SUSTAINABLE INNOVATIVE MOBILISATION OF WOOD

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D 4.3. – REGIONAL PILOT PROJECTS' ADDED VALUE FOR WOOD MOBILISATION – SYNTHESIS REPORT	
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DISSEMINATION LEVEL		
PU	**Public**	**x**
PILOT PROJECT	*Restricted to other program participants (including the Commission Services)*	
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NATURE OF THE DELIVERABLE		
R	*Report*	**x**
P	*Prototype*	
D	*Demonstrator*	
O	*Other*	

SUMMARY	
Keywords	**Wood Mobilisation, Pilot Project, Regional Learning lab, Evaluation**
Abstract	*After four years of collaboration, partners of the SIMWOOD project hereby share their experience at designing, steering, and evaluating wood mobilisation initiatives (WMI). We consider that the lessons we learnt while developing and implementing our project, and the changes and achievements evidenced by the stakeholders we worked with, will be useful to a larger community of wood mobilisation facilitators throughout Europe.* *Hence, we prepared the following guide with two specific target audiences in mind:* - *Leaders of local wood mobilisation initiatives (past, current and future)* - *Regional authorities (or other relevant authorities) who support WMI and participate in their governance* *Our guide offers insights and illustrations on both how our WMI were managed, and the lessons we learnt through our achievements and our attempts to overcome challenges. We present insights into how specific challenges can be addressed at the regional level.* *We begin by describing our common SIMWOOD approach, together with the methodological tool-kit that was successfully used and tested. A Theory of Change approach underpinned and guided the development of the Pilot Projects and their evaluations. The SIMWOOD tool-kit and approach is now ready for use by any new project leader ready to launch similar initiatives.* *Lessons learnt from the SIMWOOD Pilot Projects are presented and illustrated by testimonials from their regional leaders, most of which were small and medium sized enterprises (SME).* *Finally, recommendations are summarized for our audience, with emphasis on the following 5 tips for success essential to managing wood mobilisation initiatives:* 1. *Context: be clear about the local/regional/national/European context of the need for increased wood mobilisation.* 2. *Objectives: define a clear, realistic objective for your project and ensure it conforms to the norms of sustainable forest management.* 3. *Engagement: develop strong links with local stakeholders from the start, who will help define bottlenecks, ensure they are solvable, and help implement and disseminate the results of the project.* 4. *Innovation: be flexible, and look for new, practical solutions to barriers throughout the forestry-wood chain that you encounter along the way.* 5. *Evaluation: consider how you will evaluate the outcomes and impacts of your project; reflect on whether you are on track; regularly seek feedback; allocate time to this because it is worth the effort.*

SIMWOOD
Sustainable Innovative Mobilisation of Wood

SEVENTH FRAMEWORK PROGRAMME

REGIONAL PILOT PROJECTS' ADDED-VALUE FOR WOOD MOBILISATION
SYNTHESIS REPORT

GUIDE ON WOOD MOBILISATION INITIATIVES

October 2017

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Welcome into our guide to the Wood Mobilisation Initiatives universe!

After four years of collaboration, partners of the SIMWOOD project would like to share their experiences designing, steering, and evaluating wood mobilisation initiatives (WMI). We consider that the lessons we learnt while developing and implementing our project, and the changes and achievements evidenced by the stakeholders we worked with, will be useful to a larger community of wood mobilisation facilitators throughout Europe. Hence, we prepared the following guide with two specific target audiences in mind:

- *Leaders of local wood mobilisation initiatives (past, current and future)*
- *Regional authorities (or other relevant authorities) who support WMI and participate in their governance*

Our guide offers insights and illustrations on both how our WMI were managed and the lessons we learnt through our achievements and our attempts to overcome challenges.

The guide is designed to help you navigate smoothly through the different chapters depending on the content you would find the most useful.

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1. *Context: be clear about the local/regional/national/European context of the need for increased wood mobilisation.*

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1. Introduction

The SIMWOOD project aimed to increase the mobilisation of wood from forests and woodlands in Europe. The project reached out to stakeholders and regional initiatives while promoting collaborative forest management and ensuring sustainable forest functions. The project ran from November 2013 until October 2017.

The project involved 22 Regional Pilot Projects (Pilot Project) to test how well-adapted combinations of measures can contribute to increasing stakeholders' capacity to mobilise more wood in the participating countries. We called our SIMWOOD wood mobilisation initiatives (WMI) "Pilot Projects" to indicate we were testing approaches. We continue to refer to the WMI as Pilot Projects throughout this guide whenever we describe what was achieved by them.

The general approach we took in the Pilot Projects was to engage stakeholders and help them design projects targeted at particular issues and barriers to mobilisation. We then worked with them to evaluate the outcomes and impacts of their work. We also tested technical developments (e.g. new silviculture schemes, sustainable management computer tools, logging operation methods) and the willingness of organisations to reconsider business-as-usual actions, which provided relevant outputs to encourage new practices and strategies.

Collectively this network of initiatives demonstrates the character of the collaborative and outcome-driven approach that was adopted. After between two to three years of local implementation, results and success stories from these experiments, and the stakeholders who took part in them, are available through the individual Pilot Project reports and their respective narratives. Additionally, the systematic analysis of those regional endeavours highlights the added value of the SIMWOOD approach.

This guide is a synthesis of how specific challenges were addressed at the regional level with a general theory of change acting as the backbone of Pilot Project management. Our common SIMWOOD approach is first described together with the methodological tool-kit which was successfully implemented and is now ready for any new project leader willing to launch similar initiatives. Lessons learnt from the Pilot Projects are also presented and illustrated by testimonials from Pilot Projects leaders, most of which were small and medium sized enterprises (SME). Finally, "take home messages" are outlined for stakeholders capable of acting upon the wood mobilisation challenge in the future:

- Leaders of local wood mobilisation initiatives (past, current and future)
- Regional authorities (or other relevant authorities) who support WMI and participate in their governance

2. SIMWOOD approach to tackle regional wood mobilisation bottlenecks: the Pilot Project Process

This chapter describes the common SIMWOOD methodology used to design, operate and evaluate the Pilot Projects. Our approach was motivated by the importance of securing measurable and relevant outcomes from the new public-supported regional initiatives in favour of wood mobilisation. The method and process are outlined here so that other leaders of WMI can follow the approach and adapt elements of the tool-kit they find relevant and useful to their situation. The results, impacts and lessons learnt from the implementation of our approach are described in chapters 3 to 5.

2.1. Of the importance of measurable outcomes and stakeholders' engagement

At the beginning of the SIMWOOD cooperation, partners were confronted by a challenging status quo. There was and still is a consensus across the European forestry sector that we need to increase the sustainable mobilisation of wood. There have been numerous policies, projects and other interventions that have sought to achieve this goal. However, through literature review and European consultation partners understood that there had been little attempt to take stock and identify what measures really work to unlock wood mobilisation, and why. Very few past projects were set up to answer these questions. Furthermore, they have not been evaluated to understand their outcomes and impacts, either by the project participants or by independent evaluators. Very few projects attempted any evaluation into the process of designing and delivering and reporting their project. Also, few projects ensure there is adequate stakeholder engagement from the start, to make sure emerging plans make sense to stakeholders who can then buy into it and influence outputs from the project.

From this understanding, our common ambition in SIMWOOD was to co-develop an alternative outcome-driven method for Pilot Project development and management, and through its implementation be the first systematic attempt to understand the causes and consequences of wood mobilisation solutions at regional, national and the European level.

2.2. Outcome-driven wood mobilisation project management: a common method

One of the key determinants in the design of SIMWOOD approach was the common willingness to overcome defined limitations and encourage project management motivated by the generation of outcomes and impacts. In summary, our approach was a combination of stakeholder engagement (identifying and working with actor influence and interests as well as the reconciliation of those interests), reflective practice, social

learning and project evaluation, and this was used when supporting the design and delivery of all SIMWOOD 'Pilot Projects'.

Central to this is the idea of developing a 'theory of change': a narrative that is easy to understand and links inputs, outputs, outcomes and impacts, with barriers and solutions. In other words a kind of route map from the identification of project objectives, through to visualising success and what can be done to measure those achievements.

We all know that we need to engage with stakeholders when designing and implementing projects of this kind: we've been told that for years. However, we need to be really clear why we should engage with them. Engagement has to be a means to an end, rather than an end in itself. A focus on outcomes and impacts encourages or even forces us to engage in a focused purposeful way, rather than for its own sake. However, engagement, outcome and social learning are not independent from actor influence and interests. Individual actors' willingness and capacities/resources as well as the availability of additional resources from other actors of the Pilot Project networks are crucial for success (see Aurenhammer, 2016).

As for wood mobilisation, if the project leader doesn't feel it is his/her direct responsibility to facilitate mobilisation, then s/he needs to identify and team up with those who do, including potential users of the outcomes of the project. The ensuing dialogue is inherently creative, leading possibly in unexpected directions. Interaction of this sort can reframe the entire project strategy and its expected outputs, objectives, etc. in a way that is likely to have greater impact. This is less likely to happen if project management just focusses on outputs alone, and if it is seen as someone else's job to promote them or use them.

To achieve an understanding of the regional context, SIMWOOD convened Regional Learning Labs (RLL) as active forums for stakeholders to discuss and define targets for each Pilot Project and the mechanisms for changing and creating a significant impact on wood mobilisation. Relevant participatory actions followed and were implemented over a period of time long enough for stakeholders to change their awareness, attitude and (when possible) their actual practice. Regular RLL consultation enabled participatory adjustment, with evaluation being used to assess achievements and boost future amplification, replication and/or transfer when justified.

Because PP leaders came from different backgrounds and had diverse experience with project management approaches, a Pilot Project methodological tool-kit was developed. The latter was structured as a dynamic and reflective 3-step-process to design Pilot Projects and how they would be evaluated (Figure 1).

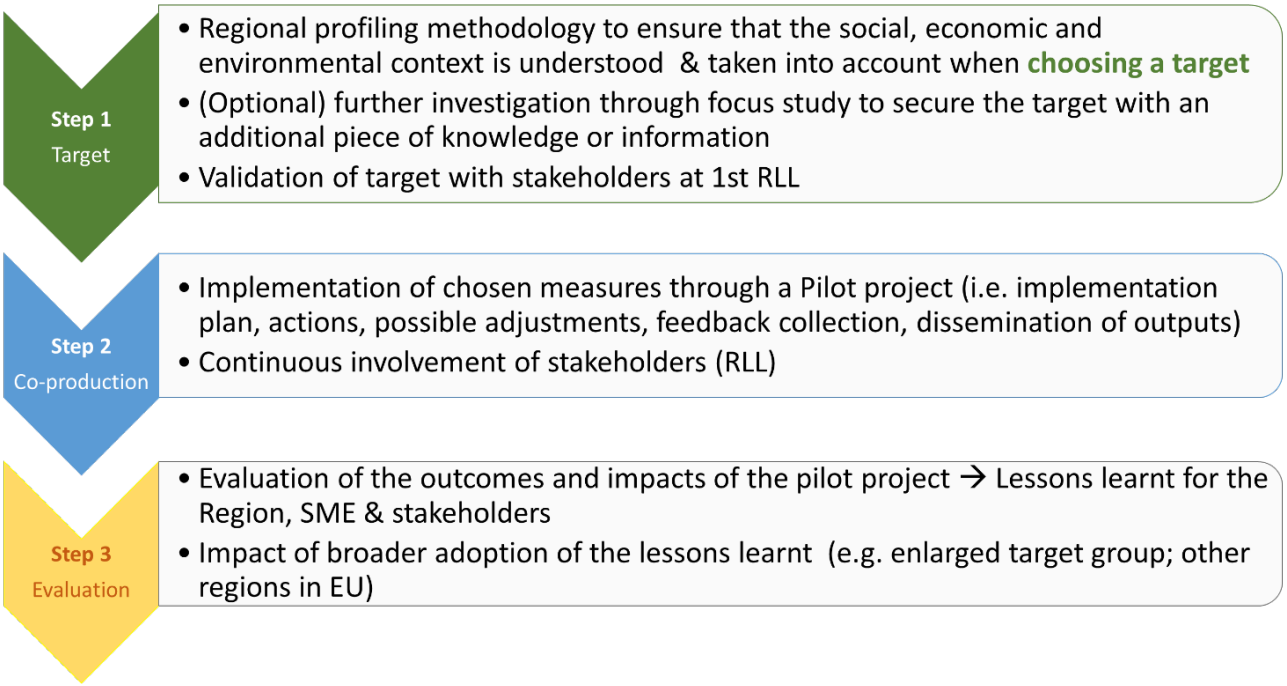

Figure 1: step by step Implementation process during the SIMWOOD project

2.2.1. Step 1. Choosing a target to address identified bottlenecks

Additional wood mobilisation can only be achieved when solvable bottlenecks are identified and addressed. Consequently, the SIMWOOD approach consisted of identifying a meaningful target to focus innovative efforts on and commit to a reasonable theory of change.

At this 1st step of the Pilot Project process, the SIMWOOD tool-kit offers four complementary tools to choose the target on a knowledge-basis:

- Regional Profiling,
- stakeholder social mapping,
- assessing outcomes and lessons from past experiences, and
- optional Focus Study.

A descriptive scheme for ***Regional Profiling*** *(*SIMWOOD Deliverable D2.1 "State of knowledge and future outlook on regional wood Mobilisation - standards, methods, data"*)* was designed and used as a template across all Pilot Project regions. The Regional Profiles documented the most up-to-date state of knowledge about Mobilisation Challenges, organizing them under five thematic domains, i.e. governance, ownership, forest management, forest functions, harvesting (as displayed in Figure 2). Profiling in this way, revealed the main barriers to wood mobilisation in the regions, and allowed explicit analysis and identification of possible levers of change.

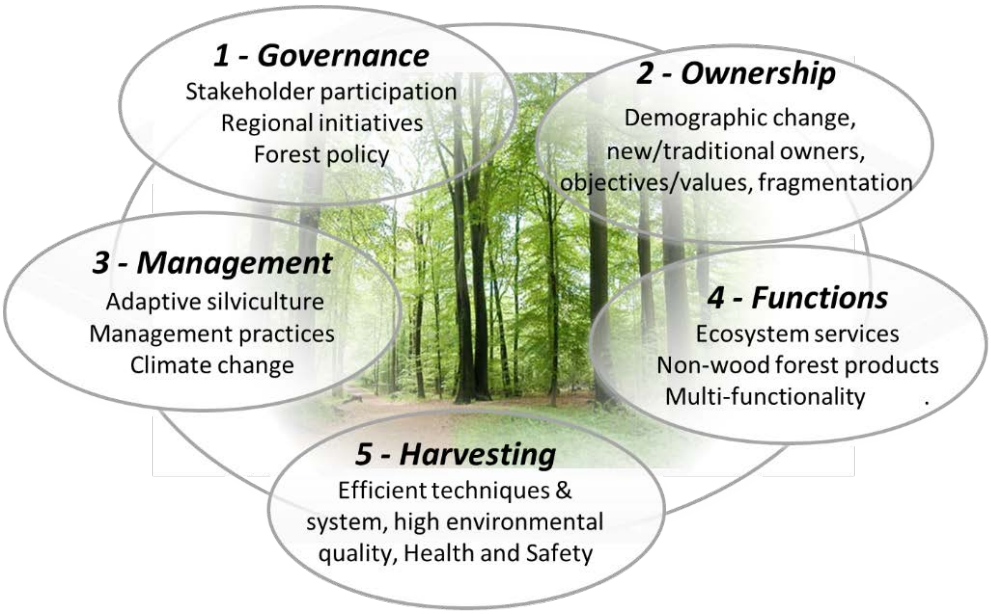

Figure 2: Five domains for regional profiling when planning a wood mobilisation initiative

SIMWOOD Pilot Project leaders were also encouraged to complete an analysis of the interests, positions, inter-relationships and potential willingness to change of stakeholders linked with the issues and proposed solutions identified in the Regional Profile. ***Stakeholder social mapping***, using conceptual diagrams of the multifunctional aspects of local wood mobilisation and which stakeholders are involved, can typically grant such insight. For SIMWOOD Pilot Project leaders, this mapping was often undertaken with the stakeholders in the Regional Learning Lab.

Figure 3: Stakeholder consultation

Sometimes the Regional Profile and the stakeholder mapping were enough to identify a relevant target for the Pilot Project. However, if the bottleneck was not fully understood because of lack of data or knowledge the SIMWOOD experience suggests it is important not to rush blindfolded into poor project design. Instead, a ***Focus Study*** can be conducted to close the gap in understanding and foresee the next steps with a stronger understanding of the barrier to be overcome.

Finally, another way to ensure the relevance of Pilot Project designs was to reflect and build-upon experiences from past projects. SIMWOOD partners joined efforts at collecting ***reports on past experiences,*** whether or not they had been successful or properly evaluated. Diverse aspects were hence described, such as: aim; people involved, financial aspects, lessons learnt and cost-benefit balance of those past initiatives. A synthesis of this is available in SIMWOOD Deliverable D3.1 "European model regions and regional impacts of current and potential future mobilisation - Synthesis report".

2.2.2. Step 2. Co-Production - Engaging stakeholders who matter at regional learning labs (RLL)

A process of stakeholder engagement was encouraged to ensure that Pilot Projects were well targeted and relevant to the local conditions. Based on results of the 1st step (see Figure 1), especially stakeholder analysis and outlined stakeholder engagement plans, the expectation was that Pilot Project coordinators would assemble a group of stakeholders who would meet at regular intervals in the 'Regional Learning Labs' (RLLs).

A protocol for the RLLs (SIMWOOD Deliverable D3.1 – European Model Regions and regional impacts of current and potential future mobilisation – synthesis report; Appendix A "Protocol for the Regional Learning Labs) was prepared detailing how stakeholder engagement could contribute to the majority of activities, milestones and deliverables in the project. Also included was outline guidance on the methods and tools that might be used. Bayesian Belief Networks were tested and found useful for those partners wishing to undertake an in-depth analysis of wood mobilisation barriers and solutions in their respective regions.

In SIMWOOD Pilot Projects, the core activity in the RLL process became the RLL meetings: typically 1 or 2 meetings per year throughout the course of the Pilot Project.

Central to the SIMWOOD approach is the idea that social learning can enable knowledge co-production in the Pilot Project, hence facilitating persuasion and subsequent change of practice of the people who matter for wood mobilisation.

2.2.3. Step 3. Evaluation - Learning and reflecting using an adaptable evaluation framework for project leaders

An evaluation framework was designed to support Pilot Project leaders. Its primary function was to facilitate the generation of feedback from a range of diverse stakeholders and the provision of answers to three key questions:

a) What changed as a result of the project (and for whom)?
b) Why (i.e. what caused these changes)?
c) What lessons have we learned (i.e. looking back, what should have we done differently, and what should we do differently in the future)?

