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Editor's note

Occurring through a particularly difficult time for the forest and its management in Portugal and in Southern Europe (2017-2019), the FOREST-IN project met one of the biggest forest constraints in southern Europe: its economically, socially and environmentally sustainable management.

Based on digital technology, forestry and nature conservation, communications and knowledge transference, and ultimately, adult pedagogy, FOREST-IN was an opportunity for hundreds of different stakeholders coming together to learn sharing their experiences and knowledge in several forestry environments and realities (central region of Portugal, north of Spain and southern France). Around those regions, it was possible for small owners and technical experts to visit reference forest areas, while putting them in touch with different ways of managing, valuing, protecting and safeguarding the forest, and also while sharing the good practices in sustainable forest management employed therein. The forest realities of these territories were also be sharply contrasted, seeking to instil in the participants the need to critically analyse their own context as to broaden the scale of action through associative practices as well as the need to protect values that do not have immediate economic translation.

Several workshops and international technical visits, tutorials and a mobile app were some of the products from the FOREST-IN consortium that are now available for all the society use, namely the forest landowners. The innovative pedagogical techniques associated to a bottom-up approach having the forest owner as the center of the discussion contributed to the success of this project. From now several tools can be used to improve the intervention capacity of all those concerned by forests: from small forest owners and technicians to all relevant decision makers.

Now that the project is completed, we expect that the new educational and training strategies developed in FOREST-IN would ensure the social, environmental and economic benefits of the forest, their Human communities and contribute to the valorisation of rural areas in Europe.

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FOREST-IN project ends: some of our main results

Our project considered a set of high-quality **intellectual outputs**, with the aim of empowering smallholders, but also to assist professional forestry technicians in the decision-making regarding forest management. Here is a summary of some of those results.

Summary Research Report

A multidisciplinary evidence based state-of-the-art presented in a form of a report. FOREST-IN is a project to learn about implementing sustainable forest management based on digital technology, forestry and nature conservation, communications and knowledge transference, and ultimately, adult pedagogy.

The Summary Research Report was done with recourse to research exercises to ensure the coverage of common issues in the project partners' countries as well as region-specific themes and problematics. Through participatory workshops, interviews and surveys, Forest-IN's Summary Research Report informs and establishes the designs and contents of the framework of the project, and all subsequent results. All the project's partners added contributions in the planned areas that are of particular importance to FOREST-IN project: sustainable forest management for small forest holdings; IT and web-based tools used in the context of forestry and adult education; communication and training techniques for adults; public engagement towards sustainability.

The Summary research report work consolidates already existing know-how in the above-mentioned areas but allows to work on the dramatic novel changes in obligations that implicate smallholders in forest management that ensued, changes in governmental practices and the consequent renewed approach to forests and the forest sector, as well as the catastrophic forest fires in recent years that swept virtually all of Europe.

IT application

An IT application (for smartphone and tablet) has been developed to support the learning processes about sustainable forest management and decision making, and for raising awareness. Based on the concept of microlearning, the project included the design, development and dissemination of a mobile application to easily and visually help small forest holders to manage and plan their production and harvesting respecting biodiversity and meeting criteria for sustainable forest management, adopting best practices.

The system is composed by an app working connected to Internet. Any interested participant may require to describe and/or map their forest and or register their management practices by means of self-made short videos. Based on microlearning – a kind of training that’s broken down into short segments—usually between 30 seconds and 5 minutes long in video format - the visual information addresses topics such as species most adapted to climate and soil characteristics; forestry techniques needed for a greater profitability; biodiversity protection and enhancement; adapted forestry management; forests and climate change; forests and water; valuable non timber forest products associated with species/ management; among many others.

Data collected with the app enter a database, and feature geographical information that, in order to provide user-friendly visual orientation, supporting decision making for the management of their forest.

