

# Ecosystem-based Adaptation and Changemaking to Shape, Protect and Maintain the Resilience of Tomorrow's Forests



Tahamina Khanam



UNIVERSITY OF  
EASTERN FINLAND

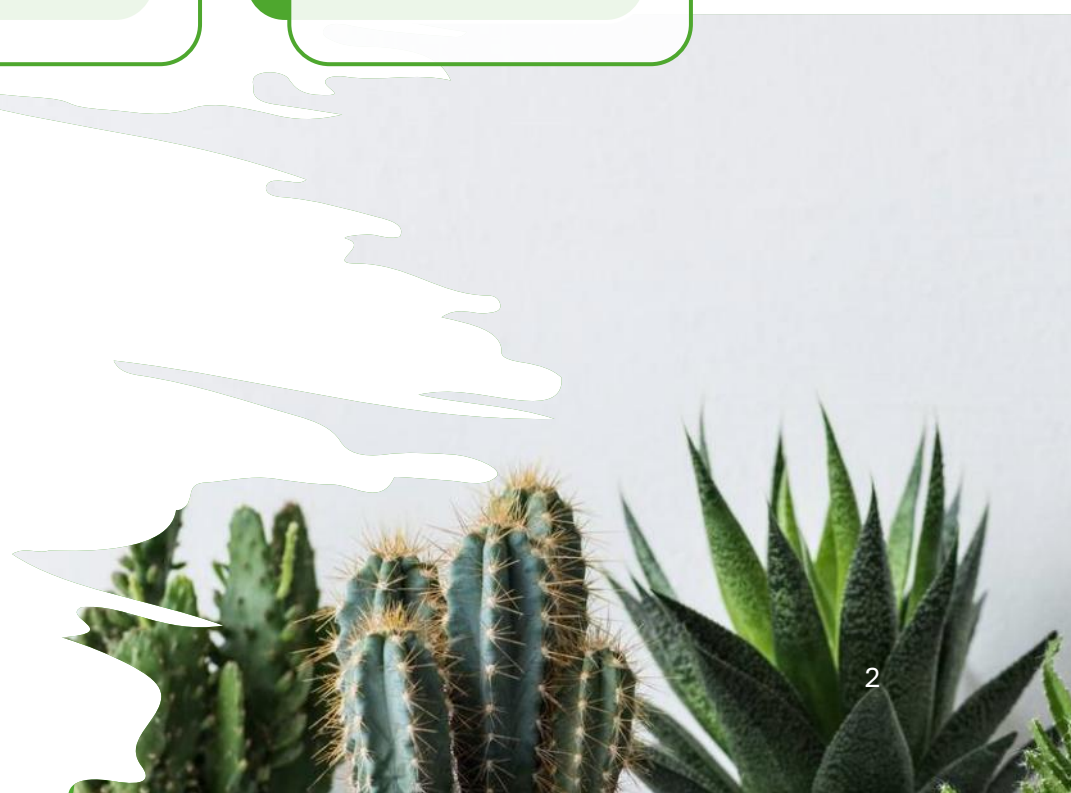
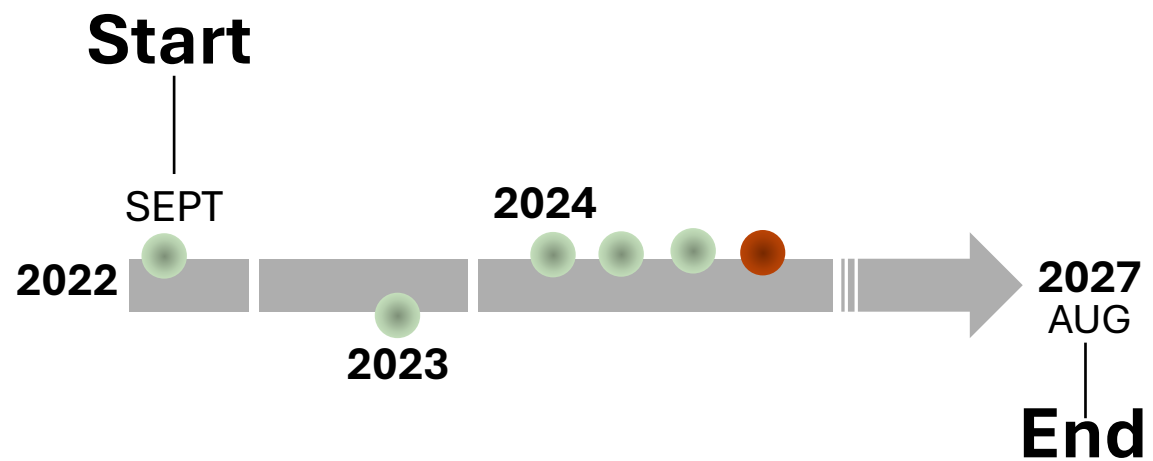
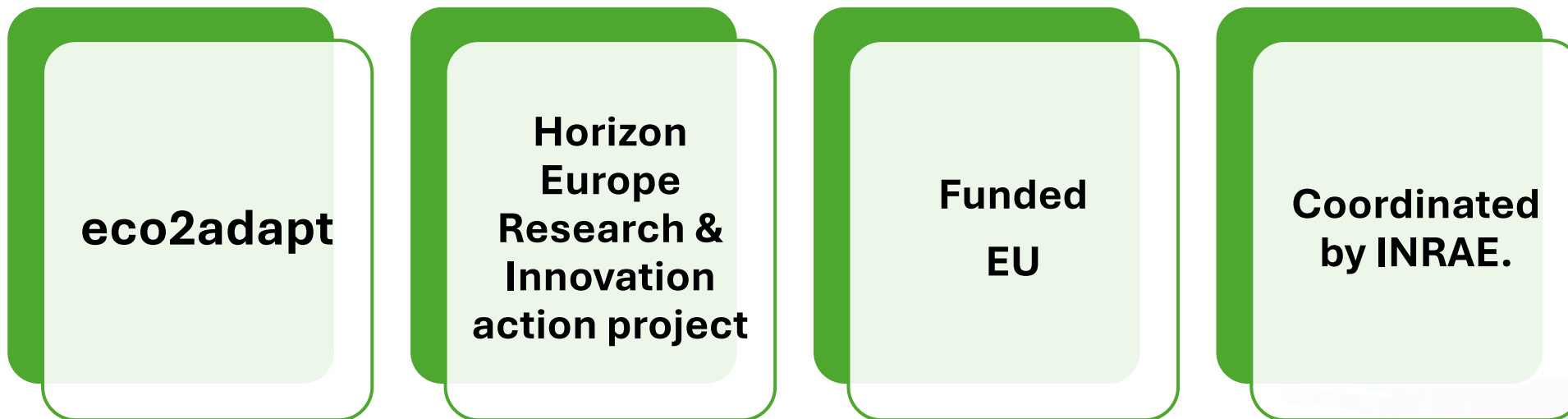


