of forest
  - Evergreen forest
    - Tropical evergreen f.
    - Dry evergreen f.
    - Mangrove forest
    - Swamp forest
    - Beach forest
  - Deciduous forest
    - Mixed deciduous f.
    - Dry dipterocarp f.
    - Pine-deciduous dipterocarp f.

THAILAND: GENERAL INFORMATION

CONTENTS

- 1. Forest in Thailand
- 2. Development of AICED research
- 3. Forest in Thailand
- 4. Forest in Thailand
- 5. Forest in Thailand

HISTORICAL BACKGROUND OF THE RESEARCH STATION

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# TRAT PROVINCE



- Eastern most province
- Province area: 2,866 sq.km.
- Forest cover
  - in 2000: 33.2%
  - In 2009: 25.9%
  - In 2014: 31.4%
- TAFRTS
  - Established in 1994
- AKECOP
  - Joined in 2002

RESEARCH ON DEVELOPMENT OF TRAT

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- 2. Contents
- 3. Development of AKECOP research
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## CONTENTS

- Forest in the past 
  - Historical background
- Development of AKECOP research 
  - Stage I: Team building
  - Stage II: Participatory Forest Restoration
  - Stage III: Developmental Model
- Conclusion
  - Lessons learned 
  - Recommendation 



- Logging Ban in 1989

# HISTORICAL BACKGROUND OF THE RESEARCH STATION



A vertical sidebar on the right side of the slide contains several small thumbnail images of presentation slides. From top to bottom, the visible thumbnails are:

- A slide with a green background and a tree image.
- A slide titled "CONTENTS" with a list of topics.
- A slide titled "HISTORICAL BACKGROUND OF THE RESEARCH STATION" with a dark background.
- A slide titled "DEVELOPMENT OF AIBIC OF RESEARCH" with a dark background.
- A slide titled "LESSON LEARNED" with a dark background.
- A slide titled "RECOMBINATION" with a dark background.



# FOREST AND LAND DEGRADATION



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- 2. Objectives of the research
- 3. Development of AIEEC research
- 4. Historical Background of the Research Station
- 5. Development of AIEEC of Research
- 6. Lesson Learned
- 7. Recommendation

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# 1994: TRAT RESEARCH STATION



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# 1996: TRAT R. STATION



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DEVELOPMENT OF  
TRAT R.  
RURAL DEVELOPMENT  
TEAM AT IITM  
November 2019

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- 2. Objectives and Purpose of the Research
- 3. Development of AIEED research
- 4. Methodology
- 5. Data Collection
- 6. Data Analysis
- 7. Results and Discussion
- 8. Conclusion

