EIP-AGRI Focus Group
Agroforestry

MINIPAPER 1: Organising added value of agroforestry
26 April 2017

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1. Introduction

For the purpose of this FG agroforestry is defined as: “The practice of integrating woody vegetation with crops and/or livestock systems to optimise the benefits from their ecological and economic interactions.” (Eksvärd, 2016).

Agroforestry extends from 3.3 million hectares to at least 19,5 million hectares in Europe (den Herder, 2016). The large gap between the two estimations highlights that agroforestry remains currently little known even if it covers about 9% of the agricultural area of the EU. There isn’t any statistic figure concerning volumes and productivity.

Although it’s clear that there are many sources of motivation for farmers to develop and install agroforestry systems, an adequate and supportive environment is also a requirement to start with AF. Cooperation with other stakeholders (consumers, other farmers, industry) can be part of this demand.

To secure long term viability, different factors are identified both from outside the farm and from the farm itself. From outside, marketing and proper engagement within the value chain seem to be the most important aspects in the long run. If not profitable, survival of the AF model cannot be guaranteed. So it is necessary to meet the consumer needs, take advantage of them and exploit the added value of the AF products, find the right markets for AF products, pay attention and exploit trends in prices of products, energy or even commodities. Regarding to this, cooperation with other farmers may also help to succeed. (*Minutes of the first meeting*)

The hedges and other agroforestry systems are widely used for energy needs. This value as firewood still represents the vast majority of woody agroforestry volumes. Heating in private homes with firewood is resurging in recent years, creating additional demand. Other uses of agroforestry wood are increasing, such as animal litter, lumber wood, rameal chipped wood…

Farmers want to develop an activity with agroforestry when society wants to have a look on the management of this resource. The sustainable management certification for agroforestry eatable products (fruits, nuts, milk…) of trees appears as a pragmatic solution to these two converging demands. To date, there is an inability for farmers to certify sustainable management of their agroforestry systems. Certification system and rules does not exist for agroforestry, in Europe. This inability to give a label prevents farmers from managing it and from installing and developing it. For wood products, this lack of sustainable management tool also inhibits investments from many buyers who don’t want to be part of the destruction of trees and landscape (as in southern countries) by buying wood. Indeed, how can one be assured of this sustainable management if any tool exists?

Widely installed in Europe, sustainable forest management labels (PEFC, FSC) guarantee on the one hand the sustainable management of forests and also ensure traceability of wood from these forests. These labels are so well established that they have become, over the years specific elements for any person that want to source sustainable wood, resulting from sustainable management. Since the years 2000, states, local authorities, numerous companies… have ambitious objectives to integrate sustainable development in their purchases (to limit greenhouse gas emissions). Thus, calls for the supply of wood incorporate elements of sustainable development in three forms: a part of environmental clauses, a minimum rate of CO_2 emission or the explicit mention of "sustainability" of the wood (PEFC, FSC).

Then how to organise added value of agroforestry systems? How can these systems be profitable for farmers? This paper presents different ways to ensure and organise and share the added value of agroforestry products. The main idea developed here is that the added value can come (1) from the way of commercialisation, (2) from the product itself or (3) be part of payment for environmental services that are not economically quantifiable or usually linked to the farm production.

Thus, the main challenge here lies not in volume issues (agroforestry systems provide low volumes and sparse resource – per hectare and per product) but rather on local economy, social links and environmental issues. Over this ecological issue, this is especially an opportunity for farmers to become, as well, landscape managers.

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1 – BEING COMPETITIVE WITH AGROFORESTRY SYSTEMS

⇨ DEVELOP LOCAL COMMERCIALISATION ALONGSIDE NATIONAL MARKET

The added value slips from farmers to downstream. As other farmers, agroforestry farmers are becoming, for wood products, milk, wheat… producers of raw material more than finished goods. This has different causes: each farmer alone has an insufficient volume to enter the market; the added value is given to manufactured goods, etc.…

Even if, for usual European market, agroforestry wood production is not competitive, this wood is sometimes sold. A study realised in France in 2014 shows that cooperatives of agroforestry farmers are installed where forest is less expanded. These cooperatives develop a local firewood industry: the wood is most of the time sold in a distance between 0 and 50 km, thus these farmers use accurately wood and adapt their production to the local needs. The firewood is sold by contract between farmer and buyer which secures production and supply. In some examples, buyers and farmers are both in the cooperative. In those experiences, the added value of agroforestry systems lies more in their location than in agroforestry system themselves (this added value could also be understood in terms of safeguarding jobs).