The framework encourages active and iterative evaluation through the life of the Pilot Project to:

1) Continuously learn lessons about progress, and how objectives, approach, or activities should be adjusted to make them more effective. The focus of this 'formative' evaluation is on learning by internal stakeholders to make numerous small adjustments as the project unfolds.

2) Make judgements about the effectiveness in delivering intended outcomes and impacts (as well as identifying any unintended consequences); 'summative' evaluation can typically support strategic decisions about whether or not to continue funding a project, or extend it or transfer it elsewhere.

3) 'Theory-driven' synthesis of the findings at project end to show if the chosen solution was effective at addressing particular barriers in particular contexts, and if successful how the particular solutions should be implemented to make them as successful as possible.

The framework is based on a 'logic model' widely used in programme evaluation, which covers inputs, outputs, outcomes and impacts (as shown in Figure 4), as follows:

- Preconditions (e.g. existing forest stock, ecosystems, management and counselling)
- Inputs –the investments into the project, primarily of staff time and money.
- Outputs –the tangible deliverables of the project, e.g. demonstration events, guidance booklets, decision support systems, cooperative groups, equipment made accessible, etc.
- Outcomes – changes to knowledge, skills, attitudes, aspirations and practices of people who participate in the project and have access to its outputs. It covers the 'mobilisation of people' necessary for the 'mobilisation of wood'.
- Impacts – changes to wood mobilisation and delivery of other ecosystem services, and changes to risks and uncertainties. It also includes unintended impacts.

The SIMWOOD evaluation framework focuses on 'outcomes' (changes in knowledge, skills, attitudes, aspirations, and practices – i.e. the 'mobilisation of people' that is necessary before the 'mobilisation of wood') and 'impacts' (possible given the timescale of the project). Evaluation of inputs and outputs alone is not considered enough to understand whether an intervention has been successful. It is still important to describe and quantify outputs to provide additional feedback (such as the barriers lifted by the project, and the number of participants). Estimates of the level of inputs to a project is also necessary to make claims about its overall cost effectiveness, or the cost/benefit of specific components, e.g. a demonstration event.

The main methods suggested by the framework in order to elicit feedback about outcomes and impacts with the stakeholders engaged in the Pilot Projects were: a) semi-structured interviews (i.e. one-to-one meetings with stakeholders), b) participatory workshops, and c) questionnaire surveys. Many Pilot Project leaders perceived the framework as both useful and helpful and it can be applied to any intervention seeking to mobilise wood, i.e. projects, programs or 'solutions' comprising any combination of measures.

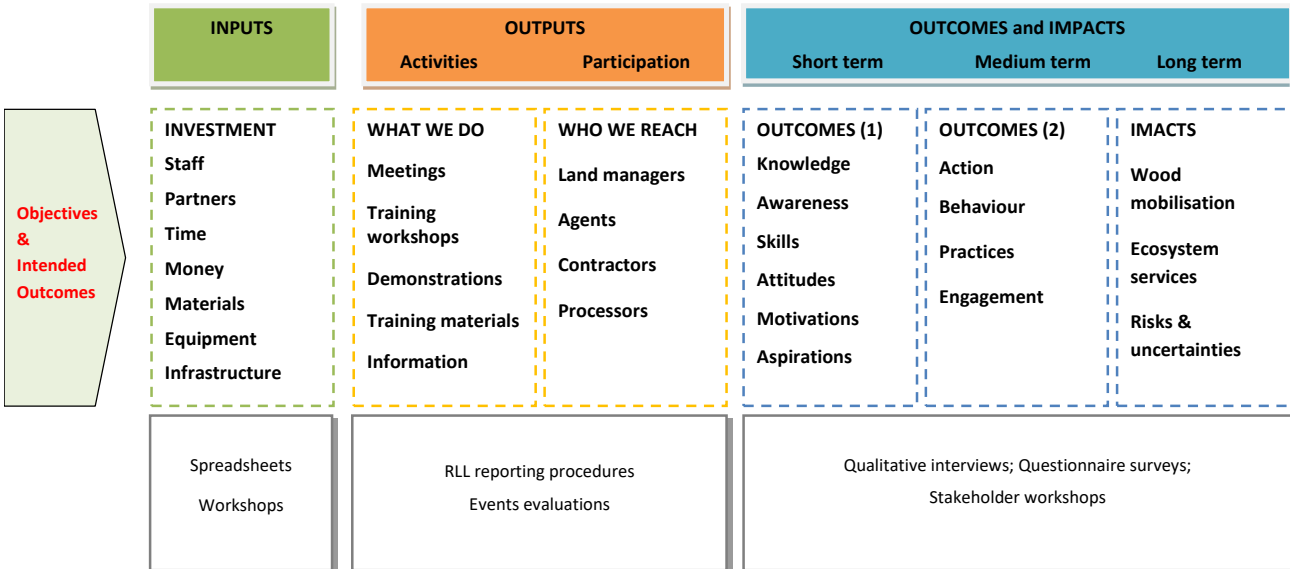

Figure 4: SIMWOOD Pilot Project Evaluation Framework

2.2.4. Added-value from network cooperation

In addition to the above mentioned tool-kit of steps and methods, collaboration within the SIMWOOD project provided Pilot Project leaders with an opportunity for cross-regional learning.

Internal strategies were implemented to facilitate the circulation of peers' feedback and gentle suggestions for improvements provided within the community:

- Pilot Project descriptions granted peers with an access to a first level of understanding
- A short reporting format was adopted including narratives on how the RLL approach influenced the direction and outcomes of the Pilot Project in each region, and how it benefited the stakeholders
- An expert group reflecting on the Pilot Project descriptions, reviewing plans and intermediate results accordingly
- Workshops at SIMWOOD meetings enabled the circulation of questions and answers.

Feedback from peers and the expert group provided Pilot Project leaders with additional material to reflect on their Pilot Project management and adjust their own actions.

3. Presentation of the 22 Pilot Projects implemented for 3 years

This chapter presents the Pilot Projects implemented in SIMWOOD. Those 22 individual initiatives are characterized through different entry points, e.g. region, size, expected changes in the target group. This should make it easier for developers of wood mobilisation initiative(s) to find Pilot Projects close to their own situations or ambitions, and to find out more about the achievements and the factors which influenced success in those contexts.

3.1. Lists and reports from SIMWOOD WMI

22 Pilot Projects were implemented in the Model Regions. The list and geographical distribution of the Pilot Projects are displayed in Table 1 and Figure 5.

Summary descriptions of the projects are available in Appendix 1.

Full reports of the Pilot Project results and evaluation are available on the SIMWOOD Information System[1].

Each report is a stand-alone public document that any reader can use to learn: why and with whom the Pilot Project was initiated in the first place (target group and theory of change); what happened (success and pitfalls during the implementation); and what was learnt from the evaluation. Hence, a synthesis of the work done in the lifetime of the Pilot Project is accessible to the largest audience.

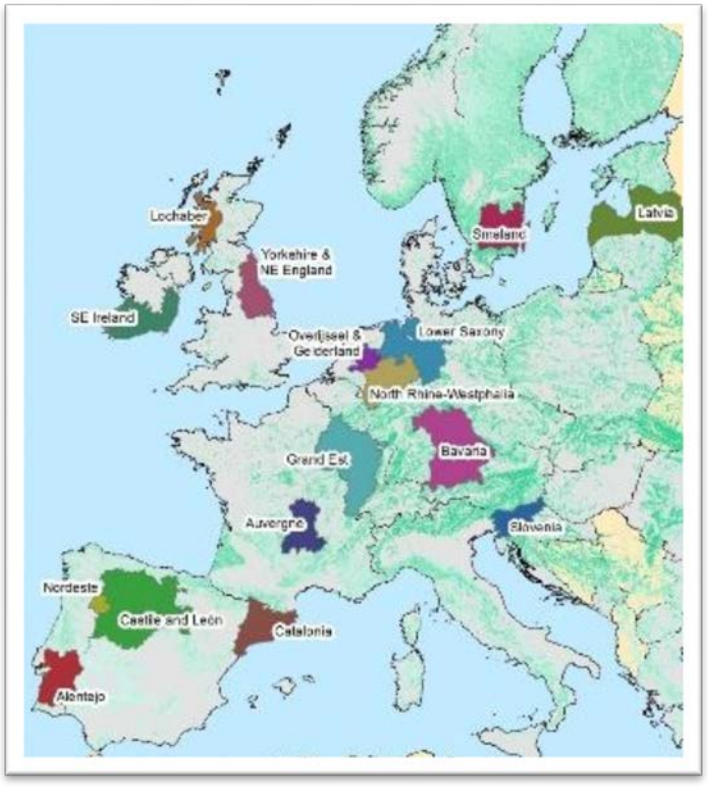

Figure 5: map of the Pilot Projects distributed over 14 European regions

[1] This "SIMWOOD Information System" is the searchable database of the knowledge generated within the SIMWOOD project. At its core are the Pilot Projects but the webpages also contain other resources, such as the latest newsfeeds in the forestry sector, a map of local resources (e.g. forest owners' associations, forest-based industry), online decision support tools, and interactive graphs of the Efiscen model outputs.. https://simwood.jrc.ec.europa.eu/

Table 1: Pilot Project title and regional location throughout Europe

No.	**Country**	**Model Region**	**Title of Pilot Project**
1.1	Germany	Bavaria	Activation of forest owners to establish a sustainable forest management and to adapt the forest stands to the future climate, in North-East of Bavaria (Bibersberg & Thiemitztal)
1.2	Germany	Bavaria	Activation of forest owners to engage them in sustainable forest management with special emphasis on alpine forest-functions, in South-West of Bavaria (Gruenten)
2	Germany	North-Rhine Westphalia	Forest land consolidation of community forests in North Rhine-Westphalia. Lessons learnt from the attempts to readjust property as a solution for land fragmentation and inactive small-scale private forest owners in Germany
3	France	Auvergne	Increasing professional know-how in steep-terrain conditions: collaborative pathways for forest companies to broaden their wood mobilisation horizon in these specific areas
4.1	France	Grand Est	Adapting silviculture schemes and harvesting systems to reactivate forest management and enable wood mobilisation on poor limestone soils in "Champagne Crayeuse"
4.2	France	Grand Est	Capacity building for a better and more efficient service offering in special forest conditions: sensitive soils in Grand Est
4.3	France	Grand Est	Promoting private owners' interest in forest management through contact with professional forester
5	UK	Yorkshire and Northeast England	Bringing unmanaged privately owned woodlands into productive and sustainable management by adopting a marketing brand
6	UK	Scotland/ Lochhaber	Living Working Woods: stakeholder engagement to mobilise social, environmental and economic assets of undermanaged/underutilized woodlands in a region with no prior forest culture/dynamic
7.1	Ireland	South East Region	Mobilising additional wood fuel from conifer first thinning
7.2	Ireland	South East Region	Developing a new collaborative producer group and supply chains towards the mobilisation of timber

No.	Country	Model Region	Title of Pilot Project
8.1	Spain	Castile and Leon	Raising awareness on the influence of thinning intensity on tree growth and mushroom production in mixed forest in Castile and Leon: a 1st step towards the acceptance of the multi-functional assets of wood mobilisation
8.2	Spain	Castile and Leon	Raising awareness on the contrasted consequences of different early-thinning practices in natural regenerated stands: knowledge-based silviculture to secure the production of wood raw material
9.1	Spain	Catalonia	Establishing a protocol for collaborative, mutually agreed management in particularly sensitive forests to reconcile high natural value with wood mobilisation under the umbrella of multi-functional forest management
9.2	Spain	Catalonia	Common governance to mobilise the primary forest biomass and promote the local consumption of wood chip while decreasing the risk of fire.
10	Portugal	Nordeste Transmontano	A multiscale integrative approach to raise awareness and encourage participative sustainable wood mobilisation
11	Portugal	Alentejo	Collective scenario planning to raise awareness on the feasibility to increase maritime pine and eucalyptus wood through management and afforestation at Alentejo Region
12.1	Netherlands	Overijssel/ Gelderland	Improving wood harvesting logistics by a dedicated GIS-based biomass module
12.2	Netherlands	Overijssel/ Gelderland	Bundling efforts in a collective to facilitate wood mobilisation in Food valley region
13	Slovenia	Slovenia	Training the facilitators: towards the improvement of forest owners associations capacities and the extension program outcomes
14	Sweden	Småland	Development of a more efficient and sustainable system for extraction of logging residuals from clear cutting areas in Småland for fuel purposes
15	Germany	Lower Saxony	Engaging new forest owners into active small scale forestry through the focus-days
			TOTAL 22

Two of the above mentioned Pilot Projects actually emerged as positive side-effect of the cooperation within the SIMWOOD consortium. Adoption by German partners of the SIMWOOD tool-kit and methodology in Bavaria and North-Rhine Westphalia, led KWF to transfer the approach to Lower Saxony.

In France, regional activities coordinated by Forêts et Bois de l'Est (F&BE) in Grand Est led this SME to imagine a 3rd Pilot Project during the last year of the SIMWOOD project.

For Latvia, the documentation of the national profile, in cooperation with LWF, lead the local contact RTU to imagine a local multi-stakeholders dialog process. The Regional Learning Lab (RLL) was launched to address the local needs, and RTU undertook a social network analysis on both policy and initiative levels, with the support of LWF.

3.2. A typology of SIMWOOD Pilot Projects

Although they were designed and operated through a common approach, the 22 SIMWOOD Pilot Projects are a diverse panel of regional interventions whose dimensions and expectations were tailored to the local context and understanding of a context specific solvable bottleneck. Making sense of this diversity Table 2 groups the projects according to a simple typology according to the:

- expected time-frame for gains in terms of wood mobilisation,
- enabling context required in terms of market demand for raw material and stakeholders' openness towards change
- chosen target group(s) and foreseen change(s) when designing the Pilot Project

Outcomes evidenced by the Pilot Projects in each group are briefly summarised here but more detail is given on each in Chapter 4 and 5. These examples are provided in the form of a text box, illustrating different aspects of the projects as they relate to significant issues. The Pilot Project examples are colour-coded to indicate which steps in the SIMWOOD process they are describing, as follows:

	Discussion illustrates Step 1 the target identification and problem diagnosis process
	Discussion illustrates Step 2 the co-production process
	Discussion illustrates Step 3 the evaluation, reflection and learning process

Table 2: Pilot Project typology

Timeframe for gains	Enabling context to start with in the region	Target group and foreseen change	Pilot Projects sub-groups corresponding to the approach	Outcomes evidenced in SIMWOOD PILOT PROJECT
Short term	Market-pull is high Professional practitioners are ready to act swiftly if know-how is validated	Professional practitioners targeted so that they can improve their **capacity and know-how** to - Manage the forest they are responsible for (whatever the forest owner profile) - Operate harvest and related logging aspects in a more efficient way, even when extra challenges (slope, soft soils, new system…) contribute to make additional mobilisation more difficult than usual business (what is mobilised now) - Engage forest owners who are not yet delegating forest operations (Management, Harvesting…) to a professional service provider and whose forest is inactive in terms of sustainable forest management and wood mobilisation	→ *Grand Est, Castille y Leon* → *Auvergne, Grand Est, Ireland, Småland, Overijssel/Gelderland,* → *Bavaria, Grand Est, Ireland, Slovenia, Lower Saxony*	New owners agree to put their woodlands into management Forests managed in a more efficient way and production of forest products which are better adapted to market demand
Medium term	Market-demand likely to increase Possibility exists to facilitate framework conditions Possibility exists to improve governance	Multi-stakeholders communities who need to reach a common understanding on their forest-based strategy to make wood mobilisation a sustainable business in the region.	→ *Yorkshire North East England, Lochaber, Catalonia, Nordeste, Alentjo, Latvia, Bavaria*	Commitment to common decisions Improved visibility on what could be offered as a service by forest practitioners
Long term	Possibility of contributing to stable improvement of framework conditions	Decision makers who could enable the implementation of a relevant framework instrument if they were convinced of its positive impact and cost-benefit performance	→ North Rhine Westphalia	Raised awareness among regional authorities

3.3. Knowledge and attitude pathways

In the SIMWOOD Handbook, a broad range of barriers and measures related to wood mobilisation are described and categorised. Placing Pilot Projects in this descriptive framework (see also Appendix 2) highlights a strong inclination from the Pilot Project leaders to act upon "knowledge and persuasion" measures in order to change the attitude and practice of their chosen target group.

More precisely, most SIMWOOD Pilot Projects focused on changing peoples' attitudes about the potential for mobilising a "sleeping" resource, particularly the economic and financial benefits of entering existing or developing markets for raw material. In such cases, regional interventions targeted specific stakeholder group(s) and progressively built their capacity to act differently, thereby removing some of the knowledge and attitudinal barriers to active forest management through wood mobilisation.

Hence, "knowledge and attitude" measures were taken in many regions. Stakeholders were engaged in the co-production of new knowledge and in social learning activities in the expectation that the change of awareness at individual and collective level would be followed by active change of practice.

Typical examples of such cases include the following Pilot Projects whose theory of change is introduced below:

- In South East Ireland, Veon wished to introduce a new practice called Integrated Harvesting in conifer stands to mobilise more biomass and thereby increase income for forest owners. The company theorized that uptake of a common Decision Support Tool (DST) and participation at demonstration events, would increase knowledge and skills of professional foresters and their peers, simultaneously raising the awareness of forest owners. Evaluation evidenced that the *Pilot Project 7.1* did indeed improve their attitudes towards wood mobilisation as an economically viable activity, as well as confidence in their ability to use the newly developed method. This led to the adoption of Integrated Harvesting and increased wood mobilisation in the region.

- In Småland (Sweden) partners chose to disseminate new knowledge about a more efficient and sustainable system for extraction of logging residuals from thinning and final felling operations. Two groups were targeted in *Pilot Project14*. These were forest owners and logging operators. The aim was to change owners' attitudes towards extraction of forest residues, and to convince logging operators to adapt their practice in relevant forest conditions.

- In Grand Est (France), local cooperative F&BE theorised that documentation and demonstration of new cost effective management options (harvesting and silviculture) available for poor forest stands in Champagne Crayeuse would raise foresters' interest for this "sleeping" resource. Hence *Pilot Project4.2* aimed at changing the attitudes of forest owners and managers to favour the restoration of the productive capacities of the targeted forest type.

Other SIMWOOD Pilot Project illustrate that alternative pathways may be relevant when the context requires a different type of game changer. In Catalonia, Pilot Project 9.2 focused on arranging a change in market demand (1.7M€ installation of new end-user) while facilitating up-stream change of wood supply-chain practice as a cascade necessity. In Castile & Leon (Pilot Project 8.1) regional interests were federated under the Forest Model Initiative.