Chapter: San Geronimo  
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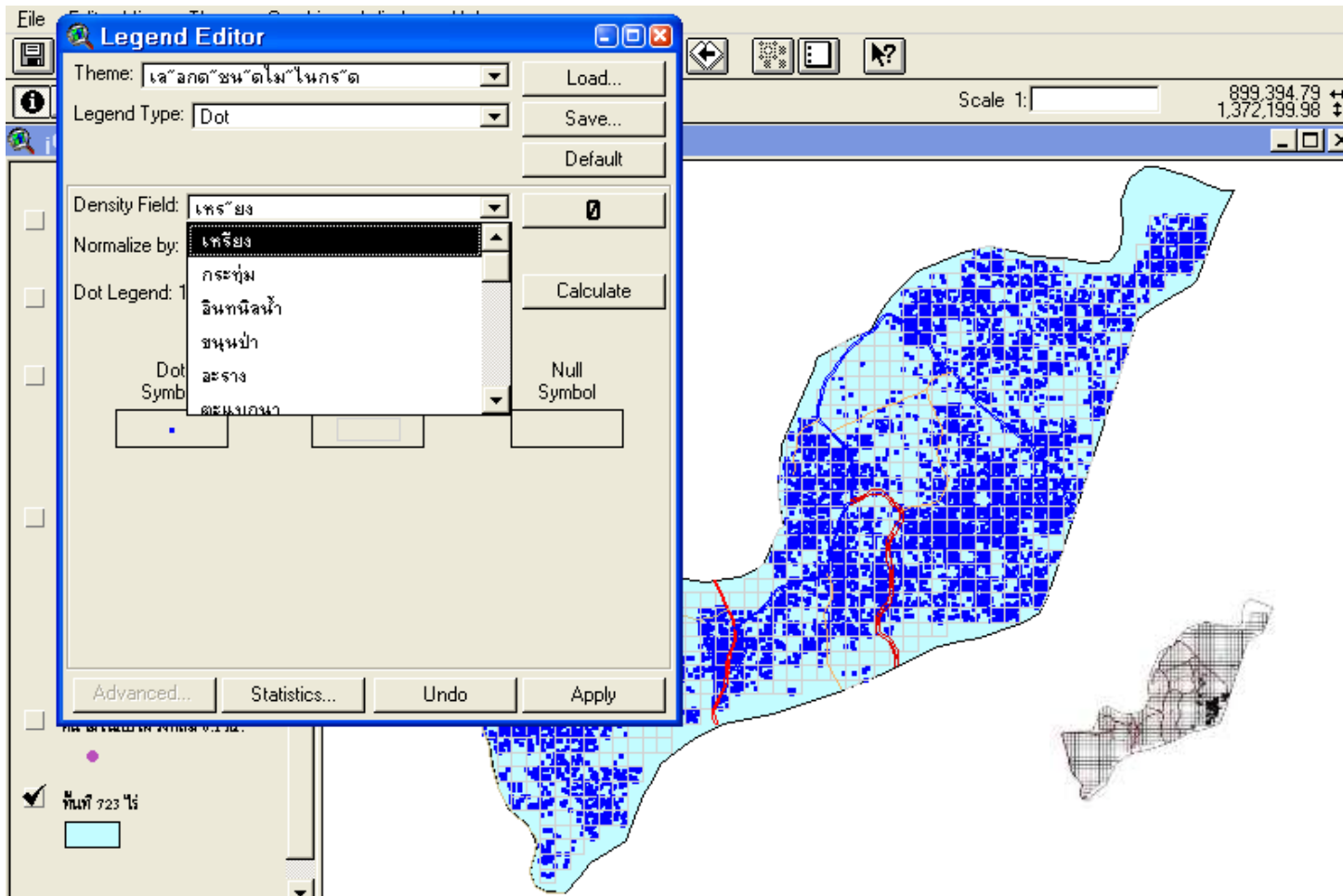
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# GIS DATABASE INITIATIVE



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Vegetation Map of ~ 144 tree species

# SILVICULTURAL RESEARCH

## WS Management Team

Dry Ms  
(ton/h)



Efficiency of Different AF Model in Soil, Nutrient and Water Conservation  
Economic Evaluation on Direct and Indirect Benefit of AF Resources  
Processing Technology of Agricultural Products Channeling from HH to CL

Development of Wood Utilization from Agroforestry Systems  
Structural improvement of Secondary forest

