EIP-AGRI Focus Group

Mixed farming systems: livestock/cash crops

MINIPAPER 5: Landscape Management through Mixed Framing Systems "MFS as an option for landscape management that enhances biological regulations."

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1. Introduction: Mixed farming systems and landscape

The combination of mixed farming systems within different types of soil and the presence of water bodies and running waters may generate heterogeneous habitats of high quality for biodiversity at the landscape level, where ecosystem services are enhanced. Both water and soil habitat health status should be maintained in order to preserve their associated biodiversity but also to surrounding habitats and agricultural systems. Landscape heterogeneity and therefore biodiversity is increased when all these land uses, monocrops (cash crops to be sold), grasslands and forestry are combined in the same region or area. The importance of having a combination of land uses within a region is because all these types of promotion of biodiversity causes a specific response depending on the environment conditions due to the adaptation of different local species representing different ecological features (grasses, legumes, woody) to each area. Forestry areas are also needed for similar reasons. Therefore, Mixed Farming Systems generate specific and intrinsic habitats that promote biodiversity, which is the basis of the ecosystem services.

Adequate mixed farming systems implementation causes an increase of land productivity promoting ecosystem services at landscape levels. Difficulties related to mixed farming systems implementation and extension are linked to adequate knowledge of different aspects of the mixed farming systems (combination of woody and non-woody vegetation, different types of animals, time sequence within the year, that can be overcome by the cooperation between farmers. Specialized farmers´ cooperation is essential to diversify landscape as they combine and can share knowledge to optimize the production of integrated arable and grazing lands and systems. This cooperation is especially relevant in those areas where only arable crops or intensive animal systems not linked to the land are established.

2. Mixed farming systems at local, farm and territorial scale

New practices dealing with the exchange between specialized farms should take into account the different already existing types of systems across Europe which are driven by the pedo-climatic conditions. Grass availability at local scale determines the grazing period and subsequently the period when animals are indoors. Indoor periods create important problems from an environmental point of view, because manure should be stored and a program for adequate management should be established. For this reason, grazing should be the most preferred option from both the environmental and safety point of view. Grassland growth rate along the year differs across Europe and it creates varying restriction periods from a nutritional point of view. Grass gaps should be carefully filled by adequate programming and considering different alternatives like the employment of sub-products coming from the industry or the cultivation of alternative foodstuffs within the farm or in its surroundings. Both options should take into account the transportation expenses and the GHG emissions (i.e. transportation) in addition to the costs of forage production. Generally, those products which are produced within the farm will provide higher farm benefits, while providing resilience and stability to the farm as it becomes a multiproduct farm. The second best option is to have neighbouring farms producing foodstuff, which generates a dependence between farms and the problem of fluctuating prices (i.e. due to the inter-annual climate factors variation, when the forage is available prices are low, when the forage production is restricted prices are increased, and therefore the option of bringing forage products from distant areas becomes real). Among all products, those that provide high levels of protein to the foodstuff are the most difficult to grow. Soybean is one of the most important products coming from outside of Europe that covers the livestock protein needs of the diet. They are cheaply produced in America and brought to EU farms, different labour costs between these two continents makes this activity profitable from an economic point of view, but with a high environmental cost due to clearance of large areas of forest to grow soybean and the GHG emissions derived from its transportation.

We will show now several case studies to understand how grazing gaps are filled in different areas. The strategies to follow should be based in the local production activities and taking advantage of by-products which are available when the farm is not able to grow enough fodder.

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Mediterranean

Mediterranean farms are usually associated to areas with low rainfall (below 600 mm per year).There are different types of Mediterranean farms, ranging from those with rainfalls close to 600 mm and those with levels of around 300 mm. Mediterranean farms are characterized by having forage availability across the year mainly linked to woody vegetation or costly irrigated systems to overcome water shortage. Woody vegetation is the specialized ecological trait able to survive to water restrictions, which can be used at plot and farm level. This justifies why livestock farms are based on woody vegetation. Goats are predominantly placed in countries with long periods of water restriction, being Greece the country with higher number of goat density. Another example of farms using woody vegetation to overcome drought periods is the dehesa where trees play a crucial role. Trees are able to modify the water regime extending the growing season, thanks to the shade they provide to the herbaceous vegetation. Moreover, they are the main feed source in autumn. Trees are also pruned and reserved for those especially hot years that appear from time to time within the fluctuating Mediterranean weather, acting as a feed bank. Animal movement through long distances (transhumance) or short distances (from lowlands to highlands: transtermitance) is also used to overcome shortage periods across the Mediterranean regions involving some mountain areas. In the Mediterranean areas connections between croplands and grazing are also part of the traditional land management. Sheep graze crop residues once they are harvested, but also cereals are grazed after sowing in autumn and before the spring starts to reduce feed costs. Permanent grassland based on annual self-seeded species is the other ecological trait that nature has to overcome dry summer periods in those Mediterranean environments, where herbaceous perennials are not able to survive. This fact has been adequately included in the definition of permanent grasslands for the CAP 2014-2020 (EU Regulation 1307/2013).