Other alternatives were chosen in Castile & Leon (Pilot Project 8.2), Nordest (Pilot Project 10) and Alentejo (Pilot Project 11) where the focus was on silvicultural practices. The theory of change built upon the idea that alternative silviculture would increase the flow and diversity of products from the forest. These Pilot Project are also very sensitive to stakeholders willingness to change their practice. However, the timeframe of expected impacts is different from those Pilot Projects which are closer to immediate market demand and try to mobilise wood which already exists but is under-harvested.

3.4. Multiple purposes are served

Although Pilot Projects were driven by the intention to mobilise more wood and meet market demand for additional raw material, the initiative often helped to achieve other multiple benefits.

Sustainable wood mobilisation is interwoven with active multifunctional forest management. The Pilot Projects evidenced co-benefits to wood harvesting and delivery. For example, there was additional job creation in the case of Irish Wood Producers (Pilot Project 7.2 in Ireland); fire risk mitigation in Catalonia (Pilot Project 9.2 in Spain); mushroom collection and carbon sequestration in Nordeste (Pilot Project 10 in Portugal); the co-benefits of thinning (wood mobilisation) and mushroom productivity in Castile & Leon (Pilot Project 8.1).

Figure 6: Edible mushroom as a co-product of active and sustainable forest management in region Castille & Leon

CREAF ***Fire risk mitigation and jobs, as co-benefits of the development of a market driven wood supply-chain in Catalonia (Pilot Project 9.2).***

The Pilot Project contributed to securing the durable installation of a regional service for wood mobilisation. The concession of the latter working at full capacity has been estimated to represent an important impact in the mid-term, namely:

- A sustainable use of up to 500 ha per year of Aleppo pine, from the 12,900 ha resource of Aleppo pure white pine which is not mobilised.
- A sustainable exploitation of up to 10,000 ha of Aleppo pine over a period of 20 years, 50% of the current surface area dominated by this species in the region.

In addition to forest and wood mobilisation, the impact forecasts for employment are:

- The creation of 14 direct jobs and 12 indirect and induced jobs.
- The promotion of inclusive work: it was negotiated that if social third-sector entities are involved in forest work, the concessionaire would be reimbursed with a 2% reduction on the fee (variable, and paid annually).

Stakeholders in the RLL also agreed that the project has a direct impact on the improvement of fire risk management since wood mobilisation reduces the amount of inflammable material available in fire-sensitive forests. A bonus criterion has been established for the payment of local woodchip when it comes from areas identified as critical to the management of forest fires, hence recognizing the ecosystem service granted by wood mobilisation in the region.

Sustaining the protective functions of alpine forests under the conditions of climate change in Bavaria (Pilot Project 1.2).

The Pilot Project is located in the South-Western Region of Bavaria ("Allgäu"). It is part of the Mountain Forest Initiative (BWO) Program, supported by the forest administration, among others through funds from the Bavarian Climate Program. SIMWOOD supported new measures in an existing BWO project that operates on a large forest area (2750 ha, of which 1386 ha are forests). The main aim was the activation of forest owners to engage them in sustainable forest management with special emphasis on alpine forest-functions, i.e. *a sustained protective function under the conditions of climate change*. The forests are mostly under private, small-scale ownership, and are conifer dominated, mountainous with steep terrain and a lack of access by forest roads.

The Pilot Project received high subsidy input (esp. for road construction), i.e. an average of 129 Euro/ha, year (2008-2014), which decreased in the following years to 40 Euro/ha in 2016. Additional personnel capacities of the local forest administration were comparatively high (0.3 man-years/year). The Pilot Project was characterised by a large network, including 16 stakeholders.

The amount of additional wood harvested remained at constant but rather low levels, between 2.5 and 3.9 m3/ha annually. Several forest locations were made accessible and still await harvesting operations (e.g. silvicultural measures to improve the protective function and climate adaptation capacity of forests), due to obstacles related to staff, funding, taxation, calamities occurring elsewhere and particular forest owner decisions. The actors evaluated the overall success of the implementation of the pilots' measures as good. Participation of forest owners is moderate (despite the long activity of the BWO in the area), somewhat decreasing in the harvesting activities. Forest conversion measures were implemented constantly on <0.1% of the pilot area, with some increase in 2016.

Nordeste A multiple integrative approach for participative sustainable wood mobilisation

The Pilot Project undertook to create awareness in the Nordeste region and provide local agents at several scales with the knowledge and the tools required to increase mobilisation and to do so in a sustainable way. Tangible and long-lasting decision support tools and Apps were developed and knowledge opportunities were offered.

From the feedback collected during evaluation, the Pilot Project leader judges it is likely that stakeholders involved or exposed to the project will change attitudes and practices leading to increasing forest mobilisation but that should be visible in years to come. Changes in practices of managers (Forest Service, private companies) leading to changes in management increasing wood mobilisation tend to be slow and will happen most likely in years following the end of the project. The establishment of formal and informal groups that will be maintained after the conclusion of the project have an impact in mobilisation in the long run.

The impacts on other ecosystem services tend to be positive. Mushroom collection and carbon sequestration can benefit from increasing thinning and harvesting. Water production and soil loss should not be affected negatively. Fire regulation (protection) can increase due to management and harvesting. Most of these conclusions have been reached through modelling and simulation. The major impact of the Pilot Project regarding ecosystem services is, however, the identification of "schemes for the payment of forest ecosystem services" as a key opportunity within the project *fora* and initiatives.

Testimonial from Catalonia where Pilot Project09-1 explored new tools for mobilizing wood in a collaborative way without putting the conservation values of the sensitive forests at risk

The project was a reaction to the well-recognised clash between the interests of conservation managers and timber producers. Stakeholders involved with timber production identified the nature protection policies (more than 30% of the land area in Catalonia is protected) as one of the main barriers to increase wood mobilisation. CREAF perceived this bottleneck as a solvable one and designed the Pilot Project to establish a protocol for collaborative, mutually-agreed management of the sensitive forests that reconciles high conservation values with increased wood mobilisation.

Co-production of the common criteria for wood mobilisation in forests specifically recognised for their natural values was a major achievement within the RLL. And the subscription to the protocol is the clearest sign of a rapprochement between owners and conservationists, and between timber harvesting (launched by active forest owners) and the conservation of the natural assets of "Singular Forests".

With the actions implemented, this Pilot Project contributed to:

- The better perception of the timber sector, understanding that forest management is often necessary to adapt forests to climate change.
- Provide tools to the administration in establishing specific legislation for forests with high conservation values considering the possibility to set up a network of forests evolving to natural dynamics.

3.5. Diverse range of inputs and outputs in the SIMWOOD Pilot Projects

In terms of the inputs utilised by the Pilot Projects, the time and finance invested in the 22 Pilot Projects varied from one region to the other (Figure 7). The variation depended on the local objectives and the pre-existing context.

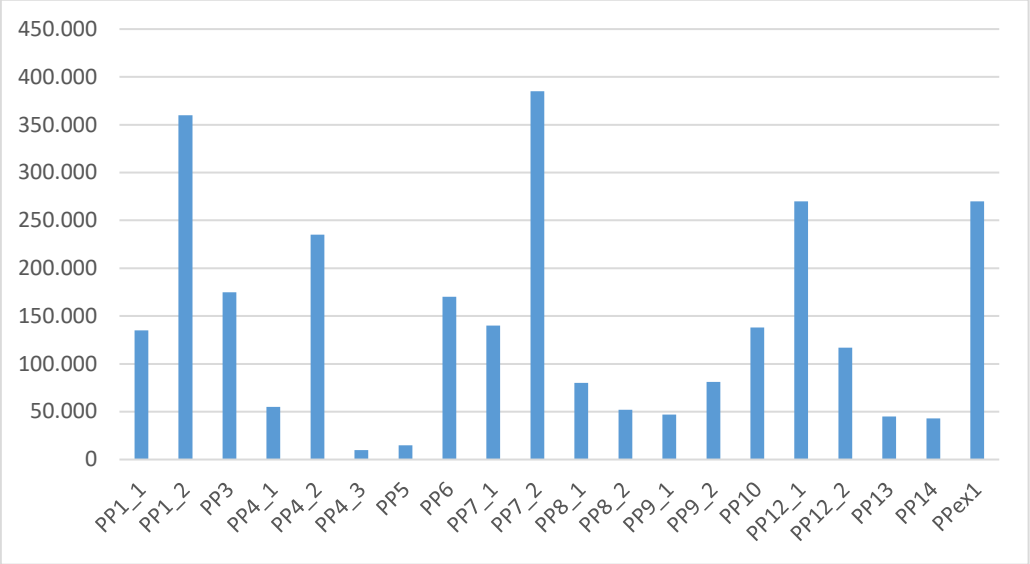

Figure 7: Total cost of Pilot Project (€ estimates) as declared by the PP leaders during evaluation

In the Figure 8, each bar shows the number of projects (out 21 respondents) that have delivered (and/or have in progress) each output type.

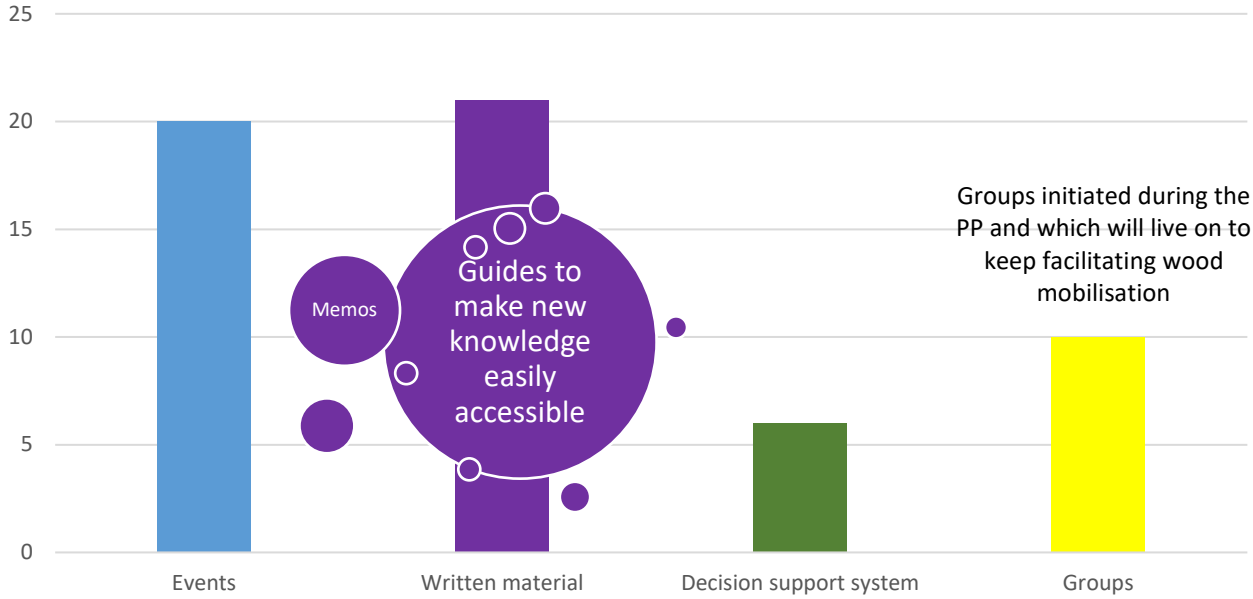

Figure 8: PP leaders (21) answer to the question "Which outputs have been delivered or are in progress as a result of your Pilot Project?"

As well as the physical outputs, it is important to note the groups and social coalitions facilitated by SIMWOOD that continue to operate after the project ends. SIMWOOD Pilot Projects typically produced diverse and complementary outputs to facilitate changes within their target group and enable further wood mobilisation in the region. Such was the case in the Nordeste region (Portugal) where the CFNor council (Figure 9) was established to ease dialog and mutual understanding during SIMWOOD. This fruitful entity will keep on after the end of the Pilot Project. Other project legacies to the regional stakeholders are the decision-support tool (Figure 10) developed to lift some of the regional barriers to wood mobilisation.

Figure 9: CFNor council established in region Nordeste (Portugal) for the purpose of facilitating dialog and mutual understanding during SIMWOOD will keep on after the end of the Pilot Project.

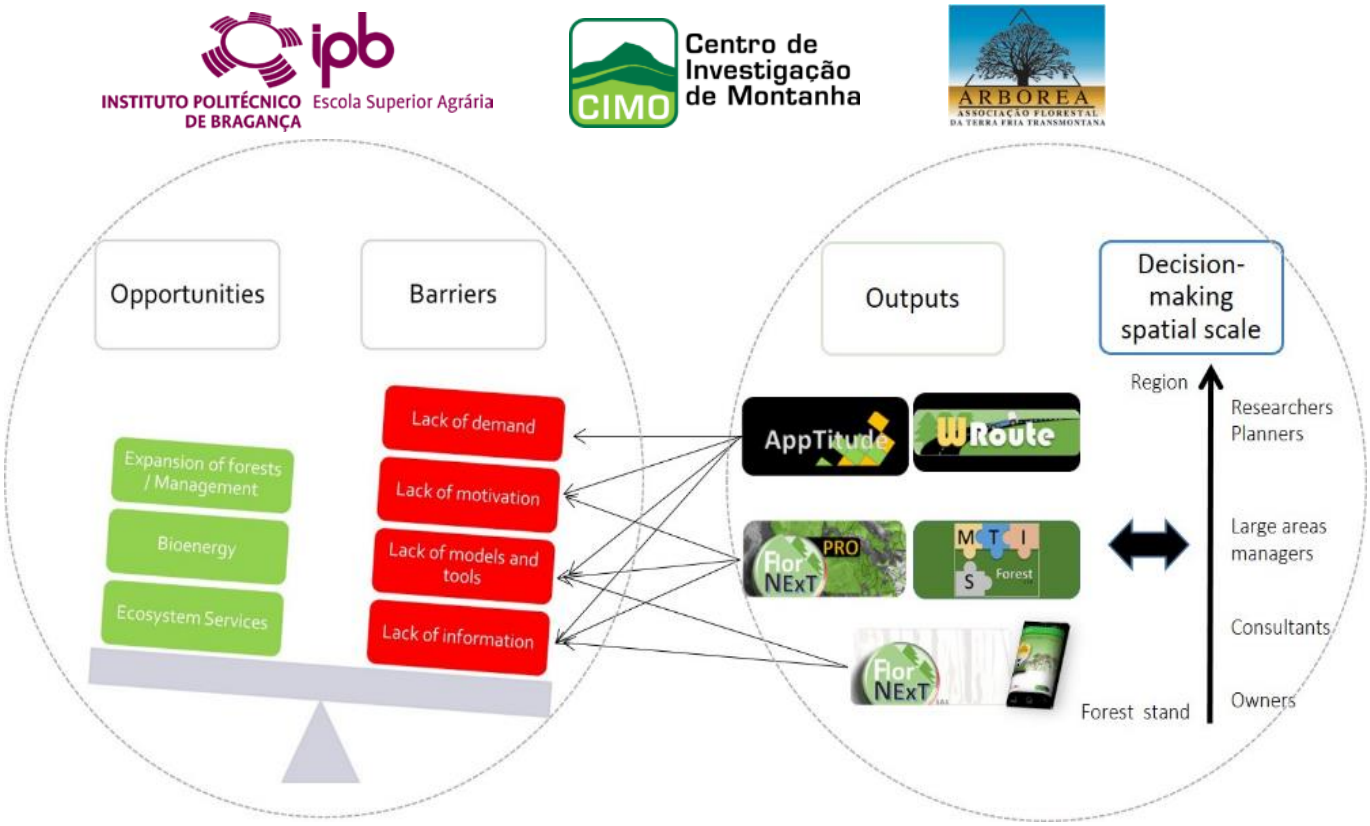

Figure 10: Decision-supports systems produced through the Pilot Project in Nordeste to lift some of the regional barriers to wood mobilisation

4. Pilot Projects' achievements: changes evidenced with engaged stakeholders

This chapter uses selected evidence to demonstrate what the wood mobilisation initiative Pilot Projects achieved using evidence gathered during the evaluation exercises. Key findings are highlighted.

4.1. All Pilot Projects achieved change of awareness within their target group

Evaluation undertaken with the regional stakeholders within each Pilot Project evidenced that those collective initiatives had not only produced useful outputs for those involved, but that changes were also noticeable in the specific group(s) which the Pilot Project had targeted. Different degrees of change were noted from a change in the degree of knowledge related to techniques and potential for wood mobilisation, to more pro-active changes of practices such as modifications of harvesting and thinning techniques. Table 3 summarises these, but the outcomes are also documented in the Pilot Project reports.

Table 3: Outcomes for the regional stakeholders who benefited from the Pilot Projects, as reported by 21 PILOT PROJECT leaders after evaluation

	Stakeholder group				
	Forest managers	**Contractors**	**Extension agents**	**Forest owners**	**Policy makers**
Knowledge	18	10	8	17	8
Attitudes	15	8	5	17	8
Connections	13	11	7	15	8
Plans	13	8	5	12	5
Practices	13	7	5	11	6
Total (out of a potential 105, i.e. 21 PP x 5 factors)	**72**	**44**	**30**	**72**	**35**

In Alentejo (Portugal), change of awareness is acknowledged as a game changer for the representatives from the pulp and paper industry who participated in the Pilot Project. Co-production in the regional learning lab provided evidence on the capacity to produce more wood out of a more efficient sustainable forest management. Results from the simulation and validated by the group are perceived as knowledge-based evidence of a statement the industry was already making, but that was not paid attention to by some of the stakeholders they were trying to convince.

All Pilot Projects achieved a change of awareness amongst stakeholders and target groups. However, many of the Pilot Projects will need more time to achieve change of practice and a measurable impact on wood mobilisation. However, several Pilot Project leaders demonstrate a strong willingness to act upon these first achievements and keep encouraging changes of practice towards additional wood mobilisation as a follow-up after the Pilot Project. This is the case in Slovenia, Småland and Yorkshire where quantitative impacts are expected in the short-term as a direct consequence of the outcomes generated in the Pilot Project.

Change of practice and impacts will be greater when the full program will apply the new knowledge. Improvement of forest owners' associations capacities for mobilisation of wood from private forests. Slovenia PP13

During the Pilot Project, efforts were focused on raising awareness on wood mobilisation, on the key role to be played by forest owners associations (FOA) and on how the latter could be undertaken in an efficient way.

