



Regional Forest Information Week

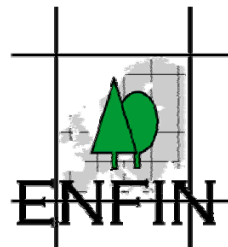
State of forests and forest management in the UNECE region
in the context of current needs and challenges

United Nations, Geneva – 21 March 2011



Improving Data and Information on the Potential Supply of Wood Resources: A European Approach from Multisource National Forest Inventories

COST ACTION FP1001 - USEWOOD



USEWOOD– COST Action FP1001

- Ending October 2014
- 25 countries signed the Memorandum of Understanding – 5 countries underway
- More information www.costfp1001.org (still under construction!!!)



COST FP1001: USEWOOD



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Scientific context

- Increased demand for wood
- Carbon storage by forests
- Energy from forests – bio-fuels
- Use of harvested wood products



How much wood?

- Feasibility
 - biologically
 - technically
 - socio-economical factors
- On a sustainable level taking into account multi-functional forest management



Sustainable forest management

- Realise a balanced and stable supply of wood
- Meet the demands from the wood-processing industry
- Conserve ecosystems and biodiversity, water and soil protection, recreation, and all other goods and services of the forest
- Create significant new opportunities and supporting rural development



Major issues to clarify

- Potential tree biomass
- Biomass of trees outside forests
- The economic, social and ecological conditions which determine wood supply



Objectives of the COST ACTION

- Contribute to building a comprehensive and reliable picture of potential wood supply as an input to energy, environment, forest policy making, and wood industry decision making
- To improve and harmonise data and information on wood resources at European level



Objectives of the COST ACTION

- To agree on a methodology to assess and estimate amount and development of wood resources based on NFI
- To improve the estimates of wood resources combining NFIs and remote sensing using EO observation
- To predict the use of wood resources under competitive conditions



Sources of wood/biomass supply

- Forest:
 - Stemwood
 - Bark
 - Other aboveground biomass (branches)
 - Belowground biomass (roots)
- Expansion of forest area / short-rotation plantations on agriculture land



Wood outside the forests (WOF)

- Other wooded land (FRA definition)
- Trees/woody biomass outside the forest: urban and roadside trees, hedge rows, orchards, etc.
- Wood from agriculture: olive trees, fruit trees, vineyards
- Co-products / residues of wood-processing industries (saw dust, chips, etc.)



Data quality and needs

- Improve the accuracies in assessments
- Need to get a better overview of available data on wood sources and wood uses both in and outside the forest
- Need for harmonisation of data
- Need to develop sound data sets to feed scenario modelling



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Approach

1. Forest statistics → **National Forest Inventories**
2. Remote sensing techniques → the deployment of **Earth Observation techniques**, airborne and satellite-based, rapid improvements in computing power and algorithms to interpret and analyse imagery of different sorts.
3. Scenario modelling → Growth and Harvest



1. Forest statistics: National Forest inventories

- Main data providers for local, national, and international reporting on forest resources
- Data and information on general development from timber production inventory to forest ecosystem monitoring
- ~500000 plots in Europe



2. Remote sensing techniques

- Important developments over the past 30 years → airborne and satellite-based EO
- State-of-the-art optical and radar retrieval algorithms to interpret and analyse imagery of different sorts
- Investigation of innovative approaches



2. Remote sensing techniques

- High resolution satellite imagery (IKONOS and QuickBird) for mapping individual tree canopies
- Use of airborne radar and LiDAR analysis have proved accurate and reliable for the estimation of relevant mensuration data



3. Scenario modelling

- Using the NFI modelling expertise in the field of forest growth, harvesting and assorting to prepare predictions of future wood recourses including competitive market conditions.
- Harvested Wood can be used for several different products like saw-logs, paper, pulp and firewood.
- According to the market situation different uses will gain priority affecting the feedstock of the different sectors



Barriers to increased wood supply

- economic considerations (e.g., significant forest areas are too far from roads and are therefore economically less attractive for harvest activities)
- legal restrictions (e.g., significant forest areas are protected and are therefore unavailable for biomass production)
- the use of biomass for other purposes (e.g., materials and traditional woodfuel)



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Objectives, cont

WG1: Assessment and estimation of state and changes in wood resources

- Develop reference definitions and bridging procedures, apply these on variables relevant for wood resources (increment, fellings) to obtain comparable data at European level

WG2: Estimation of wood resources combining RS and NFIs

- Combine terrestrial and remote sensing (RS) information, include available high level expertise on forest RS techniques to assess local forest situation (actual growing stock, possibilities and costs of harvest, nature protection or forest protective-function constraints)



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Objectives, cont

WG3: Predicting use of wood resources under competitive conditions

- Use the NFI modelling expertise in the field of forest growth, harvesting and assorting to prepare predictions of future wood resources including competitive market conditions



Cost Action FP1001-Office holders

- **Dr. Annemarie BASTRUP- BIRK** (Denmark), the Chair
- **Dr. Klemens SCHADAUER** (Austria), Vice-Chairman