Online platform

The project has, since its inception, developed a website that presents the plan, its informative contents and outputs, its partners, funders and the aims and objectives of Forest-IN to the virtual audiences. Address: <http://www.forest-in.eu/> It was on-line before planned (month 13). The project’s website was also intended to be the repository for outputs and reports, and also hosts four preponderant components:

1. a PC version of the app with registration, mapping area and decisionmaking support developed for users not well acquainted (or that do not own) a smartphone or tablet; called “smallholders good practices observatory”
2. an interactive map that will result from the database created by the use of the mobile app, which will allow the mapping, discussion for peer-validation, and the concurrent generation of awareness towards sustainable forest management;
3. an observatory where everyone can consult the videos, documents, network, exchange ideas and engage in the reflective practice that is essential part of the innovation process and indispensable if quality outcomes are to be achieved;
4. site acts as a database that allows the display all relevant information.

The partners will continue to improve the website as the project is being developed further, even after the funding period is over.

Training package for training smallholders

We've also developed a training package for a certified training course for forest smallholders: The Project's partner 'Forest Stewardship Council - FSC International', as forest certification referential entity, took the lead in the development of the training package for a certified training course targeted at smallholders and other non professional forest owners and managers.

The objective of this package is to provide forest entities a ready-to-use course package, so that they can spread the FOREST-IN concept and replicate the training and raise awareness in their areas of influence. The main concept is that forest is an aggregation being that, when correctly managed, largely allows achieving all components of sustainability (environmental, social and economical), providing all sorts of benefits for all. It is important to underpin to non professional forest owners and smallholders that there are multiple forestry solutions that can promote biodiversity and simultaneously provide income, besides the industrial exotic forestry model that is currently dominant. The course also strongly demonstrates the advantages of managing certified forests, both in terms of environment, society and of income.

Training package for training forestry technicians

The Project's partner 'Programme for the Endorsement of Forest Certification' (PEFC), a forest certification referential entity, took the lead in the development of the training package for a certified training course targeted at forestry technicians and other professional forest managers. The course made use of all materials developed within FOREST-IN Project.

The objective was to provide forestry companies and organisations a ready-to-use course package, so that they can train and capacitate their technicians and forestry decision-makers with updated information on how to approach smallholders on sustainable forest management, forest certification processes, biodiversity conservation, valuation of non-timber products, multiple uses of the forest, forest economy, state-of-the-art forestry techniques, among other relevant matters so that they can spread the FOREST-IN concept and replicate the training and raise awareness in their areas of influence, and especially within the forests and forestry sector.

Assessment tutorial

This tutorial is linked to the on-line platform and app in a way that a simple assessments allows better counselling and support to decision-making in accordance to a determined forest area be the user. The tutorial addresses and explains key concepts related to the project, such as forest biodiversity, forest health, good practices, forestry techniques, among others, in a simple way, but convening the highest quality standards followed in certification processes.

The tutorial has been constructed on a compromise between clear and easy-to-understand assessment procedures and sufficient detail to provide sound technical and scientific information, to ensure that all needs of all target groups are met. It will be available in the language of all partners, allowing its broad distribution through Europe. Thus, this output represents a non formal learning resource that can be adopted not only by the participating smallholders, but also by forestry partners (AFG, Forêt Modèle de Povençe, Unimadeiras), and further by all interested audiences, while it is made available on-line, on the website developed within the project.

Layman report

At the end of the project, a final layman report was prepared, aimed at a large scale distribution within non specialized forestry public, such as smallholders associations, schools, environmental associations, scouts, etc. The report summarizes the project's rationale, objectives, methods, and main results achieved, and critical discussion on sustainable forest management. The entire report has been written in very simple terms, using immediate and very intuitive informative contents, so that it can be understood by any interested person or entity at a glance. It also directs readers to the projects' platforms, web-based tools, documents and tutorial, contributing to the sustainability of the project and reinforcing the replicative potential of the project. An online version will be hosted in our project website.

Some testimonials from our partners about their experience in the project

The Galicia Forestry Association

“We consider that it has been highly positive the experience of the Forest-IN project for the Galician forest owners who have participated in the project activities.

In a short survey conducted at the end of 2018 among participants in the courses held to date, they were happy to have been involved in the project and the format of the activities, mixing theory and practice in groups and visits to areas of interest.