**ACCC**

CLEAN AIR. SAFE CLIMATE.



Funded by  
the European Union



***e*co2adapt** aims to provide solutions to  
**combat the uncertain effects of climate change  
and promote resilient forest ecosystems for  
future generations.**



- **11 LLs and 4 associates**
- **31 partners from 15 countries**

Finland (North Karelia)

UEF, FFC, EFI,  
Bitcomp, Green Estates

Germany (Thuringia or Harz mountains)

GCF

Germany (Freiburg)

ALUFR, MPI,  
UNIFI

Spain (Solsones)

CTFC

Switzerland (Grisons)

ETHZ

France (Landes Forest)

INRAE, INRAE-T,  
CIRAD, IRD, UM,  
PBN

France (French Guiana)

ONF

Romania (Iedera)

UNITBV

Serbia (*Valjevo and Lajkovac*)

IMSI

Greece (*Manina-Xeromero Forest*)

AUA

Lithuania (Dzukija National Park)

VMU

China (Hainan Island)

PKU

China (Pingxiang)

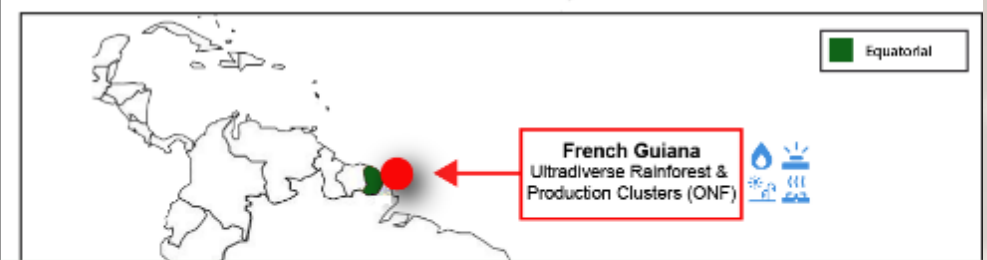
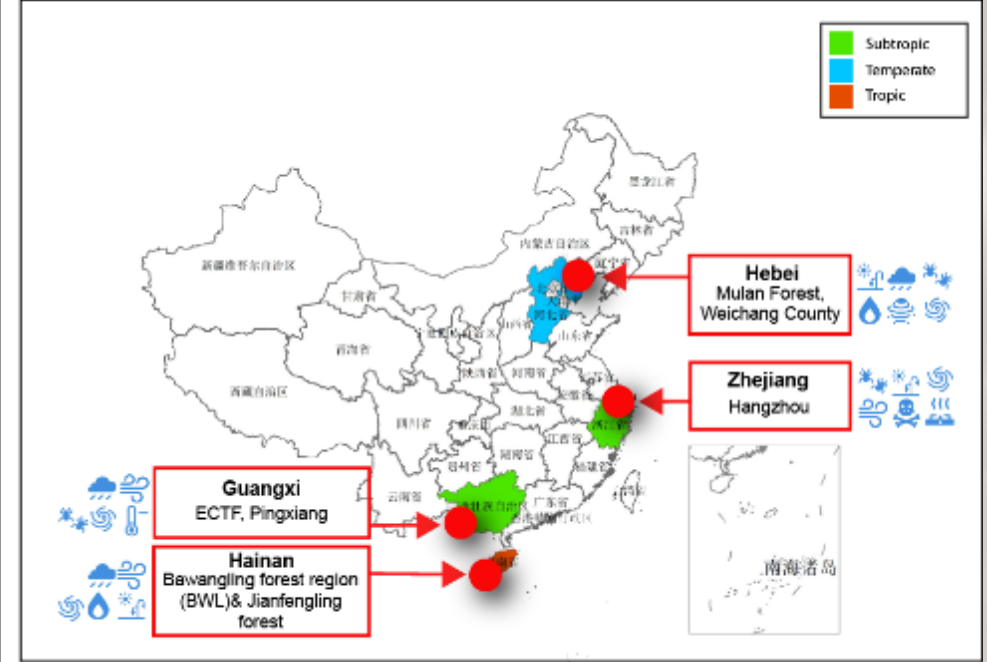
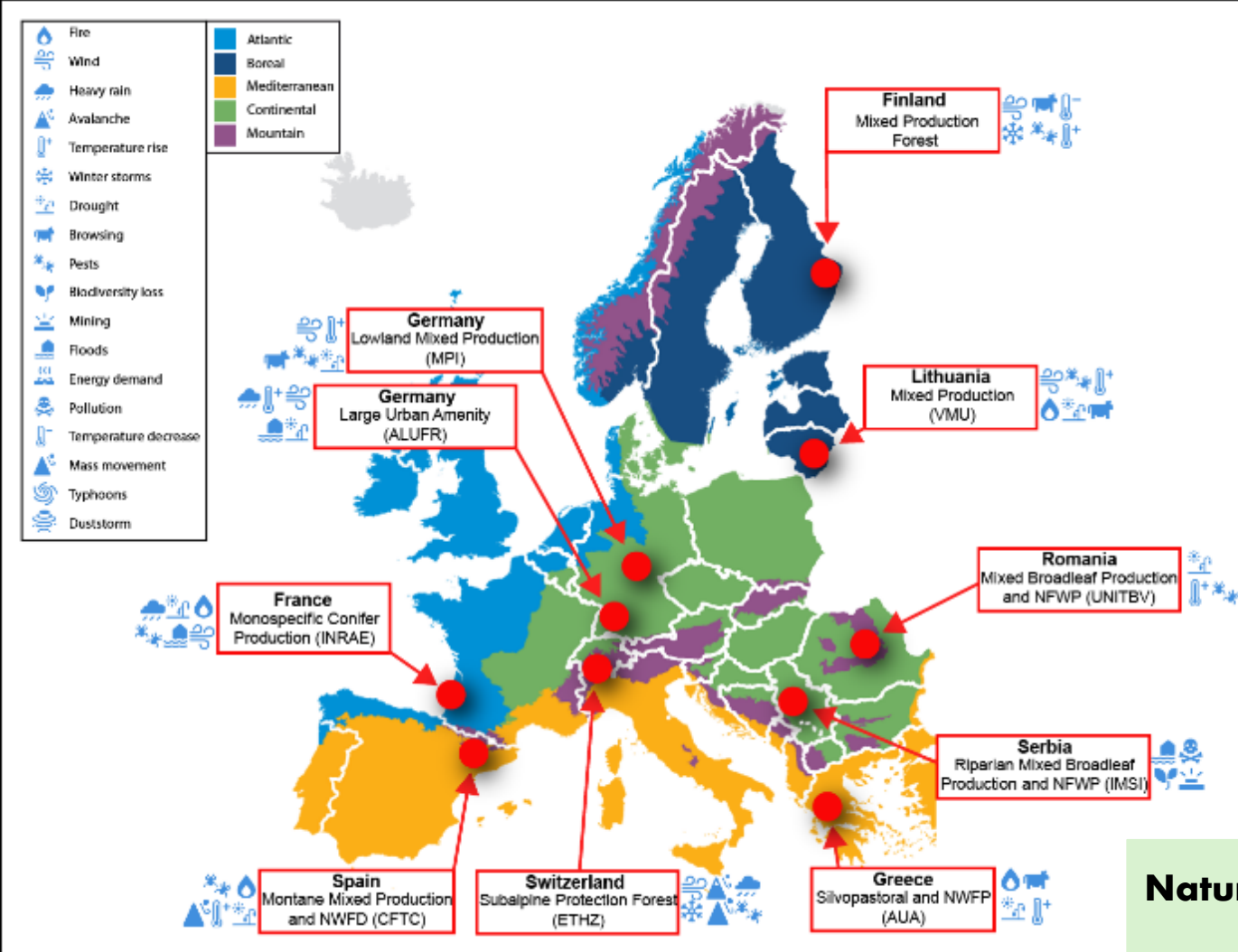
SCBG-CAS