Much relied on effective improvement of extension service, which is provided by SFS foresters (main actor in local FOAs in more than 90% of cases) The development of extension services capacities on the field of forest owners activation and wood mobilisation therefore became the core of the Pilot Project activities

The main outputs targeted at FAOs were information and communication using an internet platform, and the extension service development of a program about sustainable wood mobilisation using adapted solutions around governance, motivation, production cost optimization, harvesting optimization and forest management planning.

The most significant change as a result of the Pilot Project was the changed attitude of the FOAs toward cooperation in forest management and building a common approach to wood market. By presenting Pilot Project findings during the RLLs, the attitudes of FOAs managing staff changed toward active cooperation at forest management and marketing. This was facilitated by demonstrating the success stories of two FOA's – FOA on Bled and Pohorje – Kozjak, which overcame a "non – commercial" phase of FOA development, now play a significant role as forest services provider within the local and regional wood economy. Additionally, extension staff and their managers were motivated to become more active supporting the FOA and the tool-kit developed in the Pilot Project enhanced their capacity to do so.

The Slovenia Forest Service extension service will act as a main driver for future enhancement of wood mobilisation in Slovenia. Uptake of the enhanced method and tool-kit by the full SFS extension service with almost 400 foresters on the field is the next challenge for the 3 years after the formal end of the Pilot Project. In that time period we are aiming mostly on 4000 members of 30 forest owners associations in Slovenia, but also on other forest owners.

In Småland, awareness raising achieved in the Pilot Project and pursued since then is a necessary precursor to the tangible extra wood mobilisation foreseen by 2020.

In Småland, the Pilot Project focused on creating evidence and pedagogical material to raise awareness about adapted working methods. The video, based on experiences and knowledge from the Pilot Project, showcased alternative handling-systems in order with the potential to increase the extraction of forest fuels. Results disseminated at different seminars and training out in the field. Some parts of the awareness raising for handling systems are concrete hands-on experience exchange.

Pilot Project leaders were able to confirm that awareness had indeed been raised. The feedback from the targeted population went on to contribute to setting reasonable goals for broader adoption in the up-coming years. From now on, the aim is to increase the mobilisation of forest fuel from clear cutting areas in Småland in two ways:

- in quantity from 50% to 75% of forest residues in every clear cutting area, an increase of 25 percent, by 2020 (three years after the end of the SIMWOOD project); and
- in the number of forest owners, carrying out extraction of forest fuel from harvesting of clear cutting areas, by 25 percent by 2020, compared with 2013.

4.2. Business development within the SME

Our SIMWOOD approach with Pilot Projects has been about service development and business growth to distribute the benefits of additional wood mobilisation in Europe. In that sense, the most tangible outcomes are the changes within the participating SME, such as the one evidenced in the examples below.

In Ireland, as the SME Irish Wood Producers (IWP) discussed the Pilot Project impacts with some of its stakeholders in October 2017, one aspect acknowledged as a significant outcome is the development of new type of Forestry Company in Ireland. IWP considers it is filling a niche in its national forestry sector. After trial and error, a new harvesting technique was developed with harvesting companies and large and small biomass contracts were secured. To date, no other forestry company in Ireland sells biomass for the forest owner as a delivered sale and optimising profits to the forest owner. IWP also processes and delivers biomass directly from site further increasing profits to the owner. As a new heat incentive grant scheme for new boilers is being launched in Ireland in October 2017, IWP has been approached from energy companies to supply new installations and the SME is organizing a meeting of all producer groups to formalise the start of a national collaboration.

At the SIMWOOD Final Conference, SmallWood's CEO Ian Baker highlighted tangible outcomes to illustrate his strong concluding remark to the 4 years cooperation "***Research is better when SMEs are involved, it is more focused on real world problems and SME have access to the problem solvers. As a result, better solutions emerge, the results are likely to be implemented and they are more likely to be measurable***"

Table 1: Examples of the project practical outcomes for SME as presented during the SIMWOOD Final Conference

	RDI have a tangible and valuable result from the project in the form of our Grown in Britain marketing group, the first group scheme of this kind in Britain which should be self-sustaining post project.
	SWA are developing small woodland mobilisation projects in England and Scotland (2 projects covering 8 areas); also working with Wales
	FBE have used data and results from the field trials, informing an improved methodfor logging operations, better suited to the 30% of sites on sensitive soils
	ESS found the introduction of research stakeholders into the regional energy sphere influenced the composition of relevant partnerships and has provided a source of new partners for the university for future collaboration
	AGRESTA has experienced • Improvement of competitiveness through development of new products, services & advances in R&D • Improvement of networks through participation with SIMWOOD (Europe) and locally • Improvement of image, through better brand positioning.

	Forestfin were able to introduce new management models in the region, involving circular economy towards a better profitability from forest sector
	ECM has developed their understanding and expertise in the connection between thinning and production of important edible mushrooms for the rural economy
	BTG was able to develop and implement projects to increase wood mobilisation through the setting-up of collectives in the Netherlands. RTD partners provided valuable support, especially regarding the structured evaluation of pilot projects.

4.3. Replication and legacy projects are already a reality

Achievements have already been followed by replications and legacy projects within the region or in "sister" regions sharing similar contexts. For example, in the United Kingdom the Small Wood Association has made proposals to extend the groups, capacity building and networking methods developed in one part of Scotland across into other parts of Scotland, England and Wales (see below). The SIMWOOD Pilot Projects were not therefore, "one-shot" happenings, but their success in tackling wood mobilization barriers has proved their value as good investments in future and broader impacts. Figure 6 below demonstrates that 19 Pilot Project leaders disclosed that they are either in the process of, or they expect to, transfer their interventions and innovations to other locations or across the country (i.e. Rollout) . Leaders of 14 Pilot Projects said they would continue developing the capacity-building agenda as before (i.e. Business as usual).

Pilot Project management under the SIMWOOD has been a reflexive. So it is not surprising that Figure 6 shows that 10 Pilot Project will continue the work begun in the Pilot Project but change their direction. This indicates their capacity to respond to new knowledge and innovation testing, perhaps shifting focus onto particular issues, outputs, users. A small number, just 4, Pilot Project leaders indicated that they needed more time to reflect on the experiences and learning gained through the Pilot Projects before deciding how to proceed (i.e. Undecided).

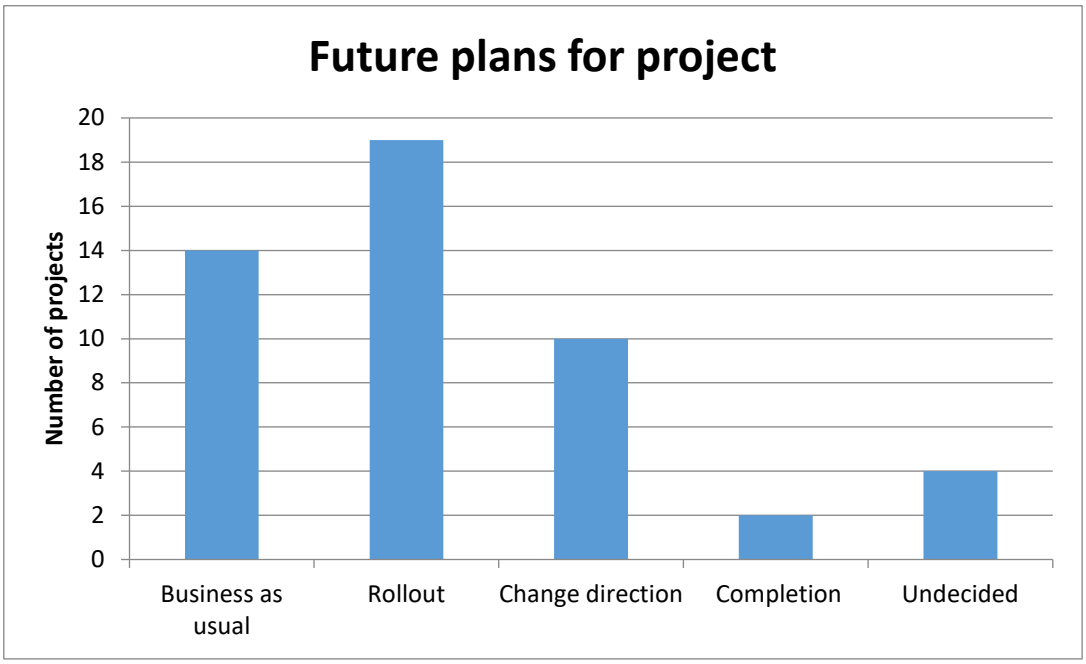

Figure 11: PILOT PROJECT leaders' answers to the question "Which of the following scenario is relevant to your future plans for your PILOT PROJECT?"(n=21)

SIMWOOD Legacy for SmallWoods and its beneficiaries are multiple replications in other UK regions, all together 8 times larger than the original Lochaber area in Scotland

In Lochaber, the stakeholders engaged through the SIMWOOD project have been actively involved in developing a collaborative follow-up project which will be managed by Small Woods. This will extend the SIMWOOD approach to other areas.

Baseline research is already taking place in Argyll under another project and funding is in place to identify Dumfries and Galloway as a third region to benefit from the SIMWOOD legacy in Lochaber. This will see positive change in Lochaber and the other two regions, with more woodland management plans being put into place, more harvesting and extraction, and more products marketed.

At the same time, Small Woods intends to also deliver its service in England, again through building on models produced through SIMWOOD, and adapted specifically for the geographical areas the SME will be working in.

"SIMWOOD has been the catalyst for this, providing the opportunity to gain understanding, to build stakeholders knowledge and trust, and to engage with them to awaken "sleeping" woodlands. We will keep building skills and capacity within the sector, particularly engaging with young foresters to ensure continuity." Says Amanda Calvert (Small Woods).

5. How success is achieved: perspective from the evaluation

This chapter demonstrates how SIMWOOD Pilot Projects achieved success and how they overcame challenges or attempted to overcome them. This collective and reflective experience, offers our audience some leads on how to effectively run a WMI and secure meaningful outcomes.

5.1. Engaged SME are good champions

Engagement of stakeholders who matter for wood mobilisation is one of the key drivers of the SIMWOOD approach. One way to implement this principle has been the direct participation of local professional practitioners, often small and medium enterprises (SME), acting as a leader of the initiative in half of the projects. Experiences from SIMWOOD illustrate the relevance for capacity building measures targeted on service providers, SME, professional practitioners. The latter not only benefit from the projects they invested time and money on, they also ensure that new knowledge and reconsidered attitudes will be acted upon in their company and towards their clients and partners. As such, the enhancement of their capacity to act supports rural business development in parallel to additional wood mobilisation.

From experimental integrated harvesting in conifer 1st thinning to better service offering as forest manager and wood supplier. Veon experience in PP7.1

With this Pilot Project, Veon's objective was to explore a method called Integrated Harvesting in the conifer forests managed by the company for its clients (Irish forest owners). It was evidenced that integrated harvesting is a valid approach to harvesting Irish plantations, particularly those where tree form and species mix results in what was previously understood as "uneconomic first thinning". The harvesting techniques release greater biomass for sale, thus improving profits to owners.

Dissemination of the findings was undertaken to the target audience of professional foresters and forest owners, the latter citing the better financial returns as the main reason they were encouraged to now begin thinning their forests. For professional foresters, the increased knowledge of both the technical and the economic aspects when dealing with low value first thinning has changed attitudes that were previously ambiguous about carrying out operations at this stage in the forest cycle. When questioned during final evaluation, most foresters who gained knowledge and capacity thanks to the Pilot Project said they would offer the new practice as a service in future.

Veon was already offering harvesting services. Thanks to the Pilot Project experience, the company is now also seen as a solution provider and innovator amongst its peers and forest owners. Integrated Harvesting has been integrated in the suite of services offered to forest owners on suitable sites. Capacity is also increasing with the investment of the forestry contractor in new specialised harvesting and forwarding machines, the investment resulting from more confidence on his part that more forest owners will harvest using this method. Finally, the Pilot Project resulted in Veon negotiating biomass supply to the main end user of biomass in Ireland.

"We have already seen increased general timber mobilisation but also increased throughput of biomass. We are extending it to the rest of Ireland where we have similar forests with similar challenges. On a larger scale the Pilot Project has facilitated an upskilling of knowledge on the wood energy supply chain and wood to energy conversions. This along with our increased technical knowledge in biomass harvesting has opened up opportunities for larger scale supply contracts with very significant end users which we will undertake in the coming years." says Daragh Little in the Pilot Project report.

In Auvergne (PP03) SIMWOOD targeted the population of forest companies who could mobilise more wood in steep terrain if they had greater knowledge of the feasibility of logging operations in terms of economy, health & security, human resource management and environment.

For 3 years, the group engaged both professional practitioners who already mobilised wood in steep terrain and forest companies who wished to broaden their activity towards these specific areas. For some stakeholders, logging operations were the core activities while for the others it was part of a broader services-mix which also includes forest management.

During evaluation, all of them stated they had individually benefited from the project. Participants also confirmed they had shared the knowledge within their company/organisation, the number of other practitioners affected by this transfer varying from 3 to 20. Hence, about 60 staff members and colleagues were identified as co-beneficiaries during the project life-span. In such cases, transfer happened systematically through both informal discussion and meeting.

15 extra practitioners were also informally introduced to the new knowledge through their relationship with one of the primary beneficiaries (external partners and/or sub-contractors). And further discussion at the last RLL meeting indicated that participants would further disseminate knowledge and documents after the project end, now that project outputs (memos, guides and minutes…) are available as a complete package.

These cumulated numbers of direct participants and co-beneficiaries are perceived as a significant achievement by the Pilot Project leader because the key companies involved in the RLL are responsible for more than half of the wood mobilisation in the region (all terrain types included). Value chains and market demands are known to them and they are the most capable candidates for swift adaption to varying market demand and additional demand for wood mobilisation.

Some tangible changes were already noted in the practice of individual companies:

- AFB used the support provided by the Pilot Project to organize its new team entitled to intervene in steep terrain situations. And capacity building achieved thanks to the PPprovided the company with enough confidence to invest in the appropriate logging machinery rather than start on an experimental basis with a temporary rental;
- UNISYLVA benefited from the group dynamic and used the support provided by the Pilot Project leader to broaden its range of activities towards the steep terrain (which was a no-go area before that for the company); from keen listeners in 2014, they moved to pro-active planners in 2017 with a strong objective to operate their first steep terrain intervention this very year.

5.2. Private ownership is served better through cooperation

Private forests in Europe are characterised by small and increasingly fragmented forests. The number of owners of these private forests who are non-farmers and who reside in urban areas is increasing. This change in the demography of owners is often associated with a change in values and objectives for forest ownership. These "new" owners often lack the traditional skills and knowledge of forest management. The establishment of forest owner groups/associations can address some of the negative economic effects of fragmentation whilst also providing a means of knowledge transfer, either peer-to-peer or via the services of professionals employed by the cooperative. Professionalism, economy of scale are some of the benefits evidenced in the Pilot Projects where cooperation was a strong driver of the theory of change.

Evolution of a small, local discussion group of 55 members into a commercial producer group of almost 750 members and respective benefits from consolidated professionalism. Irish Wood Producers' experience in Pilot Project7.2

The initial starting point of this Pilot Project was the statement that although many forestry discussion groups exist in Ireland, which facilitate peer knowledge transfer, but they don't always result in active forest management and wood mobilisation.

The Wexford Wood Producers joined with three other local discussion groups to develop economy of scale and form the Irish Wood Producers. The new group engaged with forest owners to implement sustainable forest management and secure economic viability for members. The Pilot Project acted as a catalyst to develop the structure that now sustains the newly evolved group, encourages active forest management and can be replicated by groups in other regions. As the Irish Wood Producers became a registered forestry company, a staff of 3 was hired: a project forester, a manager and a part time office manager with activities in five counties. The group developed capacity to deliver all forestry services and develop harvesting clusters in all counties.

The sustainable harvesting method developed has optimised the economic return for forest owners without comprising the final clear-fell and resulted in 30-50% increased revenue to forest owners. As the group has produced commercial timber and biomass, it has achieved economy of scale to develop markets in the region. Cooperation with other projects, agencies and groups is leading to additional collaborative projects, which could serve other groups in the wider region.

The impact on forest owners has been as intended, they have engaged in forest management and their economic return was optimized. This has so far encouraged 20% of forest owners to actively manage their forestry, harvesting timber and selling commercial timber and biomass. After 3 years the company has completed inventories, developed harvesting plans, business plans, planning applications, managed forest roads, woodland improvements grants and reforestation for 6,482 hectares.

The group has filled a niche by mobilising timber on smaller, inaccessible sites and providing added value to ensure a profit for all members. Previously inactive members are now managing their forestry sustainably and more positively, members are starting to plant further land as they acknowledge forestry as an economically viable farming alternative. The group's progress and possible replication has also been discussed at meetings with 22 other forestry discussion groups and the group is developing specific pilot schemes with capacity for national delivery.

Alex Kelly - Irish Wood Producers – explains this ambition for further expansion "One of the learnings gained from SIMWOOD partners was the limitations that the smaller, parochial producer groups bring and that to be effective and sustainable, producer groups need to have a very large membership."

Forêts et Bois de l'Est PILOT PROJECT4-1 Improvement of silviculture schemes in poor limestone soils contexts

In Champagne Crayeuse, the forest cooperative identified an opportunity for a change of practice in the heterogeneous but poor forest stands left unmanaged in the region since their establishment (plantation) or since the 1999 storm aftermath. Until recent years this forest resource was considered as having no value. But the relatively new development of wood boilers in the area gives an opportunity to valorise this resource. The introduction of adapted forest harvesting machines, medium sized bioenergy feller bunchers which are less sophisticated and costly than a traditional harvester, means that many of the neglected stands can now be reconsidered in a cost efficient way.

As the leader of the PILOT PROJECT, the local cooperative Forêts et Bois de l'Est theorised that demonstration, documentation and dissemination of current possibilities of harvesting and improvement of forest stands could increase the interest, and change attitudes concerning the forest in this area, which would then lead to increased wood mobilisation.

One segment amongst these owners are farmers working highly competitive farms who are used to researching and understanding cereal markets and price fluctuations in order to improve their incomes. They are interested in innovative solution to enhance their estate potential, but forestry is not their main area of expertise. At the same time and because margins are so thin with bioenergy, demand and price on the wood-chip market have directly affect the possibilities to mobilise wood in the sector. FBE knows the market and can be reactive as a cooperative, whereas individuals loose interest in the fluctuations. Hence, raising the capacity of the service provider acts as a leverage on the forest owners reactions towards changing market conditions.

5.3. Social learning creates long lasting benefits

Evaluation of the Pilot Projects underlined the importance of social learning in the process of changing stakeholders' attitudes and practice regarding wood mobilisation. Providing a context for (future) wood mobilisers to exchange with their peers in the region is one of the keys to secure future cooperation. Social learning and per-to-peer exchange was usually offered through meetings, networking events and practical demonstrations.

