AFINET: AGROFORESTRY INNOVATION THEMATIC NETWORK

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Abstract

AFINET is one of the seventeen thematic networks that the European Union has financed under the H2020 framework and it is supervised by the EIP-Agri in order to foster innovation in Europe. The main topic of AFINET is agroforestry a practice of deliberately integrating woody vegetation with crops and/or animal systems and the promotion of this practice to foster climate changes. AFINET follows a multi-actor approach linked to the nine Regional Innovations Networks created to identify main challenges and develop main innovations about agroforestry. Main challenges were related to technical, economic, communication and policy issues.

Keywords: knowledge transfer; multi-actor approach; silvoarable; silvopastoral

Introduction

Agroforestry (AF) is the practice of deliberately integrating woody vegetation with crop and/or animal systems to benefit from the resulting ecological and economic interactions. It is a highly knowledge intensive practice and system that requires intensive knowledge transfer to encourage agroforestry implementation by farmers. Therefore, the existing gap between research and innovation is even higher in agroforestry compared with other land use systems. To fill the gap, the European Commission launched a series of activities implemented by the European Innovation Partnership in Agriculture (EIP-AGRI) including the Horizon 2020 EU projects called Thematic Networks. AFINET (Agroforestry Innovation Networks) is a thematic network for agroforestry innovation at EU level in order to take up research results into practitioners on agroforestry activities, with a special focus on silvoarable and silvopastoral systems design, management, and production and profitability. AFINET started in 2017 and has a consortium of 12 partners from more than nine countries and proposes an innovative methodology based on: (i) the creation of an EU reservoir of scientific and practical knowledge of agroforestry with end-user friendly access (the "Knowledge Cloud") and (ii) the creation of a European Interregional network (composed of "Regional Agroforestry Innovation Networks" - RAINs) considering a multi-actor approach (including farmers, policy makers, advisory services, extension services, etc.), and articulated through the figure of the "Innovation Broker" (Figure 1). These RAIN groups will be interconnected in nine strategic regions of Europe from Spain, UK, Belgium, Portugal, Italy, Hungary, Poland, France and Finland, representing different climatic, geographical, social, and cultural conditions at the European level and will meet every six months during the three years of the project. This paper aims to describe the results at the

European level of the first RAIN meetings mainly related with the identification of the knowledge gaps to implement agroforestry.

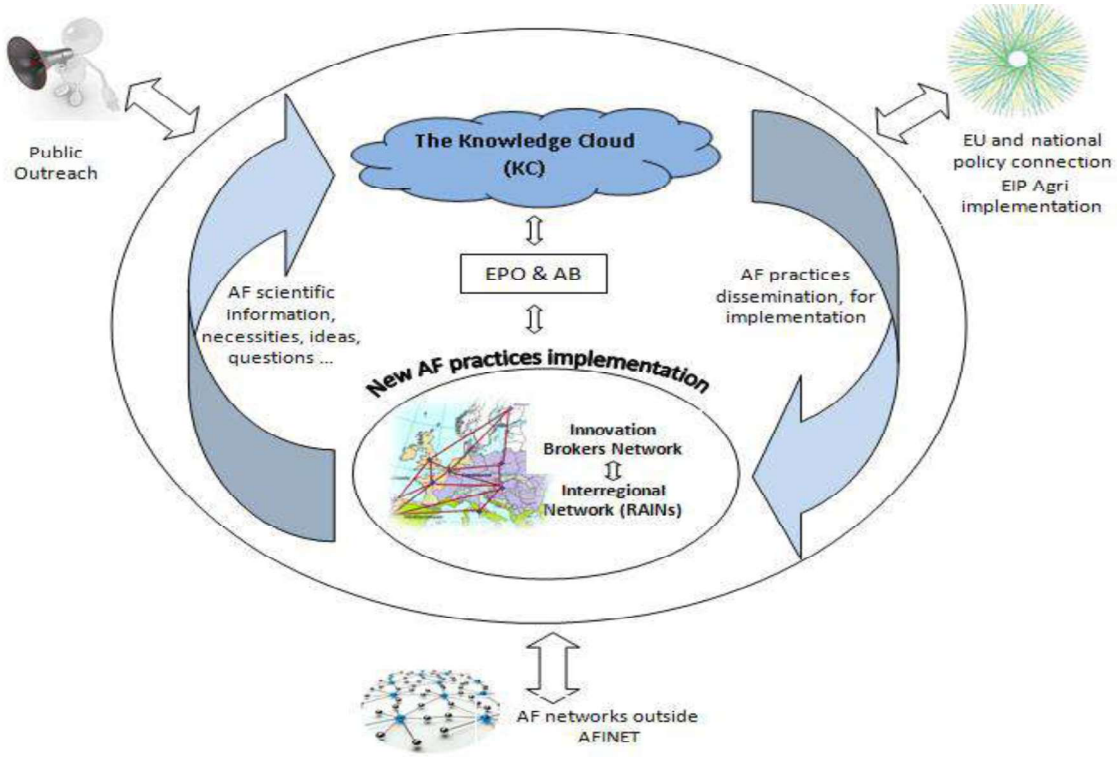

Figure 1: AFINET project concept.