Atlantic

The Atlantic area is usually associated with high amounts of forage availability across the year, even though in the Southern Atlantic regions summer forage restrictions are common. Filling the grazing gaps is nowadays associated to maize production; a crop which has been extensively introduced during the last 50 years in European countries outside the Mediterranean basin. Maize as a C4 species has a high productivity and develops well in areas where water scarcity is not an issue, which is becoming a problem in those areas where current reduction of rainfall is causing droughts affecting maize growth rate due to climate change. The main disadvantage of maize is its low protein content that increases the production costs as protein supplementation is necessary. A good strategy to overcome this deficit on protein is to grow maize with legumes like peas, as was carried out traditionally in Galicia. This improves forage quality while reducing the fertilizer needs. Maize plays an important role within dairy systems. Some comparisons have been made between maize based systems and exclusively grassland systems (Mosquera-Losada and González-Rodríguez 1998 and 1999 and Mosquera-Losada et al. 2000 showing that real annual stocking rate is higher under the maize system (maize occupying 30% of the land) than under exclusively grassland systems (2.3 vs 2.7 cows ha^{-1}), due to the higher productivity of maize for silage making. However, the system flexibility is reduced when maize is included. This fact is mostly associated to the end of the spring grazing period. When rainfall is high, the land which is kept to produce grass silage can be maintained, but, when rainfall at the end of the spring is low, these areas can be grazed. However, this flexibility is not possible for maize systems. Grassland based dairy systems can be claimed as a way to adapt to climate change due to the increase of the rainfall variability during the summer caused by climate change effects. Woody vegetation played an important role in the past and tree pruning (birch, ash, alder) was also used as a technique to provide feed in the grazing restricted periods. New alternatives are evaluated in this sense; for example, *Morus* spp. are analysed due to their high level of protein content (AGFORWARD Fp7 Project).

Continental

Continental areas of Europe are usually affected by strong winds, where the presence of forest patches and shelterbelts could help to increase production and ecosystem services. Benefits of mixed systems and the heterogeneity they provide depend on the initial situation of the area. In an area with 90% of croplands, the presence of 10% of forestland and its specific biodiversity would enhance the value of the forestland and vice versa. But bioclimatic and physical conditions of the area would also affect. For example, the importance of the winds makes necessary to diversify the landscape with hedgerows in order to improve biodiversity but also productivity of the crops. The presence of farms in hilly areas will have soils better preserved if a combination

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of forest, cropland and grassland is pursued in a clear combination that reduces soil erosion. The link of these three types of areas can connect biodiversity thanks to the presence of animals that are fed with crops during the winter time, within the forest in the summer and in the grasslands during the spring and autumn. Hungary established a large system of shelterbelts to increase landscape heterogeneity and made agricultural systems more resilient to extreme events like snow and strong winds, reducing the variability of temperature for cropping (Takacs and Frank 2009). Flooding effects have been reduced when associated to heterogeneous landscapes.

Mountain areas

Mountain areas where used as a bank forage for surrounding regions where summers lacked of grassland. Trashumance carried out during the summer period (Pérez-Soba et al. 2009) where traditional in different countries of the south of Europe (Iberian Peninsula, South of France, Italy and Greece) for the rational use of resources with different spatial and temporal distribution. The use of mountain areas to feed animals cause an increase of biodiversity due to the establishment of connections between lowlands (spring and autumn) and highlands (summer) areas, but also within the intermediate lands when animals are moved by farmers walking. Transtermintance connects lands at shorter distances during the summer than trashumance and can be found in many mountains across Europe. Landscape habitat connections on daily basis carried out by animals are conducted in northern mountains of Portugal (Castro et al. 2006). Different land use patches were essential to sustain animals walking daily in different periods of the years. For example, landscape patches use for mixed flocks (goat and sheep) grazing represents an efficient use of the resources year-round through the optimal temporal use of the resource mixing the use of grasslands earlier in the year, the understory of forests in summer and acorns in autumn (Castro et al. 2009). Similar approaches are found in Slovenian karst and hilly regions, where different areas are grazed across the year (Vidrih et al. 2009) and also in different parts of Italy, where biodiversity preservation and promotion has been shown in risk when animals movement ceases (Pardini et al 2009).