In the Netherlands, strong partnership consolidated thanks to social learning will live on after project end (Pilot Project 12-2)

The Food Valley project was initiated because of favourable circumstances in that region at that moment, notably: a large bioenergy district heating plant was just erected nearby; presence of active municipalities that wanted to step up activities in their forests; and there was an organization that was interested in bundling of activities through cooperative activities. Interested forest owners were shown how this could be accomplished by carrying out a pilot project in which actual harvesting took place, in close cooperation with these owners. Through regular learning labs owners were involved in the project decisions and educated about harvesting and the value chain. Follow-up was also a regular theme, and was actively discussed in the learning labs.

Evaluation of the Pilot Project evidenced that social learning and skills increases did take place. Though most participants indicated that they already had the required skills before the project, many of them mentioned the beneficial effects of the project and how it can be used to build upon these activities to continue with the collective organization after the project. This collective is formed as a subdivision (committee) under the existing farmer's nature organisation Vallei Horstee, an association of around 250 members about half of which are farmers.

Wider implementation of this pilot is also discussed in the framework of the national "Action Plan Forest and Wood", which aims to increase wood mobilisation significantly in the coming years. One of the actions listed in the Action Plan is to facilitate more collectives to bundle harvesting activities, This action was prepared in in one of the working groups preparing the Action Plan.

"It is interesting to see that the 5 key participants of this working group are together responsible for almost all current initiatives in this field of wood mobilisation in the Netherlands." Says Patrick Reumerman (BTG).

In Auvergne (PP3 in France), RLL process was appreciated by stakeholders who felt they were among peers and valued the capacity-building-breaks in their intense professional agenda.

It was a deliberate choice to focus the Pilot Project on the population of forest companies (SME or larger) who could mobilise more wood in steep terrain if they had greater knowledge of the feasibility of logging operations in terms of economy, health & security, human resource management and environment.

The RLL process applied on a focused target group was perceived to be efficient. Evaluation evidenced it was very much appreciated by the stakeholders who felt they were among peers. This granted them an opportunity to allocate time for thoughts in a very busy agenda in order to share knowledge and experience (old and new), discuss common problems and solutions to overcome identified barriers, and co-produce a plan for common progress through Pilot Project implementation.

As a group, changes of attitudes were noted in the way stakeholders communicated with one another. Open dialogue and transparency regarding past experiences increased steadily over the 3 years. At least 2 cooperation on specific logging sites located on slopes started behind the scene, as a consequence of the consolidated trust and mutual understanding. Feedback from beneficiaries highlighted that their willingness and commitments had contributed to the success of the Pilot Project. Several stakeholders stated that if they could do things differently they would have encouraged more colleagues and peers to join the RLL and directly benefit from the group. PP-leader, took note of the statements and promised to remind the stakeholders of those conclusions in the event of a follow-up or similar project.

In Alentejo (Portugal), the larger share of the progress was made during the four RLL. The latter were organized as collective workshops to explore the implications of different silvicultural regimes in the region. Collective scenario description as offered by the co-production provided evidence on the capacity to produce more wood out of a more efficient sustainable. New knowledge was shared and discussed during the two training courses held at the end of the 3 years (Figure 12). As a result, change of awareness was acknowledged as a game changer for the representatives from the pulp and paper industry who participated in the Pilot Project. Outputs from the simulation validated by the group are perceived as knowledge-based evidence of a statement the industry was already making, but that was not paid attention to by some of the stakeholders they were trying to convince.

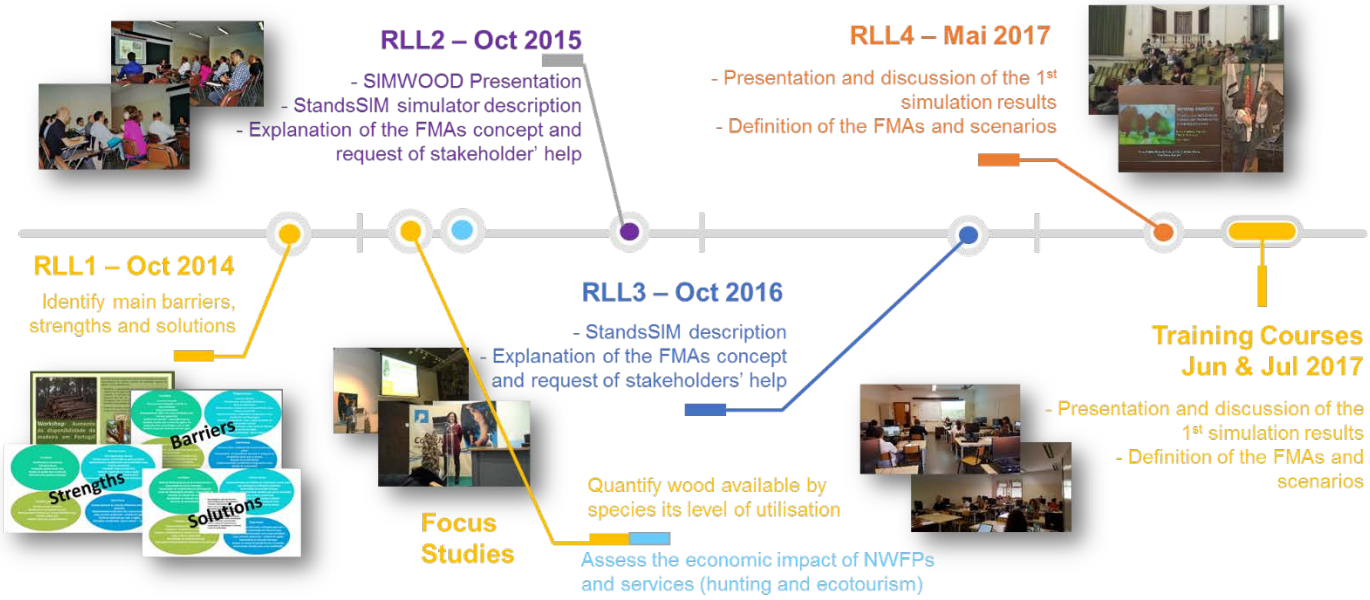

Figure 12: Stakeholders engagement in region Alentejo through regional learning laboratories and follow-up training courses

5.4. The SIMWOOD process worked and was sometimes a game changer

Analysis of the 22 Pilot Project reports and evaluation, as well as story-telling shared by the PILOT PROJECT leaders demonstrate that the SIMWOOD approach supported by the common methodological tool-kit worked as an efficient process for regional Pilot Project management focused on wood mobilisation. The "Focus Studies" (see also D2.2 "European summary report of regional profiles of wood mobilisation challenges" October 2015) undertaken by some Pilot Project leaders as the 1st step of the process played a number of vital roles:

1. Provided those Regions where the regional profiles had identified data gaps and which were thus constrained in:

a. Identifying a realistic target for the Pilot Project with adequate information with which to define a target, e.g. In Pilot Project 1.1. and 1.2 in Bavaria – the actors, their roles and attitudes as well as those influencing them were investigated in the focus study; these social insights contributed to the definition of targets as well as a baseline on which to base the evaluation;
b. Identifying wood availability in the region with the missing information, e.g. – in Pilot Project 11 Alentejo the two focus studies conducted identified what wood was available and who was consuming it; and what the situation was regarding NWFPs

2. Produced an output that formed part of the Pilot Project, e.g. the Logging DiaLOG tool developed in France during the Grand Est focus study helped ease dialogue between forest owners and forest companies and hence facilitated the entire Pilot Project process

3. In some cases, the knowledge gained from the focus study lead to an adjustment of the implementation plan and in some cases in the narrowing of the initial target to a more focused one.

Daragh Little (Veon) – Pilot Project leader in Ireland (Pilot Project7.1)

I found the process of writing/rewriting the Pilot Project descriptions very useful as it helped focus on the project, the inputs, outputs, outcomes and impacts. These were strange ways to evaluate the projects at first, but provided a structure to evaluate and once understood my mind began to think in these terms.

I enjoyed the presentations (making them as well). As SIMWOOD and the Pilot Project developed these helped enormously by building confidence and offering examples. Feedback from the general SIMWOOD group at the annual meetings was very important in guiding for example how we construct surveys.

The RLL structure helped to focus the Pilot Project on the needs of the forest owner but also showed up the level of knowledge at the start and what we needed to do to disseminate to the stakeholders.

Looking back, I think our ideas for a Pilot Project were completely different to what it eventually turned out to be. We can put that down to feedback from the first RLL which brought better ideas together to form the Pilot Project that we settled on eventually.

Change of direction in region Yorkshire and North East England: a reflective choice of Rural Development Initiatives (RDI)

When initially aiming at bringing under managed small privately owned woodlands into productive and sustainable management, the SME had not considered the path that was eventually taken in the Pilot Project. But the survey, which formed part of the region's focus study, enabled RDI to look at the skills and knowledge levels of woodland owners as well as their motivations to managing their woodlands. Findings from the survey, as well as information provided by other recent studies helped to better understand the audience the Rural Development Initiatives targeted.

"Results showed that we needed to amend the focus of our Pilot Projects to better engage with those more open to increased mobilisation, rather than concentrating on areas of the sector which are disengaged." Says Will Richardson (RDI)

Rural Development Initiatives hence identified the option of creating a group scheme under the Grown in Britain licensing standard and developed the processes and procedures for creating and managing the group which is the first of its kind in the UK. Pilot Project ends with the group of 12 members with 569 ha of forests and represents different actors within the supply chain in the region from woodfuel producers to saw millers and charcoal makers. Early evaluation of marketing Grown in Britain group scheme shows that participating stakeholders are positive about the reasons for joining, and can see the potential that the scheme has to improve marketability of timber products made from locally grown timber and the potential impact this could have on mobilising more timber production from the region's forests.

In Slovenia outputs from the RLL consultation rationalized the focus of PP13 on the improvement of the extension program

Results of Slovenian SIMWOOD Focus study strongly influenced the Pilot Project elaboration and caused some change in its main focuses. First it was foreseen that in the Pilot Project direct capacity building of FOA's would occur. Later, the focus study and RLL process has showed that for effective improvement of FOA performance involvement in extension service, which is provided by SFS, is needed. Main actors in local FOAs are SFS foresters (in more than 90% of cases). Development of extension services capacities on the field of forest owners activation and wood mobilisation therefore become one of Pilot Project targets.

Later-on, RLL process offered excellent grounds for the development of Pilot Project. Adjustment of focuses and solutions were made several times during experimentation phase. Proposed wood mobilisation solutions and extension focuses have been constantly evaluated by FOA personal and members, SFS field foresters, researchers, forestry authorities and other stakeholders on RLL meetings and by other communication means.

Evaluation framework has also been very supportive because it offered a frame to investigate the result of all possible Pilot Project outcomes and impacts. It has been foreseen by interviews and through group evaluation on workshops.

5.5. Cross-fertilization created value for their Pilot Project beneficiaries

Collaboration within the SIMWOOD European partnership provided opportunities to reflect on initiatives, choices and concrete actions taken within the Pilot Projects and RLL communities. The PP leaders who took this opportunity voiced out the benefits from these cross-regional fertilization. The latter were sometimes just one – to – one dialogs but reflections also happened within broader groups, e.g. when methodologies for social network analysis were discussed among many partners as well as adapted to local conditions and implemented by partners from Bavaria (Germany), Slovenia, Nordeste Transmontano (Portugal), Castile and León (Spain) and Latvia. To a fruitful exchange of PP implementation and practices contributed e.g. the excursion of the partners from Småland (Sweden) in Bavaria (Germany).

Added value from cross regional dialog for Irish wood producers and its PP07-2

The scale of producer groups in other countries in the SIMWOOD project highlighted to the Wexford group the need to collaborate to advance the groups and engage in forest activities and timber sales.

Upon discussion with European partners, it became obvious that Irish producer groups needed to become more proactive in the coordination of members' forestry: to plan, manage, harvest and market more efficiently to overcome the lack of coordination of forest and market operations for small forest plantations in Ireland.

The second learning was the limitations that the smaller, parochial producer groups bring and that to be effective and sustainable, producer groups need to have a very large membership. Forêts et Bois de l'Est demonstrates organisation of supply chains and sustainable forest management practices, many aspects of which could be replicated at a smaller scale in Ireland.

A third benefit from regional cross-fertilization appeared when the group developed a risk assessment and safety agreement (used to assess all forest activities and signed off by the forest owner and contractors prior to operations), following consultation with Teagasc, the Health and Safety Authority and several insurance companies. Elements of the 'High Environmental Quality - logging dialogue tool' developed by FCBA were incorporated into the risk assessment to encourage forest owners to consider the environmental impacts of harvesting as well as site risks.

Figure 13: Indoors and outdoors cross fertilization during the SIMWOOD project

Give and take exchange: benefits as perceived by the Småland Pilot Project leaders who took part in bilateral cooperation with other members of the SIMWOOD consortium.

Representatives from Småland took part in a three-day study tour to southern Germany. The tour included visits to a sawmill, an alpine forest, a gasification plant, a forest owner's association, biofuel handling, a producer of wooden frames for houses and to politicians from the municipality. The tour was part of the knowledge and experience exchange, within the frame of a Regional Learning Lab. The tour brought many ideas of processes, technical solutions and cooperation as well as a small municipality testimonial on the process of becoming climate neutral and favouring local business.

Riga Technical University organised a workshop with the title *The role of the forest residues mobilisation within the bioenergy sector: sustainability evaluation from Latvian and Swedish perspectives.* Rikard Jakobsson from LNU gave two presentations: (i) *Political and legal framework in Sweden;* and (ii) *Milestones for the biofuel and bioenergy sector in Sweden*. Göran Gustavsson from ESS gave a presentation on *Forest resources and Energy utilities in Sweden: Present state and challenges*. The workshop was attended by about 35 people.

5.6. Pilot Project leaders acknowledged the Evaluation framework as valuable for the efficient management of their wood mobilisation initiative

Evaluation was a process through which people learnt, reflected and reconsidered their project, hence enabling change that increased effectiveness. Feedback from the Pilot Project leaders highlighted that it was helpful for them to have a generic evaluation framework as part of a flexible reflective and engaged approach to planning and delivery.

In addition to strengthening the project-management method, efforts invested in the evaluation sometimes also created un-expected benefits. Such was the case in Pilot Project 9-1 when the creation of the Pilot Project's major output (a guide) was facilitated by the insights collected during the evaluation. "The results of this evaluation have been useful for writing recommendations about the transferability of the experience." Say the local leaders from CREAF.

In Auvergne (Pilot Project03 in France) outputs from the evaluation provided valuable insights on how communication and stakeholders' involvement should be strengthened in future

From the Pilot Project leader's point of view, the evaluation framework was a strong asset in the final phase of the Pilot Project. It was the first time that the Pilot Project leader had dedicated real time and effort in evaluating outcomes and impacts with sociology as a backbone, instead of the classical cost/benefit analysis performed in technical experimentation.

Running direct interviews with the stakeholders was the first approach chosen by FCBA to collect participants' perceptions on the outcomes of the Pilot Project on their behaviour. Considering the small number of companies involved in the Pilot Project, it was decided to question each individual company.

A first attempt was made during the collective 2 days excursion as FCBA was travelling for with involved individuals. Semi-structured interviews were performed but it soon became clear that individuals were surprised by the questions and were unable to spontaneously elaborate much on their answers.

However fragmented, those testimonials provided FCBA with some insights on how participants perceived the Pilot Project outcomes and how the evaluation method should be adjusted to facilitate people's capacity to share their opinion.

Based on this preliminary step, a new approach was developed by FCBA. An online questionnaire was used as a trigger for people to reflect on the consequences of the project on their own knowledge, attitude and practice as well as the influence they might have had within their companies and on their partners/service-providers. For each assessment of the outcomes (knowledge → attitude → practice), the stakeholders were asked which aspects of the project helped participants build their new capacity, if such a change did happen at all. Questions offered multiple choices inspired by the project content and the informal feedback received from the participants throughout the 3 years. Suggestions and hints helped them highlight changes that would not have been noticed as such in a usual project (without Evaluation support).

Broader aspects were addressed at the collective discussion during the last RLL meeting. It turned out that the discussions were very open & fruitful and uncovered new aspects of Pilot Project outcomes for the beneficiaries.

For FCBA as a Pilot Project leader, it was really impressive to hear how much can be revealed when asking focused and oriented questions. It provided valuable information and story-telling for the next step (fundraising to support the continuation of the group activities) and it was also very rewarding for the staff who had been involved in the Pilot Project.

Apart from sharing their appreciation, stakeholders also encouraged FCBA to disseminate more broadly the outputs of the Pilot Project. It was underlined that it was not enough to send the documents only once or twice whenever they are ready or before a meeting. Forest practitioners are often occupied with many other aspects and their availability to read is not synchronised with the output delivery date. Hence, stakeholders suggested that more reminder and multi-media distribution should be organized. This suggestion was immediately turned into action by PPLeader and will be remembered on next occasion.

5.7. Lessons learnt on attempts to overcome challenges

As the evaluation framework enabled the Pilot Project leaders to reflect on their experiences, lessons were learnt from pitfalls and ideas emerged on how challenges could be overcome on the next occasion.

Reflections on how stakeholders engagement and awareness raising could have been done differently
Nordeste
Looking back on their collective experience, Pilot Project leaders consider they could have had a stronger impact if locally there had been more openness from the forest and political communities to address barriers and solutions in the forest sector. When the Pilot Project started, the team faced an unorganised, uninterested, unmotivated, pessimistic, forest sector and very low interest or expectations in forests and forestry from other regional agents. Although this has changed slightly during the course of the project, the team believes that more could have been accomplished with a more participative and enthusiastic sector. The PP leaders reflected they should have done more awareness-raising activities before using their newly developed decision support system (DSS) and organizing the more technical and political initiatives. Also, the plans for supporting the project on a supposed "champion"-SME did not work because the company did not fully engage in this role and it was not possible to find alternatives. Starting early in defining a 'champion' and ensuring its commitment to the project should have also been done differently. However, the tools and platforms for communicating outputs will be available after the project end and the establishment of formal and informal groups maintained after the conclusion will eventually have an impact in mobilisation in the long run.

6. Synthesis: Recommendations and conclusions for aspiring wood mobilisation facilitators

Our guide has offered insights and illustrations on both how our WMI were managed and the lessons we learnt through our achievements and our attempts to overcome challenges. After four years of collaboration, we consider that the lessons we learnt while developing and implementing our project, and the changes and achievements evidenced by the stakeholders we worked with, would be useful to a larger community of wood mobilisation facilitators throughout Europe, specifically:

- Leaders of local wood mobilisation initiatives (past, current and future)
- Regional authorities (or other relevant authorities) who support WMI and participate in their governance

We provide here a synthesis of generic learning points that come from the Pilot projects, and provide recommendations to the different stakeholders involved in wood mobilisation initiatives (WMI).