China (Mulanweichang LL)

CAF, ICBR

China (Hangzhou)

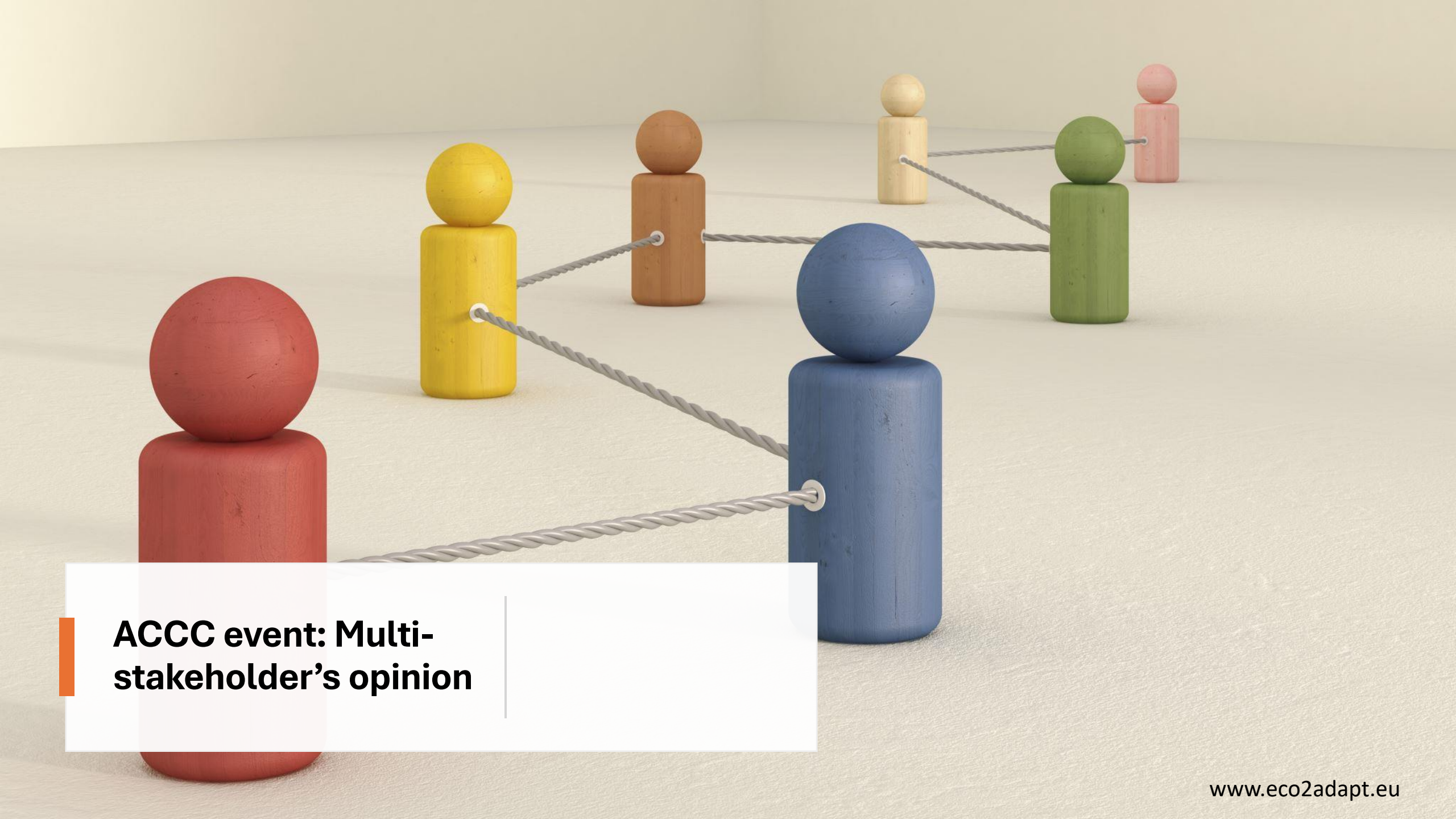
ZAFU



**Nature Based Solutions Institute AB (NBSI) → EU/SWEDEN**  
**Universita degli Studi di Firenze (UNIFI) → ITALY**  
**InNovaSilva ApS (InNovaSilva) → DENMARK**  
**ForestRe Limited (FORRE) → UK**