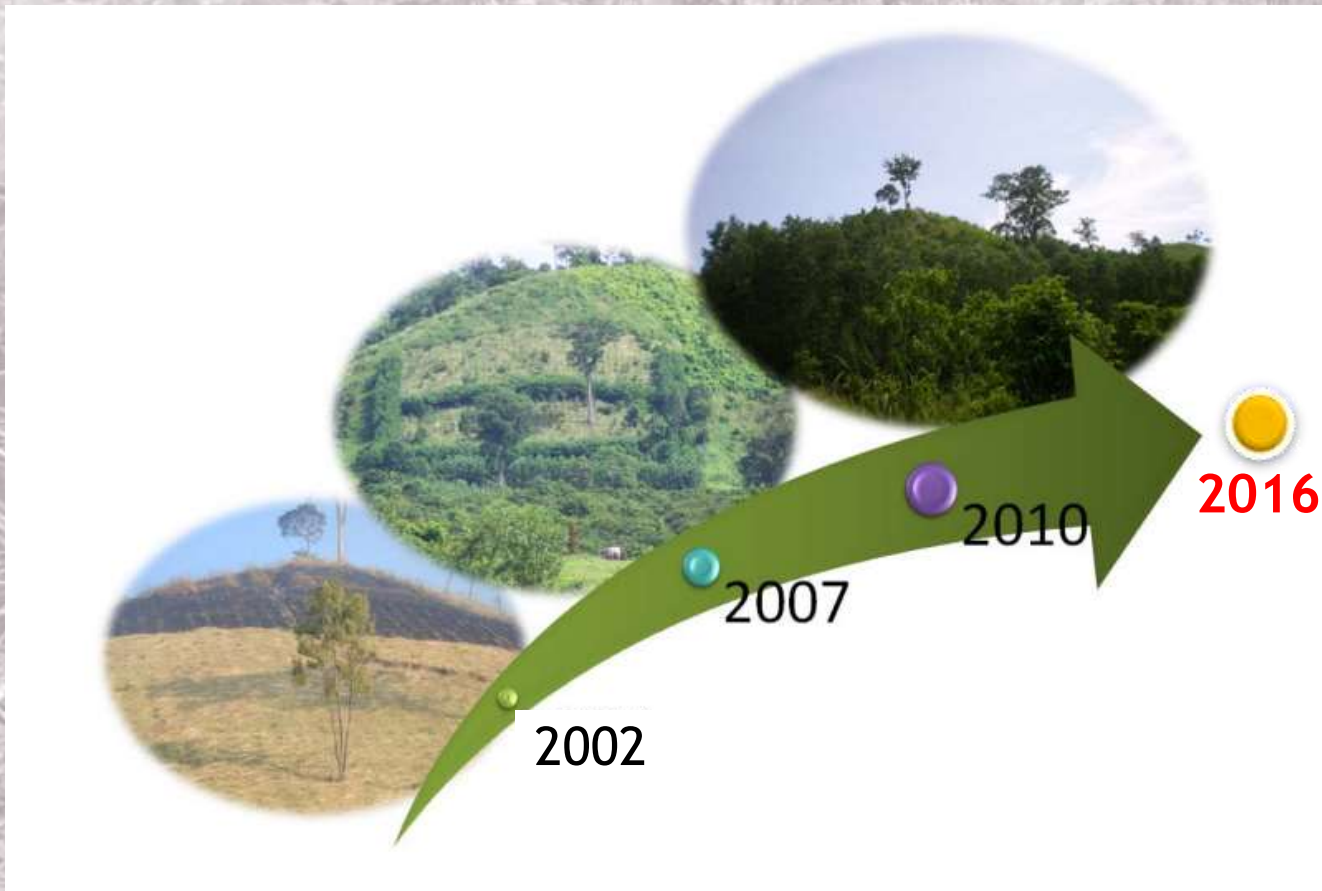
Navigation and content sidebar on the right side of the slide, including a table of contents and a page number.

Navigation icons: back, forward, search, and refresh.

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  - 5. Scope of the Research Station
  - 6. Major Research Areas
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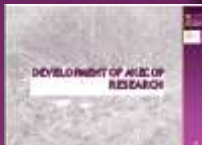


# DEVELOPMENT OF AKECOP RESEARCH



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- 1. Title in the end
- 2. Historical Background of the research station
- 3. Development of AKECOP research
- 4. Lesson learned
- 5. RECOMBINATION



# HISTORY/TIMELINE

Year	Phase	Activity	Conference Meeting Training
2015	IV	Development Model of Forest Restoration Project through Collaborative Research	2015: 1M 2014: 1M 2013: 1M 2012: 1C
2014			
2013			
2012			
2011	III	Restoration of degraded terrestrial forest and mangrove forest ecosystem in Thailand	2011: 3V 2010: 1G 2009: 1G1ST 2008: 1G
2010			
2009			
2008			
2007	II	Silvicultural Management for Restoration of Logged-Over Area and Agroforestry Development through Collaborative Efforts	2007: 2006: 2005:
2006			
2005	I	Assessment on Agroforestry Species for Regeneration of Degraded Forest Land and Increasing Biodiversity in Huairang-Klongpeed Watershed, Trat province, Thailand	2004: 1C 1S 2003: 1C 1S
2004			
2003		AKECOP is a collaborative project between ASEAN member countries and the Republic of Korea established since 2000.	
2002			