Materials and methods

Nine regional agroforestry networks (RAINs) were developed during the first year of the AFINET project between June and September 2017. A multi-actor approach was used to integrate different actors from a bottom-up perspective. Each meeting was organized through carefully designed and balanced subgroups to which key questions were asked dealing with main gaps and challenges facing agroforestry implementation. The questions were discussed by using the storm of ideas techniques and summarized with post-its on walls. The meetings were facilitated by the innovation brokers.

The selection of the components of the RAINs was carefully conducted following the criteria that at least a 30% of farmers/practitioners should be present as well as the following categories: private partners (i.e. SMEs, tree nurseries, private advisors…), multipliers (i.e. sector and professional associations), researchers and policy makers and administration. All answers were carefully considered by the innovation brokers and partners and summarized as part of a project deliverable.

Results

AFINET meetings had over 30% of farmers (36%) and 26% of researchers; together with the group of advisors and multipliers this makes an excellent composition of the RAIN (22% advisors and multiplers, 7% private partners, 6% policy makers and 3% governmental organizations). Table 1 shows the main gaps and bottlenecks found by all the actors involved in the nine RAINs. Gaps were grouped in four categories: (1) Communication to different types of stakeholders (4 points), (2) Technical aspects (10 points), (3) Economic

aspects, Chain development and Commercialization (7) and (4) Administrative and legal aspects.

Discussion

EIP-Agri aims to fill the gap between knowledge and implementation, and following what the actors of the RAINs have highlighted, this is indeed important for extending agroforestry as suggested Mosquera-Losada et al. (2017) in the AGFORWARD policy recommendations. Technical aspects are indeed important to foster agroforestry but it is also necessary to address other aspects more related to socioeconomy (value chain), policy and education.

Table 1: Summary of common bottlenecks, problems or challenges amongst the 9 different regions (AF = agroforestry).

Communication, Dissemination and Awareness raising	**TOTAL**	**Economic aspects, Chain development and Commercialization**	**TOTAL**
Farmer awareness of AF benefits (environmental and financial)	6	Better view on the demand, supply & marketing opportunities for AF products (e.g. Fruits, nuts, poplar wood, new crops)	9
General public AF awareness (high quality products / ecosystem services)	5	Lack of information on cost/benefit analysis of AF systems as compared to monocrops	8
Lack of specialized training on AF including technical, economical and legal/policy aspects.	5	Finding the right tree/ crop/ livestock association to improve profitability	6
Lack of case studies dissemination, best practice examples, experimental farms	4	Lack of valorization of AF products	6
Technical aspects/ management		Valorization of the ecosystem services AF systems provide	5
Information on appropriate species/varieties choice (combination animal, tree, crop)	8	Label/certificate/branding AF for high quality and low impact products	5
Lack of practical guidelines (e.g. pruning, grafting, tree spacing, fertilization, treatments, AF management)	7	Cooperation development for marketing AF products	5
Effective seedling/tree protection (effective and economic)	7	**Administrative and Legal aspects**	
Lack of pilots and demonstration sites	5	Lack or inadequate financial or policy measures to support AF	7
Nutritional value & medicinal function of fruits, pastures, tree fodder	4	Lack of clarity about tree planting under the CAP and its implications	5
Cooperative use of machinery/animals for management	4	Lack of recognition of AF and no legal definition	3
Animal stocking rates in AF systems	3	Subsidy system & legislation designed for big companies while average farms are small	3
Lack of advisors and officers (from the administration) specialized on AF	3	Incompatible policies	3
Lack of knowledge on how AF can help with water management, droughts and climate change adaptation	2		
Lack of specialized human labour	1		

Acknowledgements

This work was funded through the AFINET (www.afinet.eu) project from the European Union´s H2020 Research and Innovation Programme under grant agreement no 727872 and the Xunta de Galicia (Consellería de Cultura, Educación e Ordenación Universitaria (‘‘Programa de axudas a etapa posdoutoral DOG n8122, 29/06/2016 p.27443, exp: ED481B 2016/0710’’)). The views and opinions expressed in this article are purely those of the writers and may not in any circumstances be regarded as stating an official position of the European Commission.

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