⇨ DEVELOP COLLECTIVE AND ON-FARM TRANSFORMATION

Some other collectives experiments are developed (for example involving mobile sawmill or on-farm slaughterhouse) **to reintroduce transformation process on farm**. The farmer profit could be multiplied by five (study case in south west of France) when a group of farmers sell log and woodchips rather than trees. For wood as for alimentation, short cycle and farm transformation could balance the allocation of added value and push up the farmer's part.

RECOMMENDATIONS:

- ORGANISE AN EUROPEAN NETWORK OF AGROFORESTRY FARMERS (TO FARMERS)
- HAVE A DEEPER STUDY OF SUCCESS FACTORS OF THESE COOPERATIONS BETWEEN FARMERS AND BETWEEN FARMERS AND FINAL USERS (TO ADVISORS, RESEARCHERS)
- DEVELOP TOOLS TO HELP FARMERS TO HAVE A STRUCTURATION AND TO WEIGH IN ON THE MARKETS (TO ADVISERS, RESEARCHERS)
- EXPLORE NEW WAYS FOR ON-FARM WOOD TRANSFORMATION AND USE AS ANIMAL LITTER, RAMEAL CHIPPED WOOD (TO RESEARCHERS, ADIVSORS, FARMERS)
- IMPROVE SUPPORT OF FARM SMALL PROCESSING EQUIPMENT (TO PUBLIC POLICIES)
- ENCOURAGE THIS TYPE OF REGROUPING AND ORGANIZATION, OPTIMIZE CIRCULATION, STORAGE AND SHORT CIRCUITS (TO PUBLIC POLICIES)
- USE A PART OF LOCAL AGROFORESTRY WOOD PELLETS THE HEAT BUILDINGS (SCHOOLS, HOSPITALS, OFFICIAL BUILDINGS, ETC.) (TO LOCAL AUTORITIES)

2 - An inherent added value given to Agroforestry products and linked to the products

⇨ LABELLING AGROFORESTRY: GIVING TOOLS TO JUSTIFY EXTRA COSTS

Managing a hedge or aligned trees is more expensive than managing a forest (considering the same amount of wood). Labelled firewood is 10 % more expensive than the unlabelled firewood (ADEME, 2015). Due to operating costs and dispersion of the trees, or due to regulations in terms of nature and landscape

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protection and ownership (often existing law introduces complex administrative procedures to manage the trees), trees outside forests won't be directly competitive with forest.
To date, no tool allows the customers (once one leaves the forest) to separate the products of responsible and sustainable exploitation, from other products. The wood from the grove, the hedgerows or agroforestry systems can show its durability and sustainable management with, for the best, charters of good practices**. Yet these charters do not guarantee anything more than an intention for sustainable management** since any control is planned or made. The trees outside forests managers (i.e. farmers) have no tool to ensure sustainable management from upstream to downstream activities; it's therefore more and more regularly impossible for them to respond to calls concerning supply of local wood. **Integration of agroforestry systems in these certification management tools is interesting:** a sustainable management label for hedgerows, grove and aligned trees could have the same impact on agroforestry wood buyers.
In 2018, **PEFC in Italy** will experiment the certification of the management of trees outside forest, including agroforestry systems. A work with the standards is being led in this country since 2016. It is a first step that should be followed carefully by other stakeholders in Europe.

RECOMMENDATIONS:

- DEFINE CRITERIAS THAT HAVE TO APPLY TO FARM SO AS TO QUALIFY PRODUCTS AS AGROFORESTRY PRODUCTS (TO EXPERTS, RESEARCHERS, FARMERS...)
- CREATE A SUSTAINABLE MANAGEMENT EUROPEAN FRAME AND STANDARDS BASED ON THE ITALIAN PRACTICE (TO EXPERTS, FARMERS...)
- CREATE A CERTIFICATION TOOL THAT WILL IMPROVE THE ADDED VALUE COMING FROM AGROFORESTRY FOR FARMERS (TO WOOD INDUSTRY).

⇨ IS AN AGROFORESTRY BRAND RELEVANT?