Very interesting, entertaining, varied, with good environment among the partners and a good organization. (M. L)

One of the aspects the participants most appreciated was having the opportunity to network and interact with colleagues from other nationalities and different regions. The experience of having visited experiences with solutions to problems or issues they also share has been highly appreciated, even though they were not in favour of applying the same solution to their forest properties.

More that changing my opinion, the project led me to consider other points of view, other options to take into account when it comes to managing a forest property. (M. L)

I learnt a lot of interesting things and in a near future I would probably change something. (A. G)

The duration of the activities (courses and multiplier events) was initially considered as a problem in terms of getting the interested public involved in each activity. The fact that a large part of the Galician forest owners do not have the forestry activity as its main occupation made it difficult to find the right people to participate in the project. However, the prolonged duration of these stays has been very good for the successful interaction of the participants. And not only of the relations between participants of different nationalities and regions, but also between the same participants contributed by the Galicia Forestry Association who, in most cases, did not know each other, and, as a result of their participation in the project, established strong personal and professional relationships.

It has also been very interesting, and thus the participants recognised it, to realize that in some respects we have a lot to learn and, in others, much to teach, even if, in principle, we were not aware of it.

We need more cycles like these in order to be able to share wise choices and mistakes with the goal of getting right the forestry policy. (E. M).

It is very beneficial to invest in these experiences, the people who love the forest, who make the most of it, who take care of it, need to be in contact with different people in order to share experiences. (L. M)

For me, it was an extraordinary and enriching coexistence in which we all talked about the characteristics of our forest and about the way we managed it according to each one circumstances. Very satisfying. (M. L)

More importantly, in view of the experience they have had, they intend to continue it outside the project and, in fact, an exchange visit of Portuguese foresters to Galicia has already been planned for the coming months.

We should plan annual meetings with the Portuguese forest owners, enlarging the regions, types of exploitations, etc. (M. L)

For the Galicia Forestry Association the participation in the Forest-IN project has meant a highly positive experience for several reasons:

It has allowed us to work with organizations that we did not know and that have shown us other ways of managing situations that we face every day, with different approaches.

It also allowed us to interact more closely with our associated owners and with those participants from other organizations or institutions other than ours with whom we have lived closely for several days.

It has allowed us to analyse and think about our own experience as an association by showing it to the rest of the project participants, submit to their opinion the solutions we had contributed and collect feedback from participants who approached the options shown with different eyes and viewpoints.

It's been a good experience working with such a diverse consortium, two different forest certification systems, the university, the business world, a model forest, a different group that has allowed us to see different approaches to the reality that surrounds us, enriching the experience and contributing polyhedral analysis to the issues raised.



Testimonials: UNIMADEIRAS SA

“Forest-IN arose from the need to improve good forest practice in smallholder forests, managed by foresters to whom the message of sustainable forest management has not always been delivered in the best way. Over the years the various states have made some efforts through supportive measures that have proved unsuccessful. The partners involved share this reality / problem and have found this innovative way to contribute to solving the problem through the Erasmus + adult education program. Unimadeiras SA, one of the partners and co-author of the idea for the project, from the outset actively participated in it, stimulated by the need to enforce Good Practices in the areas of its forest certification group.

The first meetings (TPM) of the project were very constructive but also raised some expectations in relation to something innovative, Erasmus + with adults in the forest.

These expectations soon came to materialize when in March 2017 the “Healthy Forests, Benefits for All” Forum was organized. Forest owners and managers diverse institutions,

the industry associated with forests and their products, environmental organizations, among others, discussed at round tables and jointly analyzed the forests of the partner countries. It was said that never in Portugal had anything like this been done. The invited smallholders felt as they were now being brought into the problematic, to be this time also a part of the solution. Phrases such as; “I had never attended such a meeting,” “finally someone wants to hear from us,” among others, were expressed.

These minds, now awakened to participation and exchange of experiences, participated in great numbers in the first multiplier event in Portugal, October 2017. They got to know different realities from their own, recognizing that after all there are different options from their own which they had never thought about . From a different perspective, the French were sensitized to a perspective of economic sustainability, little present in their local reality. Some of these participants showed interest in trying some of the alternatives presented, such as the production of arbutus(strawberry tree) - “In my property I can also produce arbutus, it is profitable” - and about the case of pine that is being genetically improved - “where can I buy plants with this genetic improvement ”.