WP objective	Expected result	Responsible institution
wp1: <b>Shaping a legacy for resilient forests</b>	<b>Improved &amp; tailored climate adaptive local policies</b>	Lead: UEF
wp2: <b>Adaptation of decision Theatre technology</b>	<b>Increased climate-resilient forestry</b>	Lead: GCF
wp3: <b>Solid foundations for smart tools</b>	<b>Enhance social-ecological resilience and link with the United Nations Data Hub</b>	Lead: IRD/UM
wp4: <b>Refined models --&gt; Multidimensional indices</b>	<b>Enhance social-ecological resilience and multifunctionality</b>	Lead: ALUFR
wp5: <b>Provide FAIR data</b>	<b>Examine vulnerability from the soil by using novel tool</b>	Lead: AUA
wp6: <b>Changemaking- new business models</b>	<b>Certification to protect forest resilience</b>	Lead: EFI



**ACCC event: Multi-stakeholder's opinion**

# SPEAKERS



Dr. PANG Yong  
Professor, CAF



Dr. Frank Berninger  
Professor, UEF



Dr. Wending Huang  
Green Estates oy



Minna Luoto  
Project manager, FFC



Dr. Lei Wang  
Professor, ZAFU



## TOPICS to be covered by the SPEAKERS

1. Forest resilience evaluation and management at stand level using remote sensing technologies- Prof. Dr. Pang YONG, CAF
2. Adaptation in Finland, Transformative or Incremental adaptation- Prof. Dr. Frank BERNINGER, UEF
3. Impactive Identification, Initiative and Eco-Resilience From Climate Change—A Questionnaire Approach- Dr. Wending HUANG and Dr. Kari TUOMELA, Green Estates Oy
4. Building resilient forest: Management practices to control climate change caused forest disturbances- Minna Luoto, FFC
5. System thinking bamboo for climate change mitigation , green development and sustainable communities-Prof. Dr. Lei Wang, ZAFU



# PODIUM DISCUSSIONS



# WHAT ARE THE THREATS TO FORESTRY...



## Exploring Forest Stakeholders' Insights, Expertise, and Resilience Strategies: Navigating Threats and Fostering Sustainable Forests

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Image Khanam  
Unpub.



## Study area

### The five living labs

- North Karelia, Finland
  - Kaunas, Lithuania
  - Braşov, Romania
  - Central Serbia and
  - Astakos, Greece
- 
- North Karelia , Kaunas, and Astakos all have silvopastoral forests
  - Kaunas features diverse mosaic forest landscapes and
  - Belgrade/Central Serbia contains Alluvium forests
- 
- North Karelia boasts production forests
  - Others.....

### a) North Karelia



### b) Kaunas



### c) Brasov



### d) Central Serbia

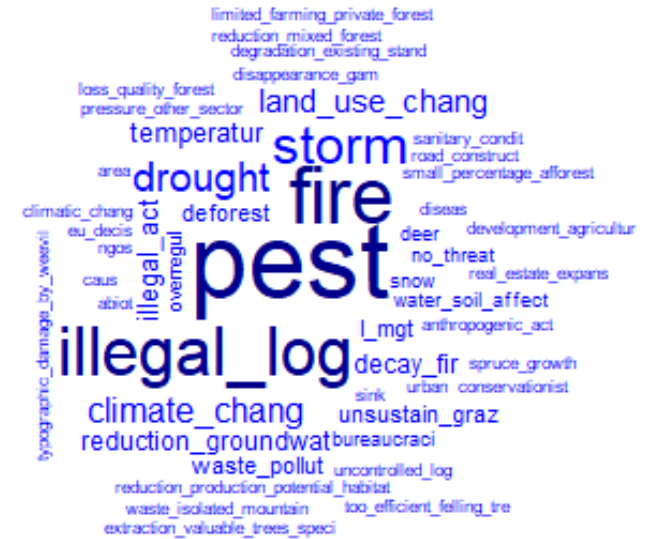


### e) Astakos



Image Khanam  
Unpub.