- **Three Working Groups**
- **Dr. Claude VIDAL** (France), leader, WG1
- **Dr. Adrian LANZ** (Switzerland), deputy leader, WG1
- **Prof. Erkki TOMPPO** (Finland), leader, WG2
- **Dr. Ronald MCROBERTS** (USA), deputy leader, WG2
- **Prof. Udo MANTAU** (Germany), leader, WG3
- **Mrs. Susana BARREIRO** (Portugal), deputy leader, WG3



Target user

- Decision holders and stakeholders (nat. & EU)
- Forest research community
- Forest industry, energy industry
- Forest owners and managers (i.e. CEPF, CEPI)
- General public



The benefits of the Action

- Research needs (EUWood, EForWood, ...)
- Reporting activities: FRA, TBFRA, UNFCCC, Forest Europe
- European Union institutions and data collection systems: EFDAC, Lucas, EEA, ESA, IUCN
- Data and information needs: Renewable Energy Sources, EU Biomass Action Plan, EU Forest AP, Forest-based Tech.Plat, Rural Development Plans



Benefits of the Action

- Improved quality of European level data and information on usable wood resources
- The ability of the NFIs to meet national requirements for information on wood resources AND to provide up-to-date harmonised information at EU and international level
- Improved forest statistics on wood supply



Thanks for your attention

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Action

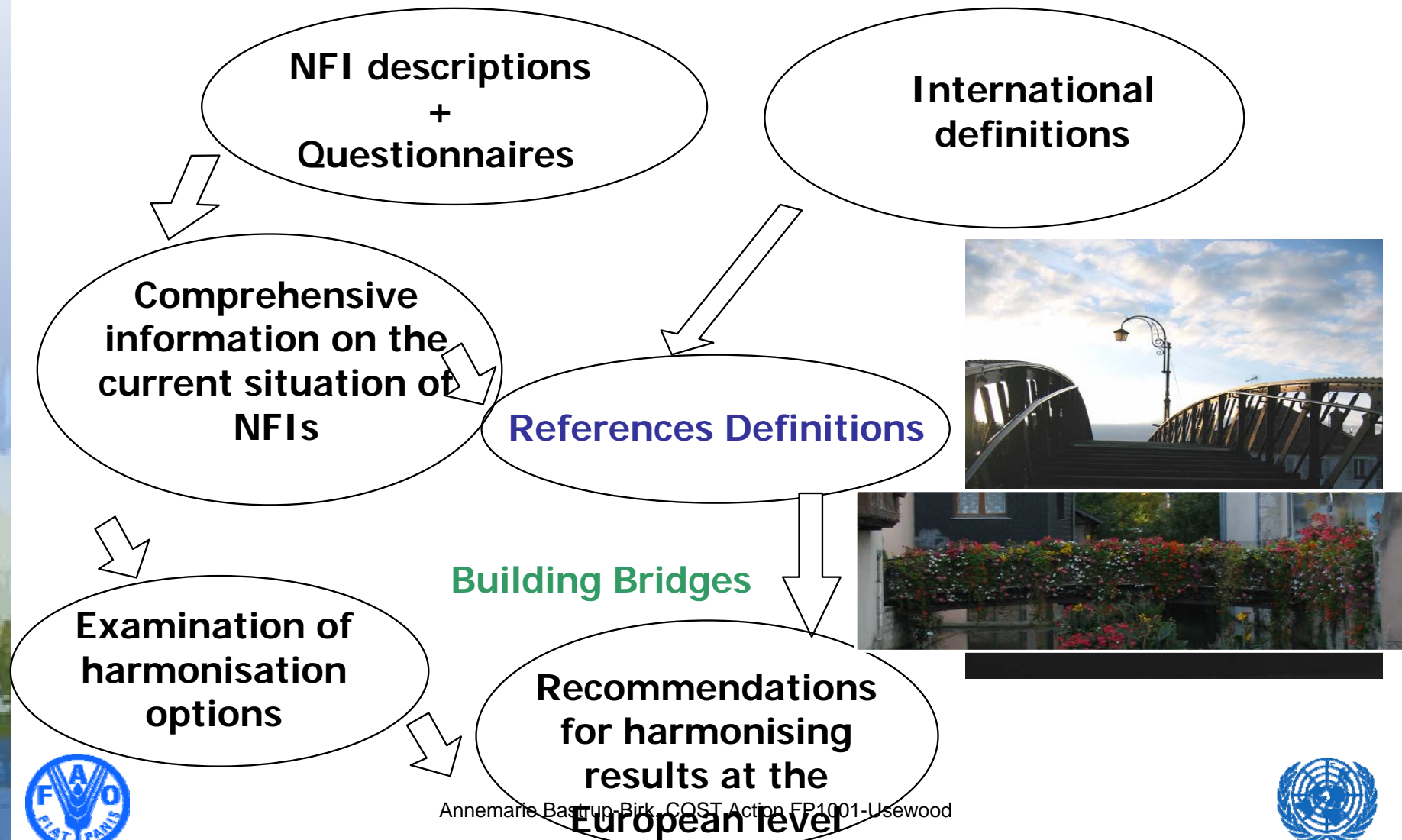




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The way towards harmonisation



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Reference definitions

- National forest inventories (NFIs) typically use different, locally adapted and historically grown definitions for e.g. forest area, tree, deadwood
- For common reporting, a common set of references definitions is needed
- This allows NFIs to adapt data collection and/or estimation procedures to provide internationally comparable results (harmonisation, bridge building).



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