3. Mixed farming systems and biodiversity

Mixed farming systems promote biodiversity compared with those most specialized ones. The existence of livestock makes necessary to have grasslands that if permanent, increase biodiversity at plot level. Grasslands are really important for biodiversity due to the coexistence of different ecological features from ancient times which usually involves some semi-natural elements like domestic animals in risk of extinction and trees that are highly relevant for biodiversity. Two different types of biodiversity can be identified (a) alpha biodiversity linked to a specific land use and (b) Beta biodiversity mainly associated to the sum of biodiversity linked to different types of land use. If we combine arable lands with permanent grasslands to feed animals the global biodiversity (Beta biodiversity) is increased compared with those areas where specific monocrop or grassland use is employed. Moreover, the integration of animals is also a source of biodiversity in a horizontal way. Besides plot and farm level, mixed farming also increases biodiversity at landscape level.

Monocrops are usually associated with low biodiversity, indeed the use of herbicides and pesticides within intensive monocrop farm systems limits the possibility of weeds or even beneficial herbaceous trait species (legumes) to grow up, due to the persistence of the employed chemical products. This means that monocrops usually associated to the use of biocides, not only limits biodiversity in a short period of time, but it reduces biodiversity for longer periods depending on the persistence of the chemical products that have been used, and therefore also reduces the system resilience. However, some disturbances, like soil ploughing provides also the opportunity to some ecological traits to appear and persist in the system like annual species. There are areas of Europe where some annual species are in danger of extinction due to the lack of soil ploughing (i.e. Mosquera-Losada et al. 2009). Moreover, when monoculture means only one crop per year, it promotes nutrient leaching and cover crops in rotation are needed to promote biodiversity at different levels (surrounding waters, soil..). So, mixed farming systems involving a sequence of crops within the year are really important and should be promoted. The use of legumes within the rotation improves biodiversity but also fertility for the subsequent crop. Cash crops are usually needed to feed animals in distant regions, which limits biodiversity and ecosystem services of these latter areas, because nutrients from animals (faeces) are not used in the areas where monocrops or cash crops are produced. Grasslands are usually associated to a higher biodiversity than monocrops, mainly if they are permanent grasslands. Temporary grasslands can be in

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an intermediate position between monocrops and permanent grasslands as they are ploughed and sown with a mixture of species, with different ecological traits.

In Galicia (Spain), *temporary grasslands, lasting between 4 and 5 years are usually sown with annual species (red clover or Trifolium pratense and Italian ryegrass or Lolium multiflorum) that are used to cover the soil as soon as possible but that almost disappear after a year of sowing. This is usually associated to silage harvesting. The sown mixture also includes perennials (white clover or Trifolium repens and English ryegrass or Lolium perenne) that are predominant after one year of sowing and are usually associated to grazing and usually not harvested.*

Livestock grazing is also linked to increased biodiversity. Livestock causes small perturbations that promote biodiversity at plot level. Livestock affects biodiversity because of (1) the selection of different species promoting ones over others, because tall dominant species are reduced (allowing sun reaching the soil and prostrating trait species development), (2) trampling originating small soil gaps that are colonized by annual vascular species and (3) faeces distribution that creates soil heterogeneous fertility patches. Animals can also graze crop residues after harvesting which due to the aforementioned reasons also enhances biodiversity of arable land (mainly due to uneven trampling gaps and faeces distribution). On the contrary, the promotion of grassland biodiversity is important to better feed animals because some groups of plant species like grasses, legumes and weeds usually provide fibre, protein and macro and micronutrients needed to allow adequate animal development. Moreover, the combination of livestock breeds when grazing is also a source of biodiversity as animals have different mouth morphologies, grassland species preferences and are adapted to different conditions.