6.1. Recommendation to peer leaders of Wood Mobilisation Initiatives

For those individuals and organisations involved in identifying, developing and managing WMI we recommend they be mindful of the 5 following aspects:

1. **Context**: be clear about the local/regional/national/European context of the need for increased wood mobilization. Understand the local and regional context and the opportunities that may be present. Undertake a thorough analysis of the influence of contextual factors on the potential for wood mobilization.
2. **Objectives**: define clear, realistic objectives for your project which are allied to a solvable problem or barrier to mobilization. Be clear about what the material products are, who the target stakeholders and end users/consumers are, and what the value chain for those products is. Ensure the objectives and subsequent project design conform with the principals of sustainable forest management. Remember that multipurpose projects may have better success.
3. **Engagement**: develop strong links with local stakeholders who have influence in the local wood economy, or who form part of the target group. Work with existing organisations that already have trusted relationships with target groups. Engage with organisations and individuals from the start. Ensure they take part in problem diagnosis, verify that the issues being tackled are actually solvable, contribute to assessing the feasibility of project design, and help implement and disseminate the results of the project.
4. **Innovation**: be flexible, and look for new, practical solutions to barriers throughout the forestry-wood chain that you encounter along the way. Initial problem diagnosis and design may need to change as better understanding or initial testing of the idea reveals better ways of doing things. See flexibility and the ability to adapt as a strength, not a weakness.

5. **Evaluation**: consider how you will evaluate the progress, outcomes and impacts of your project. Begin evaluation early as an integral part of your work. Reflect on whether you are on track, what you have learnt, what you could improve, how designs and plans could be more effective. Ensure regular feedback from stakeholders and target groups is included as part of the evaluation process. Allocate and protect time for evaluation because it is worth the effort.

6.2. Recommendations to supporting authorities

For those authorities charged with supporting and encouraging we recommend they be mindful of the following:

A. **Context**: the supporting organisations responsible for wood mobilization in a region should be clear about the local/regional/national/European context of the need for increased wood mobilisation. Identify areas in which working to improve local and regional contexts could facilitate the success of WMI, e.g. publicity campaigns to increase awareness and public demand for local and regional wood products. Consider how linking together different WMI along the wood value chain might impact the local/regional success of WMI. Consider enabling synergy of action across scales.

B. **Objectives**: ensure these are clearly defined at a project and organizational level. Help to support and provide information that can shape objectives. Support the development of objectives that conform to the norms of sustainable forest management.

C. **Engagement**: help project leaders to identify and engage with stakeholders associated with the product value chain or the organisational initiatives being proposed. Take part in discussions verifying bottlenecks and whether they are solvable. Help implement and disseminate the results of the project through publicity campaigns, the promotion and uptake of new tools and techniques or upscaling and rolling out initiatives in other areas. Ensure resources for wide engagement are adequate.

D. **Innovation**: allow the WMI programme of work to be flexible, and for the WMI leader(s) to look for new, practical solutions to barriers throughout the forestry-wood chain that may be encountered along the way. Trust the WMI leaders: innovation and flexibility often mean allowing iterative and evolving processes. Patience and on-going communication are advised.

E. **Evaluation**: Set strong requirements for the WMI to evaluate its outcomes and impacts. Ensure evaluation is integrated as an on-going project process, no a bolt-on end of project exercise. Ensure that there are regular opportunities to seek feedback and to reflect on whether the partners are on track. Allocate and protect time to a thorough evaluation of the initiative you are supporting. Use the results to assess the efficiency of WMI, the multiple benefits created, and reflections on how to improve future WMI.

7. Glossary

Wood Mobilisation Initiative (WMI): local project undertaken to facilitate the delivery of additional raw material to a demanding market while engaging stakeholders whose capacity to mobilise this wood can be influenced by the chosen measure(s).

Pilot Project (PP) in SIMWOOD: name given to the 22 WMI undertaken during the SIMWOOD project.

Theory of change: a narrative that is easy to understand and links inputs, outputs, outcomes and impacts and a way to overcome solvable barrier(s) to wood mobilisation by facilitating changes in the practices of targeted stakeholders

Regional Learning Lab (RLL): a group of stakeholders committed to a theory of change they choose and which meets on regular occasions to participate in the change

Input to a WMI: investments into the project, primarily of staff time and money

Output from a WMI: tangible deliverables of the project, e.g. demonstration events, guidance booklets, decision support systems, organized groups, equipment made accessible, etc.

Outcome from a WMI: changes to knowledge, skills, attitudes, aspirations and practices of people who participate in the project and have access to outputs. It covers the "mobilisation of people" necessary to the mobilisation of wood.

Impact from a WMI: changes to wood mobilisation and delivery of other ecosystem services, and changes to risks and uncertainties. Also includes unintended impacts.

8. References

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9. Appendixes

9.1. Pilot Project summaries

In this chapter you are encouraged to further discover the SIMWOOD Pilot Projects by reading summaries of the PP stories and activities. The full PP reports are available on the SIMWOOD IS.

Bavaria (PP1-1): Activation of forest owners to establish a sustainable forest management and to adapt the forest stands to the future climate, in North-East of Bavaria (Bibersberg & Thiemitztal)

This pilot project (PP) aims at the **activation of forest owners** to engage them in sustainable forest management with special emphasis on forest-conversion due to climate change. The PP is located in the **North-Eastern Region of Bavaria** ("Oberfranken") and part of the Eastern-Bavaria Forest-Initiative (WIO) Program. Generally, both cases, Bibersberg (26 ha) and Thiemitztal 150 ha), lie within the Fichtelgebirge/Frankenwald area, which is a large forest area with almost similar conditions: i.e. steep terrain, lack of access / forest roads etc. in many places. Several WIO initiatives have been/are implemented in this area of Bavaria.

In ***Bibersberg,*** the initial subsidy input was very high due to road construction, additional personnel capacities were medium. The network was of medium size, but included diverse actors. In 2014 the former Barrier (not enough roads) has been removed and also wood was harvested. In the following years the additional wood harvested decreased/ceased due to mainly external effects (calamities in forests outside the pilot area, owners reached their annual cut and/or tax limits already elsewhere). Participation of forest owners is high, although somewhat decreasing in the harvesting activities. Forest conversion measures were implemented on 0.6% of the pilot area, in the first year. The actors evaluated the overall success of the implementation of the pilots' measures as good (2.1 of 3.0 points) and there were almost no conflicts.

In ***Thiemitztal***, subsidy input increased to a medium level, mainly for silvicultural and road construction measures. The input of personnel capacities was high. The network is small. In 2016 the first road construction and some harvesting was realised, which is considered good, given the difficult preconditions. Some first forest conversionmeasures were realised (0.04% of the pilot area). The overall participation of forest owners is moderate. Due to the relatively recent start (2015), the actors' perception of the overall success is satisfactory (1.9 of 3.0 points).

The main drivers for change can be found from the *strong role the 'key actors'* of the PP were able to attain in the network, the *capacity- and instrument-mix* offered and used, going far beyond a usual financial support, with **personnel capacities, information and trust** attaining high relevancy in the network and, finally, from the application of an *integrated approach*. Considering various forest functions and uses enabled to *reach out to a satisfying number of private forest owners, actors and society*, which wouldn't have been possible otherwise. While for the time being, this strategy turned out to be rather useful (the implementation was perceived in many aspects as good by the actors involved). Goals have been defined together before and measures to tackle the barriers have been developed jointly. Similarly, a decrease in the quality of capacities, provided through the network, could compromise longer-term success of many, e.g. societal and silvicultural measures.

According to one of the key actors in the PP, the local forest administration (AELF), the **greatest successes** or achievements of the WIO in Bibersberg and Thiemitztal were the construction of roads/skidding roads, an improved awareness of (some) owners and that the initiatives have been recognized by the public (e.g. through articles in local media). Also the implementation of many additional forestry measures such as planting of climate adapted tree species was a success. According to them, the **biggest obstacles** have been the high level of bureaucracy, the uncertain personnel equipment and the decreased options of funding. However, for them, the WIO was **worthwhile the effort** and it can be seen as an **efficient tool for the activation or motivation of forest owners** in so far difficult situations (effort versus benefit). 'The WIO could offer a wide range of tools for informing, motivating and activating forest owners and other stakeholders. As a result, many new contacts and networks were made. Without the WIO-projects there would be no time for extra engagement and the goals to adapt almost all forests which are endangered by climate change, cannot be reached in time.

Three persons of the AELF will remain in the **future knowledge bearers** on the experiences of the WIO Bibersberg and Thiemitztal to continue to use these experiences. In the **future** both WIO-project areas will again be under "normal" management by the local forest officer. The main barrier for an independent and autonomous forest management by the owners was eliminated through the road-construction. More activities are expected to come and the threat of forest calamities is much lower now.

Bavaria (PP1-2) Activation of forest owners to engage them in sustainable forest management with special emphasis on alpine forest-functions

This pilot project (PP) aims at the **activation of forest owners** to engage them in sustainable forest management with special emphasis on alpine forest-functions. The PP is located in the **South-Western Region of Bavaria** ("Allgäu") and part of the Mountain Forest Initiative (BWO) Program. In our case we supported new measures in an existing **BWO project (Grünten)** that operates on a large forest area (2750 ha, of which 1386 ha are forests), mostly under private, small-scale ownership, and is conifer dominated, mountainous with steep terrain and a lack of access by forest roads.

Our analysis shows, the PP received high **subsidy** input (esp. for road construction), i.e. an average of 129 Euro/ha, year (2008-2014), which decreased in the following years to 40 Euro/ha in 2016. Additional **personnel** capacities of the local forest administration (AELF) were comparatively high (0.3 man-years/year). The network was large and included **16 actors**, considered important by the participants. The amount of **additional wood harvested** remained at constant but rather low levels, between 2.5 and 3.9 m3/ha annually. Several forest locations were made accessible and still await harvesting operations, due to obstacles related to staff, funding, taxation, calamities occurring elsewhere and particular forest owner decisions. The actors evaluated the overall success of the implementation of the pilots' measures as good (2.0/3.0 points) and the problem density in the network was very low.

The main drivers for change can be found from the *strong role the 'key actors'* of the PP were able to attain in the network, the *capacity- and instrument-mix* offered and used, going far beyond mere financial support, with **personnel capacities, information and trust** attaining high relevancy in the network and, finally, from the application of an *integrated approach*. Considering various forest functions and uses enabled to *reach out to a larger number of private forest owners, actors and society*, which wouldn't have been possible

otherwise. While for the time being, this strategy turned out to be rather useful (the implementation was perceived in many aspects as good by the plenty of actors involved), the diversity of actors and goals also increases efforts and may raise obstacles, if results from such integrated goals fail to meet the diverse expectations and interests of actors in the longer run. Similarly, a decrease in the quality of capacities, provided through the network, could compromise longer-term success of many, e.g. societal and silvicultural measures.

According to one of the key actors in the PP, the local forest administration (AELF), the **greatest successes** or achievements of the BWO Grünten were an improved communication and the implementation of many additional forestry measures, a new and up-to-date hunting concept and an extraordinary school project with the Rettenberg primary school. According to them, the **biggest obstacles** have been to maintain communication even in difficult, controversial situations in the mediation process, the difficult cooperation with some hunting parties due to different objectives and the uncertain personnel equipment that was not adapted to the project process. However, for them, the BWO Grünten was **worthwhile the effort** and it can be seen as an **efficient tool for the activation or motivation of forest owners** (effort versus benefit). 'The BWO could offer a wide range of tools for informing, motivating and activating forest owners and other stakeholders. As a result, many new contacts and networks were made in the project area. However, certainly not all possibilities could be exhausted', so the local AELF.

Four to five persons of the AELF will remain in the **future knowledge bearers** on the experiences of the BWO Grünten and can continue to use these experiences. 'Office experience has been exchanged and documented as part of regular status colloquia', the AELF recalls. However, 'the **future looks problematic** for both the BWO in Grünten and the BWO in general', they continue. 'The current project manager is most likely to leave the BWO and the project area Grünten. In addition, there was a change of personnel in the field of protective forest management, which also affects the BWO Grünten. This is accompanied by a great loss of information. Furthermore, at the end of 2016 all employment contracts of the experienced BWO project managers have expired and have not been extended.

In the future, new project staff will only be allowed to enter employment contracts for a maximum of two years. This will transform the BWO completely. It is thus no longer possible to ensure a long-term, efficient management of the project areas', so the outlook of the AELF. Finally they stress that in contrast to the ongoing developments, 'it would be important and useful for the BWO to be kept alive in a tried and tested manner in order to continue the initiated processes of communication, moderation and mediation. Without this, hardly any measures will be successful.'

North Rhine Westphalia (PP2) Forest land consolidation of community forests in North Rhine-Westphalia. Lessons learnt from the attempts to readjust property as a solution for land fragmentation and inactive small-scale private forest owners in Germany

The SIMWOOD pilot project in NRW demonstrates how forest land consolidations can enhance the land ownership structure of small-scale private forests and reactivate the forest use. Based on the unique legal framework of the Community Forest Act GWG of NRW, this special consolidation achieves a legal merger of community forests and private owners into a larger forest cooperative society, which goes beyond the readjustment of land parcels per single landowner. The degree of the merger and the benefits for collaborative SFM are thus enhanced compared to conventional land consolidations. Various supporting measures, such as road constructions, silvicultural improvements or landscape interventions are included to generate additional sustainable impacts in the region.

Auvergne (PP3): Increasing professional know-how in steep-terrain conditions: collaborative pathways for forest companies to broaden their wood mobilisation horizon in these specific areas

The Pilot Project reported here ran from 2014 to 2017 in France. Its objective was to favor wood mobilisation in region "Auvergne" and evaluate the measure being implemented, namely capacity building of forest practitioners about sustainable logging practices in steep terrain and related forest management requirements.

Based on regional context and local status-quo within the forest-based sector, attention was focused on this specific resource identified as being almost untapped: forest growing in steep terrain. For the latter, the "bonus" difficulties (topography, few forest roads, uncertainty on wood quality due to minimal silviculture…) adding up to the "usual" ones (ownership fragmentation, lack of infrastructures and human resources for logging operations…) are usually preventing wood mobilisation.

This regional SIMWOOD Pilot Project chose to target the population of forest companies (SME or larger) who could mobilize more wood in steep terrain if they had greater knowledge of the feasibility of logging operations in terms of economy, health & security, human resource management and environment. It was rightfully theorized that:

- Documentation and dissemination of the current state of knowledge and practices in steep terrain conditions in the region would improve stakeholders' confidence in what can be done (workings methods; operational conditions…) and turn this knowledge into a capacity to launch more logging operations in steep terrain,
- Demonstration and training events would provide opportunities for social learning between professional practitioners to assimilate good practices from their peers hence consolidating productivity and overall performances of the few logging crews currently working in such conditions,

Fruitful dialog was steered at Regional Learning Labs and outputs of different natures were co-produced out of the cooperation such as:

- Quantified and illustrated information about topics such as productivity, organization, working method and safety highlight good practices for stakeholders to compare to their own and assimilate when relevant,
- Multi-criteria decision-support document to assess the feasibility of a logging operation when visiting a stand located on slope in region Massif Central,
- A "good practice" guide about security and recommended organizations.

Evaluation of the PP undertaken by FCBA with beneficiaries highlighted changes of knowledge, attitudes and practices. Those outcomes show that the action provided the participating companies with a new or consolidated capacity to act whenever the market demand justifies harvesting on steep slopes.

Grand Est (PP4-1) Adapting silviculture schemes and harvesting systems to reactivate forest management and enable wood mobilisation on poor limestone soils in "Champagne Crayeuse" (France)

The Pilot Project (PP) reported here ran from 2015 to 2017 in France. Its objective was to favor wood mobilization in the Champagne Crayeuse area and evaluate the measure being implemented.

Based on regional context and local status-quo shared by the local actors of forest sector, this project was focused on an area the Champagne Crayeuse. Indeed, due to low quality forest stand, heterogenic potentiality of the soil and relatively youth of the trees, this area was almost considered as forestly unproductive. The development of wood-ship market and of new machinery allowed to reconsidered this past assumption.

The target population of this SIMWOOD Pilot project was forest owners of the area who wanted to enhance their forest land. It was theorized that combining documentation on state of knowledge and technics adapted to this area with technical and economic analysis of silviculture schemes would lead to change forest owners attitude and increase their interest and then increase wood mobilisation in the area.

The following outputs resulted from the Pilot Project:

- Technical and economic data from pilot sites
- Documentation concerning the harvesting and planting technics suitable in the different contexts identified by the RLL.
- Field events for forest owners (dissemination on October, 14th 2016, 16 participants; field event on March 8th 2017, 5 participants).
- Survey of the forest owners on their perceptions of these technics.

The evaluation of the PP undertaken by F&BE and FCBA highlighted the change of knowledge, attitudes and practises of forest owners and practitioners. Both are in capacity to take actions whenever the need of the market or the improvement of machinery productivity justifies harvesting in these poor stands.

Grand Est (PP4-2) Capacity building for a better and more efficient service offering in special forest conditions: sensitive soils in Grand Est (France)

The Pilot Project reported here has been implemented from 2014 to 2017 in France. Its objective was to favour wood mobilization in sub-region "Franche-Comté" and evaluate the measures being implemented, namely capacity building about environmental friendly logging operations on sensitive soils.

Forest owners are often reluctant to let the traditional machines (harvester, skidder and forwarder) work in their forest: they fear for the impacts of these quite heavy machines on the trees, on the soil, on the landscape… In fact, 25% of the forests stands are located on sensitive soils (hydromorphic soils, medium to poor bearing capacity especially when weather conditions frequently increase soil moisture content …). Most of the sensitive soils are in broadleaved stands located in the plains. The rate of 25% is often higher in the winter period because the weather is very rainy in this part of France and days below freezing degree become rare due to climate change. The "regional profile" Grand Est highlighted that there is a real need to find solutions to have low impacts on sensitive soil

This regional SIMWOOD Pilot Project chose to target the population of forest companies (SME or larger) who could develop Enhanced environmental friendly logging systems on sensitive soils and thus, mobilize more wood. It was rightfully theorized that:

- New or better information and new equipment, based on field tests, would allow forest managers and entrepreneurs to choose more efficient harvesting techniques,
- Improved skills would help setting up more efficient skid trails,
- Developing a dialogue tool and train the technicians for using it, would improve their ability to present logging operations in a simple way and identify forest owners' expectations and fears

Fruitful dialog was steered at Regional Learning Labs and outputs of different natures were produced such as:

- Quantified and illustrated information about topics such as efficiency of tracks, skid trail's implementation,
- A training session for forest practitioners,
- A DiaLOG tool "good practice", to ease dialogue between forest owners and forest companies by enabling the identification of individual "High Environmental Quality operation" criteria.