### f) All living Labs





1) DO WE REQUIRE A SUBSTANTIAL, TRANSFORMATIVE SHIFT IN FORESTRY PRACTICES, OR SHOULD WE CONTINUE BY JUST MAKING ADJUSTMENTS?



2) HOW CAN WE MAINTAIN ECOSYSTEM SERVICES UNDER CLIMATE CHANGE? AND WHICH ECOSYSTEM SERVICES SHOULD WE PRIORITIZE?



3) WHAT DOES CLIMATE CHANGE MEAN FOR FOREST RESEARCH IN EUROPE AND CHINA? AND WHAT CRITICAL KNOWLEDGE GAPS MUST BE ADDRESSED?



4) HOW CAN WE CERTIFY CLIMATE RESILIENT FORESTRY TO STAKEHOLDERS (CONSUMERS, POLICYMAKERS ETC.)?



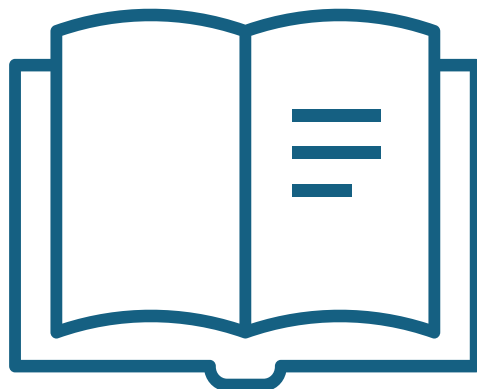
5) SHOULD ADAPTATION TO CLIMATE CHANGE BE INCLUDED IN FOREST CERTIFICATION OR FOREST LEGISLATION?

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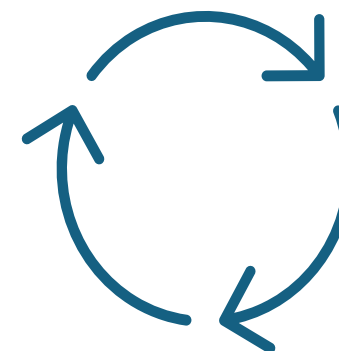
# Model development



Research



Podium discussions



Summary

# Kiitos

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# Thank you!



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Centre de Cooperation Internationale en Recherche Agronomique pour le Developpement - C.I.R.A.D. EPIC (CIRAD)

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GCF - Global Climate Forum e.V. (GCF)

European Forest Institute (EFI)

Institut de Recherche pour le Developpement (IRD)

Université de Montpellier (UM)

Albert-Ludwigs-Universitaet Freiburg (ALUFR)

Geoponiko Panepistimion Athinon - Agricultural University of Athens (AUA)

Nature Based Solutions Institute AB (NBSI)

Bitcomp Oy (Bitcomp)

Universita degli Studi di Firenze (UNIFI)

InNovaSilva ApS (InNovaSilva)

ForestRe Limited (FORRE)

Institute for multidisciplinary Research, University of Belgrade (IMSI)

Suomen metsäkeskus – Finish Forest Center (FFC)

Vytauto Didziojo Universitetas – Vytautas Magnus University (VMU)

Max-Planck-Gesellschaft Zur Forderung Der Wissenschaften Ev (MPI)

Consorti Centre De Ciencia I Tecnologia Forestal De Catalunya (CTFC)

Universitatea Transilvania Din Brasov (UNITBV)

INRAE Transfert SAS (INRAE-T)

Office National Des Forets (ONF)

Green Estates Oy (Green Estates)

NEPCon FMBA – Preferred by Nature (PBN)

Eidgenoessische Technische Hochschule Zuerich (ETHZ)

Chinese Academy of Forestry (CAF)

International Centre for Bamboo and Rattan (ICBR)

Zhejiang Agricultural and Forestry University (ZAFU)

South China Botanical Garden of the Chinese Academy of Sciences (SCBG-CAS)

Peking University (PKU)