Although close to our reality, Portugal, Galicia has some distinctive characteristics, verified in January 2018 at the second Multiplier event. Here the Portuguese delegation was pleased with what it saw, namely in relation to organization of the state, producer grouping, diverse uses of wood and forest and cultural treatment of it. The owners discussed forest management among themselves, questioning the methods and their costs (“Just use this machine?”, “How much does this service cost?”).

In June 2018, the round of multiplier events was completed with a trip to France, to the Provence region. Here the participants were faced with a conservationist forest, something that surprised the Portuguese smallholders - “but this does not make money!”, “That’s the way it is, here the don’t need it to be” -. This was the different perspective from the forest owners of other countries, which in contrast has ultimately resulted in the project ending with an intermediate attitude, in which both environmental and economic perspectives must be weighed. This was one of the main goals of the project, to put the forest owners and managers in confrontation of ideas and values about the forest.

By the end of 2018 (October and November) and beginning of 2019 (March) 3 training courses were held with based on a unified matrix but carried out with the necessary adaptations to the realities of each place where the course took place. These courses, where it was possible to experiment more deeply the means produced for the purpose of training and capacitation (IO’s), although they had been tested in the multiplier events, significantly improved participants' knowledge. Knowing how to plan, with real cases, the management of forest areas using cartography and weighing factors that condition

management, knowing about various alternatives of multiple use, identifying conservation areas and directly contacting with native fauna and flora, etc., has made these owners better managers and key disseminators of these methodologies. Some said “I had never used a map”, “I didn’t know I had legal limits for my forest activities”, “I can touch a frog, right?”. These forest perspective methodologies were transmitted to technicians at a course held in April 2019 in France with the aim of knowing about the particularities of communicating with smallholders and disseminating the project’s Good Practices to other forest owners (and technicians).

Lastly, in July 2019, the results of the project were presented. It was with emotion that some of the participants remembered all the work done. Some of them had the opportunity to present their perspective on what they saw as well as their impressions of the project in general, as they were invited as speakers.

In this project a lot has been done, some of the participants are already building a better forest by using new species and working methods. Some owners have already expressed interest in holding regular annual events to further discuss their forests, and an event is planned for next year. In this sense, communication through the Forest-IN ‘brand’ is still up and running.

For Unimadeiras and in a perspective of the identified needs in the application, the objectives were more than achieved, considering that this was the first and important step towards a set of other projects that we intend to implement.

More testimonials: FSC Portugal

“The Forest-IN project was a 3 year project with different moments of meetings, multiplier events and training courses, in which, the partners of the project were gathered to plan activities and to evaluate how the activities already carried out had gone and what was the feedback and outputs.

We can certainly say that, from the side of the participants, that held the training, they were very pleased with the courses and the overall experience. Also, we had received intentions to participate from the same forest owners or technicians that had already participate in some events. So, this give us a pretty clear idea of the interest that our actions had, which led participants to want to re-register and participate in other sessions.

For example, in the courses we organized, and for which we had a limited number of guests, for all sessions we had a much larger number of stakeholders than the number of places we had available.

The number of stakeholders involved with the project was higher, so the main and general objective we had, of promoting good forest management through the knowledge transmission was successfully achieved.

At the end of each training course, we asked the participants what they thought about the events and all of them mentioned that had exceeded their expectations, and that it was very interesting and useful.

We also asked what were the improvements for the next events were and some suggestions were to open the training to sons of the smallholders, because they were the futures owners that will have to continue with the responsible management. So we took this suggestion and in some courses we had families related participating in the courses.

Another important aspect to refer was that the field visits were all very interesting, all very different, addressing different aspects, different types of land use, and different ways of managing the territory. This gave us a different perspective of the 3 countries where the visits were held. We had the opportunity to visit municipality conservation areas, areas dedicated to nature tourism, areas with multiple uses like watermills recovered to produce flour for bread, areas with special species of fauna and flora to protect, areas with different types of forest production and of non timber forest products.