Increasing flora and animal biodiversity within a plot causes an improvement of biodiversity of other groups mainly associated to soils (micro and macro invertebrates but also microbial species) and animals (i.e. birds) because flora is at the bottom of the trophic chain and supplies different nutrient resources adapted to different users of these resources. Another source of Beta biodiversity should be linked to the field borders, usually not directly associated to crop or livestock production but that can enhance biodiversity (i.e. hedgerows in UK or France) at different levels.

Monocropping compared with mixed farming systems limits the potential of biodiversity conservation at regional level. This is well known at policy level, and for this reasons the CAP greening promotes crop diversification in large farms. However, it is allowed in some countries to use lands that are really far away from the main farm which reduces effectiveness of the greening measure.
The combination of different types of land use, including monocrops (and its annual rotation), grasslands and woody components promotes biodiversity and ecosystem services by themselves. This is because there are some species that are able and need to use different types of habitats to complement the feed they need throughout the year but also to fulfil their reproductive strategy. This is especially true for farm birds, wild-pigs or reindeers. Moreover, the combination of forestry and monocrops can reduce contamination at the landscape level as the excess of nutrients in croplands can be uptaken by the roots of the trees.

The little bustard (*Tetrax tetrax*) *is a bird under risk of extinction in North-western France due to the simplification of landscape mosaic.*

Cooperation between farmers to improve landscape heterogeneity / between farming sectors and the other local actors.

The land use practices described before can be carried out at farm level. However, these types of practices should be promoted at territorial scale, when farms are not big enough to develop cropping at farm level. In this case, farmers are mainly specialized in rearing animals or producing crops. Cooperation between them is essential to reduce buying feedstuffs from distant areas, which is important from an environmental point of view. In this regard, agreements among them are essential, especially those related with price fluctuations. In addition it is also important that farmers have a deep knowledge on farms and that this knowledge is exchanged to adapt production of one type of farm to another. This will allow producing cereal and legume

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mixtures which are better adapted to the specific livestock of the area with the help of the company in charge of making the mixtures. Moreover, knowledge exchange could also lead to agreements for using the farm residues (i.e. manure) to fertilize crop areas allowing an adequate exchange of nutrients within the area. This is essential for phosphorous fertilizers due to the shortage of this product in the coming years. Food safety will be also improved thanks to the knowledge exchange and the promotion of local markets.

Valuing farm residues: *Intensive livestock farm systems usually have residues problems. Biof is a good example of an organic fertilizer created within an intensive poultry farming system. The residues from an intensive poultry rearing farm were valorised by dehydrating them to develop a fertilizer. The drying process reduces weight and facilitates transportation and spreading in farms other farms (Aviporto 2016).*

Landscape heterogeneity is guaranteed if all practices which are needed to provide forage to animals are carried out at farm level. Large monocrop farms make difficult to increase landscape heterogeneity as they promote producing the most profitable crop or livestock type in an area that can extend beyond the farm limits. Landscape heterogeneity also depends on the heterogeneity of the territory. For example, the most homogeneous flat areas are usually associated with large croplands in Europe. Collaboration between different actors is essential to increase the benefits of grazing in these areas. In this regard, crop residues grazing, an activity usually carried out to overcome shortage forage periods in the Spanish Meseta (inland plateau) has shown to improve the soil fertility of the land as well as biodiversity, since animals act as connectors between different habitats while reducing the livestock production costs and the need of feed produced abroad.

An interesting option to improve landscape and environmental aspects is the promotion of woody vegetation in the edges of the fields (through the introduction of lines of trees, hedges etc…). In Europe, the improvement of ecosystem services through the introduction of line belts has been carried out in large regions mostly to avoid the wind effect in arable lands. The introduction of these landscape features has demonstrated to increase productivity by 20%.

There are good examples in Southeast Spain that connect different actors, not only those related with transhumance or transtermitance of animals, but those related with the use of industry residues to feed animals.

Mixed farming systems at regional level: Good examples are those related with the use of fruit residues of large companies in Murcia described by Correal et al (2009) that allows connecting livestock to different lands and industry residues. Correal describes how livestock is differently sustained by local resources across the Murcia region along the Segura river basin. Besides the whole livestock population 11.6% is maintained by grazing in the mountain areas, 50% is feed based on sheep-cereal-rangeland system (50% of land is occupied by dryland agriculture). Here animals are fed with by products coming from cereal corps (straw, stubble and fallows), herbaceous layer under almonds, vineyards and olive groves and by-products coming from the trees such as fallen leaves, fruits and pruned branches. The rest of the livestock is placed closed to the coastal areas and mainly fed with forage by-products from agriculture and concentrates at high stocking rate densities, even though some mulberries, carob trees lands were important resources for livestock in the past.