Evaluation of the PP and the training session highlighted changes of knowledge, attitudes and practices of F&BE staff (technicians and engineers). The consolidated knowledge and different documents can also be used elsewhere, beyond the sub-region France-Comté, to increase French forest practitioners' capacity to be more efficient in the planning and implementation of wood extraction on sensitive soils.

Yorkshire and Northeast England (PP5) Bringing unmanaged privately owned woodlands into productive and sustainable management by adopting a marketing brand

The pilot project, developed by RDI as part of the SIMWOOD project, was to support the mobilisation of timber from small and undermanaged woodlands by creating a marketing pull, working with local woodfuel producer-traders and small sawmills to adopt the Grown in Britain brand on their products, through a regional focussed branded marketing campaign.

Grown in Britain (GiB) is a positive movement designed to help create a sustainable wood culture that connects people, companies and organisations to our woods and forests and the important environment they provide for people, wildlife and a thriving economy. It is a licensing scheme which shows that timber products are legal, sustainable and are from the UK. The scheme is primarily designed to increase the market share of locally grown timber and timber products to smaller scale and domestic consumers. It does not seek to replace existing established forest and supply chain certification such as FSC and PEFC.

GiB was borne out of the Independent Panel on Forestry forest policy direction in England, led by BRE and Confor, and was reported in the UK Government Forestry and Woodlands Policy Statement Jan 2013. GiB had its official launch in October 2013.

The GiB brand identifies wood that has been grown in Britain and assured as being from sustainable and legal sources. It provides assurance that it's from forests that are managed in accordance with the UK Government's Forestry Standard and public procurement standard – the UK Timber Procurement Policy.

Processes and procedures were developed by RDI which allowed SMEs and forest owners to join the GiB licensing scheme on a pilot basis as part of a group. There are multiple benefits of creating the group including shared administration and costs, shared auditing costs, joint marketing opportunities and networking amongst group members.

The group has 12 members with over 500ha of forests and represents different actors within the supply chain in the model region from woodfuel producers to saw millers and charcoal makers. Early evaluation of the pilot project GiB group scheme shows that participating SMEs are positive about the reasons for joining, and can see the potential that the scheme has to improve marketability of timber products made from locally grown timber and the potential impact this could have on mobilising more timber from the model region's forests.

Lochaber (PP6) Living Working Woods: stakeholder engagement to mobilise social, environmental and economic assets of undermanaged/underutilized woodlands in a region with no prior forest culture/dynamic

The pilot project in Lochaber established the barriers to mobilisation of woodland and identified the routes to bring about change and increase the amount of timber that entered the various existing and potential markets. The barriers included:

- Lack of knowledge, understanding and skills
- Access to support and advice
- Under-developed markets
- Costs and economics of management

It has provided evidence, through the economic case studies carried out at the events and desk top research, that, in principle, it is economically viable for small woodland in Lochaber to be brought into management. Through the interviews, workshops and other events, we perceived a change in attitude towards management and a raised awareness of what can be achieved.

The stakeholders, a core of whom were actively engaged throughout the pilot project, all contributed to the development of an outcome designed to address the lack of capacity of woodland owners, which would also provide the support and advice needed and help to develop future markets. There was a willingness to look at innovative approaches and many felt that working collaboratively or co-operatively would be the best route forward to increasing capacity and improving economic viability, bringing their woodlands into management and more products to markets.

The research carried out, together with discussion and interaction with other Simwood partners, shows that there are potential models that could be introduced to enable such woodlands to be managed to deliver higher, added value timber and non-timber products and services, whilst maximising their social and environmental attributes.

Next Steps:

The main impacts in Lochaber will follow in its next steps. Based on the Simwood pilot project a new iterative collaborative working model has been developed which will be delivered across Scotland and England. Through this we will not only work with land owners and managers to bring woodland into management we will also add to the existing knowledge base, establishing the nature of the woodland resource, leading to even greater understanding of the motivations and aspirations of woodland owners, as well as identifying those innovations that they might be open to considering. We will also identify the "market" for the environmental and social "woodland services" that can be developed and the economic benefits and natural capital that could be expected.

Ireland (PP7-1): Mobilising additional wood fuel from conifer first thinning

The Pilot project ran from 2014 to 2017 in the south of Ireland. Its objective to was to increase the mobilisation of timber from conifer first thinning through a method called Integrated Harvesting which would in addition to mobilising more biomass would increase income for forest owners.

Private forestry in Ireland is young by European standards. As such the mobilisation of timber from first thinnings requires the construction of a harvesting road. This combined with low revenue often means the first thinning operation is loss making and consequently forest owners will not thin.

This SIMWOOD Pilot Project focused on increasing the yield from first thinning through the extraction of more biomass from the thinning through Integrated Harvesting. Veon experimented with the method to find the optimal solution and then created a Decision Support Tool and Guide for foresters and forest owners to help them decide if this method was suitable for their forest.

A number of different sites were chosen to carry out Integrated Harvesting. These ranged from low restrictions to very high restrictions in terms of potential for soil damage and nutrient loss risk. In all cases the method was shown to improve total biomass recovered significantly over traditional cut-to-length harvesting.

An analysis was also carried out to see the potential of this method in the Irish SIMWOOD region using data from the Forest Service, Department of Agriculture, Food and the Marine and specifically generated soil bearing capacity and nutrient data. The results showed spatially the potential for this method in the region. As haulage is a major consideration when transporting low value material, a map was created showing distances from forests to markets. It showed that while there are a number of biomass end users throughout the region, they are often too small for large scale supply, restrictive biomass specifications or too far away from forests. Considerable work needs to be done to develop end user markets for this type of biomass.

Dissemination of the findings of the Pilot Project was undertaken at 3 events to the target audience of foresters and forest owners. Evaluation of these events showed in both audience's knowledge of Integrated Harvesting increased because of the events. Forest owners citing increased profit as the main reason they were encouraged to thin their forests. Most foresters who attended said they would offer it as a service in future.

Integrated Harvesting is now a service offered to forest owners by Veon on suitable sites. Capacity is increasing with the investment of the forestry contractor in new specialised harvesting and forwarding machines resulting from more confidence on his part that more forest owners will harvest using this method. It is believed that while integrated harvesting is not suitable for all sites it will provide a solution for forests which would otherwise be uneconomic to thin.

South East Ireland (PP7-2) Developing a new collaborative producer group and supply chains towards the mobilisation of timber

This project has followed the evolution of a small, local discussion group of 55 members into a commercial producer group of almost 750 members. There are many forestry discussion groups in Ireland, which facilitate peer knowledge transfer, but don't always result in active forest management and wood mobilisation. The Wexford Wood Producers joined with three other local discussion groups to develop economy of scale and form the Irish Wood Producers. The new group engaged with forest owners to implement sustainable forest management and secure economic viability for members. This has so far encouraged 20% of forest owners to actively manage their forestry, harvesting timber and selling commercial timber and biomass. The sustainable harvesting method developed has optimised the economic return for forest owners without comprising the final clear-fell and resulted in 30-50% increased revenue to forest owners. As the group has produced commercial timber and biomass, it has achieved economy of scale to develop markets in the region. Cooperation with other projects, agencies and groups is leading to additional collaborative projects, which could serve other groups in the wider region. The SIMWOOD project has acted as a catalyst for the group, the evolving activities of which resulted primarily in the mobilisation of timber and increased economic return to all members, but has fundamentally developed a structure that will sustain the newly evolved group, encourage active forest management and can be replicated by groups in other regions.

Castile y Leon (PP8-1) Raising awareness on the influence of thinning intensity on tree growth and mushroom production in mixed forest in Castile and Leon: a 1st step towards the acceptance of the multi-functional assets of wood mobilisation

The target of this Pilot project, titled ***Thinning intensity influence in mixed forest stands***, was to enhance wood mobilization in mixed forests by increasing silvicultural operations, taking account the impact of thinning in tree growth and mushroom production.

To address the target in practice, a marteloscope was installed and a thinning experiment was established. Band-dendrometers were installed to detect fluctuations in tree diameter and mushrooms inventories were carried out to assess the effect of thinning intensity in fungal production obtained highlighted results for *Lactarius deliciosus*. In addition, simulations were also carried out to build models to be set up in SiManFor simulator platform in growth and mushroom patterns in different management and climate scenarios.

On the other hand, different RLLs has been carried out where different stakeholders related to wood mobilization and mushroom production were invited to participate and to discuss about the main weaknesses, difficulties, limitations and opportunities in the area. This information allowed us to carry out a Bayesian Newtwork study, which showed that it was necessary to mobilize a higher forest surface within a sustainable management model, as well as reducing the complexity of relevant variables involved in the process.

Thanks to SIMWOOD project, people of the area have been mobilized, sectors involved have been boosted and wood opportunities had been analyzed. New knowledge (14 new scientific papers), opportunities, skills, and practices have been created in these years. SIWMOOD project and Regional Learning Labs meetings have mainly allowed us to change our attitudes and aspirations about ***forest concept*** in the study area. The creation of the Palencia Model Forest Initiative (http://bosquemodelopalencia.es) is the highest point to show this reality.

Castile y Leon (PP8-2) Raising awareness on the contrasted consequences of different early-thinning practices in natural regenerated stands: knowledge-based silviculture to secure the production of wood raw material

The Urbión region has a strong forestry tradition with a large number of industries related to the wood industry. For this reason, it's been characterized by a long history in wood mobilization. Traditionally, the management of young forest in the area consists of a non-selective early-thinning approximately at 10 years of age (Ho = 6 m) in which a 75% of the standing biomass is extracted combining the creation of forest trails and the early-thinning between trails chopping the wood debris on-site and leaving them on the forest. The actual demand is focused in wood panels, timber for pallet, and biomass (including firewood). However, the biomass created from the early-thinning is not extracted from the forest because its economic balance is negative (the cost of extraction exceeds the value of the product). The objectives of this Pilot Project are: to enhance wood mobilisation in young mixed forests by trying to convert non-commercial silvicultural operations into neutral or commercial thinning developing a more cost-effective silviculture and to evaluate different harvesting alternatives.

Catalonia (PP9-1) Establishing a protocol for collaborative, mutually agreed management in particularly sensitive forests to reconcile high natural value with wood mobilisation under the umbrella of multi-functional forest management

The Pilot Project reported here ran from 2015 to 2017 in Catalonia (Spain). Its objective was to explore new tools for mobilizing wood in a collaborative way without putting the conservation values of the sensitive forests at risk.

In Catalonia, CREAF carried out the 'Singular Forest Inventory' which was aimed at identifying the forests with the highest conservation values in the region. These forests, which represent a small percentage of the total forest area, are not currently protected by any specific legal entity even though large parts of them are included within protected areas (including Natura 2000). Many of these 'Singular Forests', both public and private, have a forest management plan which allows for timber harvesting. Property rights are becoming a controversial issue in these forests, with questions being raised about whether timber harvesting puts the conservation value of these forests at risk.

This situation of potential clash of interests exceeds strictly the scope of Singulars Forests and would be generalizable to other protected areas of Catalonia. Actually, the stakeholder involved with timber production identified the nature protection policies (more than 30% of the land area in Catalonia is protected) as one of the main barriers to increase wood mobilization.

The aim of the pilot project is to establish a protocol for collaborative, mutually-agreed management of these sensitive forests that reconciles high conservation values with increased wood mobilization

With the actions implemented in this pilot project we contribute to:

- The decriminalization of the timber sector, understanding that forest management is often necessary to adapt forests to climate change.
- Strengthen bridges of dialogue between conservationists and timber production sector.
- Provide tools to the administration in establishing specific legislation for forests with high conservation values considering the possibility to set up a network of forests evolving to natural dynamics.

Catalonia (PP9-2) Common governance to mobilise the primary forest biomass and promote the local consumption of wood chip while decreasing the risk of fire.

The pilot project reported here ran from 2015 to 2017 in Catalonia (Spain). Its objective was to reinforce the buying and selling chains for woodchips via the promotion of local consumption of primary forest biomass for heat production for the local community. "Forest del Vallès" pilot project takes place in the county of Vallès Occidental (a region including 19 municipalities in the Barcelona Metropolitan Area). The forests (almost 19.000 ha) are dominated by Aleppo pine and are mostly private.

The forests of Vallès Occidental is an undermanaged area that has relatively low productivity (on average, an annual productivity of <2m3/ha) and is quite vulnerable to climate change and wildfires. From 2006 to 2015 several measures were supported to overtake this situation: a) in 2006-2007 an "Analysis an Diagnostic of the Forests of Vallès Occidental" was drawn up; b) in 2012 an previous stage of the project was initiated as a Programme for forest fire prevention and for promoting the use of biomass for thermal energy; c) private forest owners started to be interested to improve forest management and to mobilize wood; d) the creation in 2015 of the County Service of Forest Biomass. The creation of this Service will allow public and private contracts to be drawn up to promote the installation of boilers and the establishment of woodchip Logistic Centre.

In this context, this pilot project aimed to reactivate forest management and wood mobilisation by preferentially acting in those areas where the fire risk is higher and involving most of the stakeholders of the entire wood chain of Vallès Occidental. The pilot project aimed to reinforce the links between forest owners (most of them living very far from forests), wood dealers, forestry services companies, woodchip manufacturers, equipment installers and energy providers.

The pilot project was aligned with the Strategy to Promote the Use for Energy of Forests and Agricultural Biomass (February 2014) and the General Forest Policy Plan (2014–2024) developed by the Government of Catalonia. However, for an optimal implementation it also considered the recently approved Action Plan for Improving Air Quality (2015-2020), which affects special areas for the protection of the atmospheric environment in several municipalities of the county of Vallès Occidental.

The most important and visible output in this pilot is probably the construction of the logistic center (with a capacity to handle up to 7.300 t annual of woodchip) and the installation of two big boilers (1850Kw+500Kw). These facilities are directly related to the increase in wood mobilization, for several reasons:

- The boilers themselves will increase the demand of woodchip, and will contribute to the mobilization of local wood.
- The logistic center will contribute to boosting the local biomass market and will act as an incentive to the forest owners to better manage its properties and to act as suppliers.

Nordeste Transmontano (PP10) A multiscale integrative approach to raise awareness and encourage participative sustainable wood mobilisation

Forest systems, despite their abundance, do not receive much attention from owners and regional and local stakeholders in the Nordeste Region. The importance of forests in the economy of the region is thus apparently low. However, there is evidence that forests supply a large array of ecosystem goods and services. Major constraints such as lack of awareness of the importance of forests, lack of mobilization policy and management strategies at the regional/local scale, lack of information and tools for planning and management, among other, limit local use of forests as sources of resources and as promoters of development in the region.

Considering that these factors are multiple and of different natures and act at different scales, we developed, as an a priori condition, a Forest Decision Support System (FDSS) to incorporate biophysical, social and economic variables to better understand the system, to explore the effects of changes in the system at multiple scales in terms of supply and demand of forest resources, and to evaluate forest planning and management alternatives.

The Pilot Project (PP) was based on the following rationale and practical steps:

1. The development of a series of forest decision making tools (FlorNExt©, forest growth and yield simulator; FlorNExtPro©, landscape forest management simulator; (WRoute©, transport cost and emissions calculator; and AppTitude©, land use optimizer at multiple scales), generically named FDSS, untangle obstacles in the Nordeste Region, namely lack of information about forest resources and their dynamics and lack of tools for management at the stand and landscape scale;

2. The practical use of the FDSS with particular target groups will not just increase awareness about the potential supply of forests, forest products and forest ecosystem services, but also will demonstrate that forest management is feasible and that investments in the forest sector in the region are attractive from a business point of view. This will lift obstacles such as lack of awareness about the availability of forest good and services, lack of knowledge about costs, benefits and risks of forest management, lack of markets for wood and lack of market demand for specific wood products;

3. The social dynamics created through a diversity of events involving forest and regional agents at several levels will increase understanding, agreement and cooperation among forest stakeholders;

4. Changes in the availability of management and decision-making tools, awareness, information, understanding, agreement and cooperation will increase the interest for forests in the region, from owners to higher level politicians, and the mechanisms for increasing investments and management activity in the area increasing forest mobilization.

One of the most relevant results obtained in the PP, besides the computer tools/dissemination platforms and knowledge transfer, training, awareness rising, and lobbying initiatives, was the establishment and operation of the Regional Forest Council (CNFor), and advisory board comprised of representatives of forest stakeholder groups. The PP has addressed directly barriers that were partially lifted trough tools and platforms developed and transferred in workshops, training, and other sessions, the CNFor meetings, the participation of SIMWOOD members in public events and by the media coverage received by the events and initiatives. No management tools were previously available for this region. The region is the only in Portugal where owners, managers, decision-makers, businessmen, and other stakeholders can find easy to use and

available tools to simulate growth, yield, management, forest dynamics, supply and demand. The tools and their use provide useful data for these stakeholders and raises awareness about forests increasing motivation towards forest mobilization.

The project was able to detect key opportunities, in particular non-wood forest products, sawmill, furniture markets, bioenergy, and schemes for the payment of ecosystem services. Some of these have been tested through modelling and simulation and their results have been divulgated. These opportunities were and will be worked to support the activities and initiatives of the team to lift the barriers in the previous paragraph. This has been done in diverse forums but mostly in the CFNor.

The approach followed and the types of resource investments made, according to the existing and changing conditions of the forests and the forest sector of the region, lifted barriers and are acting towards impacting the region in terms of forest mobilisation. It is likely that stakeholders involved or exposed to the project will change attitudes and practices leading to increasing forest mobilisation but that should be visible only in years to come.

Alentejo (PP11) Collective scenario planning to raise awareness on the feasibility to increase maritime pine and eucalyptus wood through management and afforestation at Alentejo Region

The Pilot Project (PP) was carried out from 2014 until 2017 in the Alentejo, south of Portugal. Around 45% of its area is covered with forests mainly managed as agro-forestry systems having a small representation of wood production tree species, 9% of *Eucalyptus globulus* and 4% of *Pinus pinaster*. The region is sparsely populated (19 inhabitants/km2), with 97% of the land privately owned often by farmers (25% older 65 years), some having reduced technical knowledge. The main objective of the PP was to propose measures to increase *E. globulus* and *P. pinaster* wood availability through forest management using a 'sustainable intensification' concept. A secondary objective was to stimulate the use and mobilization of wood resulting from thinning non-traditional species (*Pinus pinea* and *Quercus suber*).