From our point of view the best results were those that allowed the group discussion on the different themes addressed. These were the moments that allowed the exchange of knowledge, perspectives on the use of the territory and the creation of friendship bonds between the participants. We had developed different types of exercises to achieve this goal, like developing a model of exploitation for a certain territory area or a role-play that was made in each course for forest owners in the thematic area of certification.

During the events and courses we invited different external entities to present their success histories in what respects to apply the concept of multiple use of the territory, like entities that are honey producers, mushrooms producers, aromatic and medicinal plants producers, fruit producers and so on. These was, as well, truly appreciated by our guests and trainees. In order to link the conceptualization and on-site observation, the trainees visited different forest management units, some of them with this different forms of forest management.

The fact of the 3 training courses organized by FSC addressed different topics, from safety in forest operations, invasive species management, non-timber forest products, biodiversity management, was an asset in allowing to address different concepts and build a richer training package.

In respect to the certification forest themes we tried to link the products that we use every day that came from forest to the areas where they were produced, and that probably much of them, could become from the forest owners that were attending the courses. We had

successfully related the forest with the market, and what are the requirements to comply with to have a responsible forest management.

We also had provide to the trainees a degustation with products proceeding from the forest, such as, mushrooms, chestnuts, nuts, Arbutus unedo fresh fruits and liquor, cakes made with pine nuts and chestnut flour, honey, aromatic plants, and other products, which was very well regarded and enjoyed by the participants. It was a way of alerting them to the importance of the forest in everyday life and that there is much more than wood.

We take this course as a form of continuous improvement and even after its closure we intend to continue with these practical courses and learning sessions. With Erasmus Project we had more adherents to the groups, consequently more certified area and more memberships committed to FSC and to a responsible forest management.

Acknowledgements

Forest-IN has involved a wide array of organisations, not participating in the project as direct partners. In the different countries of the partnership, the consortium mobilized a significant number of stakeholders, such as municipalities, companies, associations and collectives linked to forests, forestry and other complementary and/or related sectors.

Their involvement ranged from sporadic collaboration(s) to a more consistent continued involvement with the project's activities and outputs such as material support (sponsoring) to institutional endorsement. To all these entities, **thank you very much** for your collaboration:

CAULE - Associação Florestal da Beira Serra (Portugal)

INIAV - Instituto de Investigação Agrária e Veterinária (Portugal)

AIFF – Associação para a Competitividade das Indústrias da Fileira Florestal (Portugal)

Altri Florestal, S.A. (Portugal)

Coimbra Agriculture School (ESAC) (Portugal)

Organização Florestal Atlantis (Portugal)

Associação Florestal de Ansião (Portugal)

Quercus (Portugal)

Medronhalva (Portugal)

ATN - Associação Transumância e Natureza (Portugal)

Lenda da Beira Pampilhosa da Serra (Portugal)

Associação Bioliving (Portugal)

Centro Pinus (Portugal)

FLORESTGAI - Empresa pública de gestão e desenvolvimento florestal (Portugal)

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Lemos Natura (Portugal)	Association Découverte de la Ste Baume (France)
Bioria (Portugal)	
Caima (Portugal)	

About FOREST-IN Project

INovative and Educational INformation for the Sustainable FOREST Management by Smallholders (FOREST-IN) project aims to promote good practices and forestry education through the realization of workshops and international technical visits, tutorials and a mobile app aimed at helping the decision making process for sustainable forest management. All embedded in a concerted strategy involving the forestry community and the general public. The pedagogical techniques will be innovative and customized to the target audience, based on a horizontal and participatory learning model.

Who we are

FOREST-IN is an international strategic partnership for forest education. Funding was submitted to the Erasmus+ Programme, the main financial mechanism of the European Commission for Education. The coordinator of this project is the University of Aveiro (Portugal), with these partners: Cesefor Foundation (Spain), PEFC Spain, FSC International, Unimadeiras (Portugal), The Galicia Forestry Association (Spain) and the Provence Model Forest Association (France).

Keep in touch in...