# STAGE I: BUILDING TEAM



## CONTENTS

- 1. Title of the book
- 2. Authors
- 3. Development of the book
- 4. Objectives
- 5. Scope of the book
- 6. Acknowledgements
- 7. Contents

## HISTORICAL BACKGROUND OF THE RESEARCH STATION

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# STAGE II PARTICIPATORY FOREST RESTORATION

## Youth training on bio-resources conservation



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- 2. Objectives of the book
- 3. Development of the book
- 4. Acknowledgements
- 5. Foreword
- 6. Preface
- 7. Introduction
- 8. Chapter 1
- 9. Chapter 2
- 10. Chapter 3
- 11. Chapter 4
- 12. Chapter 5
- 13. Chapter 6
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- 107. Chapter 100

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# STAGE II PARTICIPATORY FOREST RESTORATION



Figure 5



Figure 7. Planting day activity on June 28<sup>th</sup>, 2008.

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- 1. Title in the end
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Table 1 Allometric equations used to estimate biomass production.

Species	Allometric equations	R <sup>2</sup>
<i>Rhizophora apiculata</i>		
<i>Rhizophora mucronata</i>		
<i>Excoecaria agallocha</i>		
<i>Bruguiera cylindrical</i>	$\text{LogWs} = -1.173820 + 0.890752(\text{LogD}^2 \text{H})$	0.9905



Litter production and decomposition were determined from sampling using litter traps and litter decomposition bags. Nutrients in litter were analyzed. The results are summarized in Tables 1-8 below.

- Table 1 Species density by size (trees, saplings and seedlings) based on sample plot data
- Table 2 Relative density, frequency and dominance plus important value index based on sample plot data
- Table 3 Measured data for trees saplings and seedlings based on sample plot data
- Table 4 Biomass by component based on sample plot data
- Table 5 Increment by component based on sample plot data
- Table 6 Periodic seasonal litterfall based on sample plot data
- Table 7 Nutrient status of seasonal litter fall based on sample plot data
- Table 8 Seasonal decomposition rate based on sample plot data

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# STAGE III DEVELOPMENTAL MODEL

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**Figure 7** Training on the development of the Ban Pred Nai mangrove forest resource database (29 March 2014)

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- 3. Development of the book
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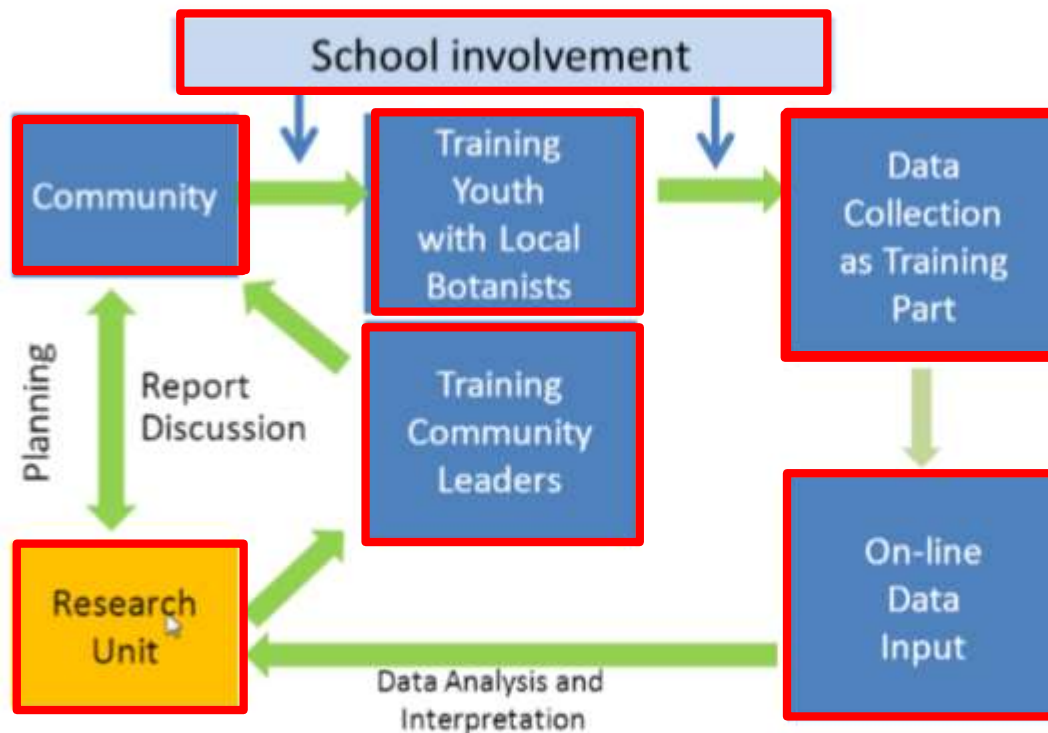
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# STAGE III DEVELOPMENTAL MODEL