The idea behind the PP was to use a management driven forest simulator, *StandsSIM.md*, to simulate different mobilization scenarios reflecting increasing levels of management intensification and compare the amount of harvested wood with a Business As Usual (BAU) scenario reflecting the current forest management. To achieve this, the ISA and ForestFin teams invited stakeholders (forest owner associations; private forest owners; forest industry, non-governmental organisations; research; public administration; small- and medium-sized enterprises (SMEs)) to help identify the main barriers and solutions for wood mobilization in the region and help define the forest management practices that characterized four different wood mobilization scenarios. In the course of the PP, four stakeholders' meetings were organized before the scenarios could be set and the results of simulation runs were presented. The comparative analysis of the two latest National Forest Inventories (NFI) available was carried out and used to propose a set of management drivers (e.g. increase afforestation area, conversion of old coppices, under-stocked stands or uneven-aged stands) that were discussed with the stakeholders who helped defining the management prescriptions and the total amount of each driver characterizing the four mobilization scenarios.

The NFI plots of the four species were used as input by *StandsSIM.md* and the growth simulated for a period of 60 years. The volume harvested contributing to wood availability varied with the tree species: *E. globulus* - final harvest; *P. pinaster* - final harvest and thinning; *Q. suber* and *P. pinea* – thinning. Results showed an

increase in wood availability from BAU towards the most intensive management scenarios. A substantial contribution of eucalyptus for increasing wood availability when compared to the other species was also observed.

When analysing harvested volume over time, differences among *E. globulus* wood mobilisation scenarios were only evident after 40 years with wood mobilization increasing with the increase in management intensification. Unlike what was observed for eucalyptus, the BAU scenario for *P. pinaster* (less intensive management) showed higher wood availability in the first 20 years, but less wood available in the long-run when compared to the more intensive management scenarios evidencing that short-term simulation results when extrapolated for the longer periods can lead to misleading conclusions. Additionally, thinned wood from non-traditional wood production species, if considered could contribute substantially to wood mobilisation in the region.

Based on the PP results *StandsSIM.md* proved to be a useful tool for decision making. Stakeholders seamed convinced that forest productivity can be increased through management and attended two training courses organized by ISA. Altogether, 21 trainees representing most stakeholder types (forest owner associations; private forest owners; public administration; research and SMEs) were presented with a list of forest management situations to be simulated that evidenced the potential of *StandsSIM.md*. Other trainings are planned to disseminate the tool across the country, but dates have not been set yet.

Overijssel/ Gelderland (PP12-1) Improving wood harvesting logistics by a dedicated GIS-based biomass module

This SIMWOOD pilot project was launched in 2015 and ended in 2017. It was a regional project conducted in the Twente region (located in the province of Overijssel). The project focused on the opportunity that bundling of activities in ForestMaintenance would offer.

One way to facilitate the bundling of these activities is through the development and use of a dedicated GIS-based biomass module. This biomass module was planned to be part of a larger management tool - CMS*i* - which is currently being implemented by the three organisations that own (or manage) large areas of forest in the Netherlands (Staatsbosbeheer, Natuurmonumenten and De 12 Landschappen. Together these organisations manage 171,000 ha (out of a total of 374,000 ha) of forests in the Netherlands. These three organisation were the target of this pilot project. The project was implemented in close cooperation with Natuurmonumenten. The central idea of the project was to show the benefits of a biomass module to the three largest forest owners in the Netherlands, as well as owners of smaller forest plots, via a pilot project conducted in the Twente region. Benefits were expected to be a.o. lower costs of harvesting due to bundling of harvesting activities.

Activities included an identification of the current working processes of the three largest forest organisations, with a special emphasis on Natuurmonumenten. An investigation into the wishes and desires of the forest managers regarding the biomass module was carried out, thereby taking into account possible inclusion of small forest owners. One important result of this activity was that that the biomass module could not be integrated in the CMSi system, an a separate module would be needed. For this module a functional design was made, as well as a data protocol. The functioning of the biomass module was validated using field data from a forest inventory that Natuurmonumenten had carried out for the Twente region, complemented by data from two large private owners.

Besides that a plan of approach was drafted on how to increase wood mobilisation by non-industrial private forest owners.

This validation showed cost reductions in the range of 5% to 25% of chipping costs. Natuurmonumenten considered these results interesting and has signalled their willingness in principle to continue to cooperate to develop the biomass module.

Modelling has showed that wider implementation of the biomass module can result in cost savings especially if it is implemented on a national scale. This means that there are opportunities to further develop the biomass module. Important aspects to consider are however that 1) external finance will most likely be necessary, because the parties that would benefit the most from the module (private owners) are least likely to contribute during the start-up stage. 2) new projects should plan for the gathering of forest inventory data because data is often lacking. 3) input of data in the biomass module should be low-effort and straightforward. 4) wider implementation is expected to take time.

When these aspects are all adequately addressed, it should be possible to start with the wider implementation of the biomass module.

Overijssel/ Gelderland (PP12-2) Bundling efforts in a collective to facilitate wood mobilisation in Food valley region

The Food Valley wood mobilization pilot project was launched in early 2014 and ended in 2016. It was a regional project conducted in the Region Food Valley (located in the province of Gelderland). The project focused on the valorisation of wood from forestry and landscape maintenance. This combination was in itself a new element. The rationale behind this is that by combining these two landscape types, critical mass is achieved earlier, and harvesting is more cost-effective.

The project focuses on increasing local supply from forest and landscape of:

- Low-quality wood chips for the regional project Bioenergy Valley to produce renewable heat for the city of Ede, and
- High-quality wood chips for local small wood boilers, and
- Roundwood for the production of wooden products

By bundling activities it was envisaged that the high costs of forest and landscape maintenance can be brought down, so that maintenance becomes viable again; especially for smaller plots. The project targeted the public and private forest owners in the Valley region, as well as owners of landscape elements such as municipalities and agro-nature associations. The central concept of the project was that by forming a collective, and through the increased coordination because of that, economies of scale could be attained, reducing costs for maintenance and harvesting which increase the economic viability of maintenance and harvesting operations.

Project activities involved 1) approaching stakeholders among which forest owners and forest managers, 2) preparing harvesting plans and logistical plans, and subsequently 3) implementing these plans together with the participants. Low quality chips, high quality chips and roundwood were harvested and sold to various parties. In total about 688 m3 of wood chips and roundwood were harvested. Activities were carried out with a small financial loss, which was somewhat below expectations. However, parties generally recognise that maintenance has a cost. Results were regularly discussed in Regional Learning labs; gatherings where relevant stakeholders were informed and could comment on the project and it's future activities.

The collective that was formed is continuing after the project. The evaluation showed that all participants that were questioned considered the project worthwhile, and that social learning had taken place. Learning points were the need for continued communication and the way in which future contractors should be selected, namely not via a formal tendering procedure, but through a direct contracting procedure.

Wider implementation could result in an extra wood mobilisation of ca 15,000 m3/year in the region Gelderland and Overijssel. To successfully set-up more collectives, the right pre-conditions should be in place, such as biomass off-take opportunities in the vicinity, local organisations that can take part in the process, and parties should be willing to put in the required time and effort.

Slovenia (PP13) Training the facilitators: towards the improvement of forest owners associations capacities and the extension program outcomes

The main aim of the SIMWOOD Pilot project named "Improvement of forest owners associations capacities for mobilization of wood from private forests" in model region Slovenia (whole county) has been to improve the performance, efficiency and internal organization of already established and newly established local associations of forest owners (FOAs) in the future aiming at higher mobilization of wood from private forests. Besides this specific aim, the pilot project has also targeted the whole private forest owner population in Slovenia in order to set the stage for further mobilization of forest owners in the field of cooperation and active approach to forest management.

Results of Slovenian SIMWOOD focus study have strongly influenced on pilot project elaboration and have caused some changes in its focuses. At first stage of PP direct capacity building of FOA's has been foreseen. Later, focus study and RLL process has shown that for effective improvement of FOA performance involvement of extension service, which is provided by SFS, is needed. Namely main actors in local FOAs are SFS foresters (in more than 90% of cases) Development of extension services capacities on the field of forest owners activation and wood mobilization therefore become one of pilot project targets and extension service will act as a main driver for future enhancement of wood mobilization in Slovenia.

Pilot project outputs consist of different experimental actions (RLL meetings and focused interviews), which have given main answers about driving forces for activation and mobilization of forest owners, especially those associated in forest owners associations. Main outputs are information and communication internet platform for forest owners associations, improvement of forest data availability for forest owners, easier access to already available information source "Pregledovalnik podatkov o gozdovih" (Forest data viewer) and access to single parcel and single property forest data and extension service development program on the field of sustainable wood mobilization with adapted solutions and tools regarding organization, governance, motivation, education, harvesting optimization and forest management planning.

Main impacts of pilot project are changes in knowledge, skills, capacities and awareness of forest owners or forest owners associations members on following fields: about economic viability of wood production resulting from adoption of new informational and planning (forest property plan) support, about benefits of cooperation in cooperative groups and about successful solutions for more intense joint management of forests and marketing of timber in forest owners associations. Link between collected knowledge and solutions and forest owners as final users is SFS extension service with almost 400 foresters on the field.

Most significant change as a result of the pilot project has been a change of forest owners associations (FOA) attitude toward cooperation in forest management and common approach to wood market. By presenting pilot project findings during RLL we were able to change attitudes of FOA's managing staff toward active cooperation at forest management and marketing, especially with presentation of success stories of two FOA's – FOA on Bled and Pohorje – Kozjak, which have been able to overcome "non – commercial" phase of FOA development and play today significant role as forest services provider and on local wood market. Additionally, with definition of SFS as a key actor for future FOA development we have motivated extension staff and their managers for more active role of forestry service on that field.

Due to natural disaster (ice-break and bark beetle attack in 2014, 2015 and 2016) disturbances in Slovenian forests and consequently forestry sector, it is hard to clearly evaluate the actual influence of Slovenian pilot project outputs. On a country level an allowable felling according to forest management plans has been

reached, but in some parts of the country, problems of wood mobilization still remains the same. A question is what will happen, when salvation logging is finished and "normal" wood production in forests is back. Then implemented SIMWOOD pilot project outputs will gain their importance again.

Småland (PP14) Development of a more efficient and sustainable system for extraction of logging residuals from clear cutting areas in Småland for fuel purposes

The research activities in the Småland model region have consisted of a focus study followed by a pilot project. Six Regional Learning Labs have been conducted where regional activities have been discussed. A study tour to Bavaria was conducted by members from the regional reference group. A video was produced as a result of the outcomes from the pilot project and has been used for dissemination of results. The impact of the video has also worked as a base for the evaluation. A regional seminar "The bioenergy day" was organised each year over the duration of the SIMWOOD project. A final conference was jointly organised by the regional lead partners and the model municipality, Uppvidinge. The region was represented in international meetings e.g. in the SIMWOOD Advisory Board of the Regions, mainly by the mayor of Uppvidinge. The regional measures for increased mobilization of wood has been focused on two target groups: forest owners and practitioners. The measure to disseminate results in order to affect the forest owners attitude to extract forest residues has been carried out by the help of primarily seminars and excursions. The way to affect the practitioners effectiveness and willingness to finetune the practical operations in the machineries has been carried out via primarily the video. The regional activities have been facilitated by the well-established collaboration between various regional stakeholders. The SIMWOOD-initiative has strengthened this regional collaboration and secures the relevance in the forestry research.

Lower Saxony (PP15) Engaging new forest owners into active small scale forestry through the focus-days

The 3rd KWF-focus days were conducted on 16/17th October 2015 in Groß-Heins/Lower Saxony. About 5.000 visitors and 70 exhibitors of forest machines and equipment have been on the fairground within the two days. In this specialized event different management ideas as well as additional information and demonstration of special forest techniques and working methods have been showed in 12 live demonstrations directly in the forest. These practical demonstrations have been performed and described by professional experts. A special issue of German forest journal AFZ/Der Wald (Nr. 19/2015 from the 5th October 2015) described basic information provided for the visitors. An affiliated exhibition offered various topical forest equipment and tools. Additional an exchange of knowledge between the regions has been provided in workshops and joint poster sessions and exhibitions.

9.2. Pilot Project in the Barriers/measure matrix

IDb Level 1		Level 2		PP01-1	PP01-2	PP02	PP03	PP04-1	PP04-2	PP04-3	PP05	PP06	PP07-1	PP07-2	PP08-1	PP08-2	PP09-1	PP09-2	PP10	PP11	PP12-1	PP12-2	PP13	PP14	PP20
*				Bavaria	Bavaria	NRW	Auvergne	GrandEst	Grand Est	Grand Est	Yorkshire	Scotland	Ireland	Ireland	CastillaLeon	CastillaLeon	Catalonia	Catalonia	Nordeste	Alentejo	Netherlands	Netherlands	Slovenia	Smaland	LowerSaxony
1	FOREST RESOURCE BARRIERS																								
		1,1	Steep or difficult terrain	x	x		x		x			x													
		1,2	Forest resource characteristics not matching market demand			x						x								x					
		1,3	Inefficieny of harvesting techniques and practices	x			x	x	x			x	x								x		x	x	
		1,4	Sustainability concerns and climate change impacts						x								x							x	
2	REGULATORY AND LEGAL BARRIERS																								
		2,1	Lack of enabling legislation for viable ownership																						
		2,2	Legislation and regulations restricting productive forestry													x	x	x							
		2,3	Lack of enabling legislation for effective cooperation																						
		2,4	Other regulatory and legal barriers																						
3	FINANCIAL AND MATERIAL BARRIERS																								
		3,1	Poor road infrastructure to access forests or markets	x	x	x	x					x	x	x											
		3,2	Unfavourable work conditions and labour market in forestry																						
		3,3	Lack of access to capital and other inputs	x	x	x													x						
4	ORGANISATION AND ENTERPRISE BARRIERS																								
		4.1.1	Land ownership barriers : Small-scale ownership and land fragmentation	x	x	x	x	x	x		x	x	x	x				x		x	x	x	x		
		4.1.2	Land ownership barriers : Urban, distant or disconnected forest owners	x	x	x												x		x					
		4.2.1	Lack of cooperation among forest owners			x						x		x					x				x	x	
		4.2.2	Lack of cooperation in the supply chain										x		x	x			x		x		x		
		4.3.1	Weak or lack of markets for wood / forest products								x	x	x		x			x	x						
		4.3.2	Lack of market recognition for quality products								x														
		4.3.3	Major market fluctuations and disruptions																						
5	KNOWLEDGE AND ATTITUDINAL BARRIERS																								
		5.1.1	Knowledge & skills barriers : Insufficient advisory capacity									x							x				x		
		5.1.2	Knowledge & skills barriers : Insufficient practical skills for forest management	x	x		x			x						x		x	x	x			x		x
		5.1.3	Knowledge & skills barriers : Insufficient forest management and silvicultural knowledge and planning	x	x		x	x		x	x	x	x		x	x		x			x		x		x
		5.1.4	Knowledge & skills barriers : Insufficient business, marketing and cooperation knowledge								x	x	x						x						x
		5.2.1	Attitudes & values barriers : Disinterest or opposition of forest owners for non-financial reasons	x	x	x			x								x	x	x	x		x	x		
		5.2.2	Attitudes & values barriers : Disinterest in forest-related careers for non-financial reasons										x												
		5.2.3	Attitudes & values barriers : Disinterest among public or stakeholders or politicians																						
		5.3.1	Research & innovation (R&I) barriers : Insufficient evidence or critical information			x	x		x			x			x	x			x	x				x	
		5.3.2	Research & innovation (R&I) barriers : Potential technological solutions not yet developed and tested				x														x		x	x	

IDme	MeasureType		MeasureTypeDefinition	PP01-1	PP01-2	PP02	PP03	PP04-1	PP04-2	PP04-3	PP05	PP06	PP07-1	PP07-2	PP08-1	PP08-2	PP09-1	PP09-2	PP10	PP11	PP12-1	PP12-2	PP13	PP14	PP20
*	*		*	Bavaria	Bavaria	NRW	Auvergne	GrandEst	Grand Est	Grand Est	Yorkshire	Scotland	Ireland	Ireland	CastillaLeon	CastillaLeon	Catalonia	Catalonia	Nordeste	Alentejo	Netherlands	Netherlands	Slovenia	Smaland	LowerSaxony
1	FOREST ENTERPRISE MANAGEMENT																								
		1.1	Enterprise management and forest planning	x	x	x			x				x	x				x	x		x	x			
		1.2	Harvesting and transport	x	x		x	x	x				x	x		x					x	x	x	x	
		1.3	Alternative products and services to increase profitability											x	x		x								
2	REGULATORY AND LEGAL FRAMEWORK																								
		2.1	Land ownership (RL)			x																			
		2.2	Forest management (RL)																						
		2.3	Other (RL)																						
3	FINANCIAL INCENTIVES																								
		2.1	Forest access and infrastructure (FI)	x	x	x																			
		2.2	Land ownership (FI)																						
		2.3	Forest management (FI)	x	x								x												
		2.4	Market development (FI)								x							x							
4	ORGANISATION AND COOPERATION																								
		4.1.1	Land ownership : Forest land consolidation			x																			
		4.1.2	Land ownership : Joint ownership / shareholders			x																			
		4.2.1	Cooperation in forest management : Joint forest management					x					x				x								
		4.2.2	Cooperation in forest management : Cooperatives	x	x									x				x				x	x		
		4.2.3	Cooperation in forest management : Joint timber marketing																						
		3.4.1	Market development : Certification and labeling								x														
		3.4.2	Market development : Investments in forest-based processing																						
5	KNOWLEDGE AND PERSUASION																								
		5.1	Advisory capacity improvement								x	x							x				x		
		5.2.1	Knowledge exchange actions : Regional initiatives and action plans	x	x																				
		5.2.2	Knowledge exchange actions : Promotion initiatives and campaigns																						
		5.2.3	Knowledge exchange actions : Practical training and capacity building (for forest owners)	x	x		x					x	x		x					x				x	x
		5.2.4	Knowledge exchange actions : Advanced training and capacity building (for managers & decision-makers)				x	x	x			x			x	x	x	x	x	x			x		x
		5.3.1	Information services and tools : Infoportals for private forest owners							x													x		
		5.3.2	Information services and tools : Logistics systems																						
		5.3.3	Information services and tools : Market information services																						
		5.3.4	Information services and tools : Other information systems										x						x	x			x		
		5.4.1	Research & innovation (R&I) funding																						
		5.4.2	Research & innovation (R&I) capacity																						
		5.4.3	Research & Innovation (R&I) projects	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

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