A simple national or European brand may not be efficient on its own. All agroforestry products (fruits, nuts, food, wood) are produced under environmentally friendly agricultural practices. They could be sold under a common AF-label. However, there are too many labels especially labels for regionally produced food in many countries. Even if some are successful, consumers can be lost.
As agroforestry is not well known by consumers, and as the added value of agroforestry is linked to special products as "Christmas goose" or to practices as "free range chicken", it appears that agroforestry added value is unclear for consumer. Permaculture and agroecology seems to be more appropriate and relevant.
One opportunity for an agroforestry brand can be developed with landscape and know-how or in a reduced carbon footprint. A brand combining CO_2 storage, CO_2 transport emission and local identity could help consumers in their purchase.

RECOMMENDATIONS:

- LAUNCH A REFLEXION ON THE CREATION OF A SYSTEM OR A BRAND FOR AGROFORESTRY SYSTEMS THAT CAN PROMOTE REDUCTION OF CARBON FOOTPRINT CONCERNING FOOD AND TREES (TO RESEARCHERS)
- LAUNCH POWERFULL MARKETING CAMPAINGS TO PROMOTE AGROFORESTRY SYSTEMS AND RISE SOCIAL AWARENESS (TO STAKEHOLDERS)

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3 - Creating added value for landscape management and ecosystem services?

⇨ **PAYING FOR ECOSYSTEM SERVICES (PAYMENTS BY RESULTS)**

Population that live around agroforestry farms benefits in a multitude of ways from them (water quality, landscape, tourism etc.). These services are not economically quantifiable or usually linked to the wood product. Paying for specific ecosystem services (PES) could be an answer to increase added value of agroforestry systems, and for the development of bioeconomy.
There are already systems collecting money for such services with different focus. One approach (Germany) is planting trees to compensate for emissions such as from air travel (https://www.atmosfair). Another **(UK)** is to preserve/improve the countryside in specific regions (http://treesforlife.org.uk/). Such systems could perhaps be useful to promote AF. In any case, a collaboration with farmers, cooperatives respectively land owners is essential. In the initial phase crowd founding models could also be helpful. For a first approach, different business models could be developed and need to be evaluated.
Some other ideas arise: as we speak of carbon footprint there is a need to speak of water footprint. Through this frame agroforestry systems could be recognised as dual-performance systems.

RECOMMENDATIONS:

- LAUNCH A WORK ON PES BASED ON MP8 WORK (TO RESEARCHERS)
- EXPLORE THE OPPORTUNITY OF CREATING A SYSTEM OF CARBON PAYMENT FOR AGROFORESTRY SYSTEMS (TO RESEARCHERS, TO ADVISORS, TO FARMERS)
- PROMOTE AGROFORESTRY AS DUAL-PERFORMANCE SYSTEMS FOR CARBON FOOTPRINT AND WATER FOOTPRINT (TO RESEARCHERS, TO PUBLIC POLICIES, TO STAKEHOLDERS)
- PROMOTE AGROFORESTRY AS A HIGH VALUE SYSTEM FOR ECOLOGICAL COMPENSATION
- PROMOTE AGROFORESTRY AS ONE SOLUTION FOR FLOOD PREVENTION AT LANDSCAPE SCALE

4 - Conclusion

Organising the added value of agroforestry system could be understood in many ways. The added value comes from multiples sources (from the product, the way of commercialisation or be part of payment for service).

Four main research needs are identified for this topic:

- Performances: how to measure all of the performances of a system in the same time? (for flood prevention at the landscape scale for example)
- Payment by results: how to organise it and how to adapt to AF specific aspects?
- Associate carbon footprint and water footprint to assess AF dual-performance systems?

Non-research needs are more numerous, and testify that stakeholders are awaiting information about these systems:

- Examples of stories where people worked locally/collectively to promote and develop AF (local/national level)

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- How traceability systems can be used to assess performance (social, environment and economical)?
- How to develop water footprint and carbon footprint awareness toward consumers (rise awareness)?
- Develop labels (and frames for the labels)
- Work on flood prevention at the landscape scale
- Assess how “compensation” can be part of PES
- Increase social Awareness
- Improve farm system equipment (for on-farm transformation)

Operational Groups in Europe seems to be an efficient way to answer to a good part of these questions.

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