## Initiating Model for Sustainable Forest Management



**Figure 10** Initiating Model for SFM showing collaboration of Community, Schools and Researchers in Sustainable Forest Management.

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# STAGE III DEVELOPMENTAL MODEL



**Figure 15** Presentation of structural characteristics of the community forest and silvicultural implications to the community forest committees.

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- 1. Title of the work
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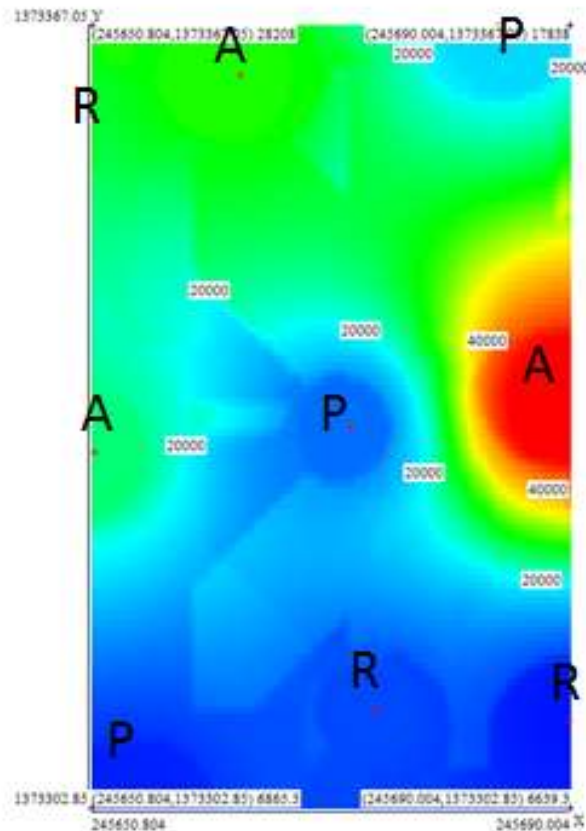
# CONTINUING

- Monitoring forest dynamics at Khao Kalong site
- Conducting more training to improve the developmental model



# CHANGES IN STRUCTURAL CHARACTERISTICS OF MIXED SPECIES 10 YEARS AFTER PLANTING AT KHAO KALONG, TRAT PROVINCE

## Total Biomass



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- 1. Title in Thai
- 2. Abstract
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# LESSONS LEARNED

1. Forest restoration is not just planting trees, but also community involvement, knowledge and maintenance, and on-going benefit.
2. Local people like to be involved and consulted, but it is hard for them to understand the scientific complexity.
3. The right people to involve are not necessarily those who will get the direct benefits.
4. Keep expanding the number of people involved each year and maintain participants' (community and researchers) interest through regular coordinated activities.



# LESSONS LEARNED

5. Start community involvement with schools, but build up slowly to get long term success.
6. The results and activities should be expanded to other areas to maximize on-going benefit.
7. Must adapt project expectations over time because forest is dynamic and changes with time.





# LESSONS LEARNED

8. Research output must be readily available and generate policy input.
9. Monitoring and research results must be regularly entered into a central, well-maintained database so the information can be more widely used.
10. Successful forestry requires long-term commitment and handover including the administration.



# CONCLUSION

- 15 years of AKECOP has been a worthwhile and rewarding experience.
- For the future, cooperation must be continued.





# Thank You

Forest Ecology and Management  
RESEARCH AND DEVELOPMENT  
TEAM OF FOREST  
MANAGEMENT  
RESEARCH STATION

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