Another example is shown in Galicia where companies processing algae to produce carragenates provide an excellent feedstuff to feed animals during the shortage periods. These animals graze forestlands and at the same time use crops produced in arable lands to be fed. Another Galician example is the use of chestnut lands to rear pigs during the autumn in those areas where the steep slopes make unprofitable chestnut harvesting. A large company like Alibós, which is a chestnut processor, sells those chestnuts that are not adequate for human consumption to livestock farms, obtaining an animal product of high quality. Those agreements involving forestlands providing nuts to be used in livestock farms (i.e. oak, chestnut) are of high interest as forestlands are not usually fertilized or sprayed with pesticides or herbicides and therefore food safety and quality is much appreciated.

Mixed farming systems at regional level in South-Western France
A study conducted in Aveyron River Basin aimed at developing effective mixed farming systems by connecting specialized crop and livestock areas. Development of perennials like alfalfa temporary grasslands in cropping

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systems was implemented to diversify maize monocultures and short cereal rotations. At plot level, such diversification of crop rotations could reduce the pressure of water withdrawals for irrigation and the use of fertilizers and pesticides on crops, and improve soil fertility through a semi-perennial soil cover and through symbiotic N fixation by alfalfa. At landscape level, the development of alfalfa plots would represent more or less interconnected habitats for biodiversity and a better resource for pollinators. The coordination of cooperatives from crop and livestock areas could lead to the development of a new supply chain for harvesting, processing, transporting and distributing alfalfa to livestock systems where farmers currently purchase important amounts of costly protein-rich concentrates. Further development of the study aims at implementing the imagined changes of land use, in first place to ensure the viability of alternative cropping systems with alfalfa and the interest of alfalfa products for livestock farmers. This prospective work was conducted by researchers together with farmers and supply chain stakeholders, and involved water board authorities and advisory services in the reflection on more sustainable systems through regional crop – livestock integration (Moraine et al., 2014).

On the other hand, it is also important to relate mixed farming systems to the already and clearly perceived opinion of these systems linked to healthy products coming from multifunctional and more sustainable landscape as described Bernués et al. (2014). Mixed farming systems should be promoted by CAP, the use of woody vegetation is already promoted at some extent as part of the cross-compliance and conditionality, direct payments but also within the Pillar II agri-environment measures. But, a real promotion should be targeted. Most of the CAP funds are associated to plot scale and are not considered at landscape level. Operational groups could be used to test at some extent and demonstrate at field level the benefits of integrated mixed farming systems. Among others, we detected that the following Operational groups will help to implement mixed farm systems in a more extensive way

a) Test the technical efficiency of mixed farming variants under several pedo-climatic conditions to enable more informed decision making.
b) Map areas of the EU where Mixed Farming Systems is most profitable, identify existing/New practices in these areas and share knowledge.
c) Explore participatory approaches towards improving individual technical aspects of mixed farming.
d) Develop new products and analyse diversified bundles of services provided by Mixed Farming Systems so as to diversify production and increase farm resilience /
e) Developing new business models to make profit out of multifunctional approaches (For example, creating riparian buffers to prevent pollution, erosion etc.)
f) Develop marketing strategies to add value to Mixed Farming Systems products and integrate specificities of MFS into already existing added value chains
g) Test the value of silvoarable practices like isolated trees, tree lines, shelterbelts in agriculture lands itself or borders in delivering ecosystem services
h) Develop policy scenarios to improve at landscape level the implementation of Mixed Farming Systems

4. Needs for research

Mixed farming systems should be promoted to enhance sustainability of agricultural production, protect habitats and enhance synergies of different land use patches at landscape level in order to promote increased ecosystem services deliveries. There is a strong need of local based research linked to operational groups in order to better understand and quantify the already known global benefits of Mixed Farming Systems at temporal and spatial scales. In this sense, research should be focused on finding the best combination of crops (i.e. maize/legume or mixed forage systems), grasslands (mainly permanent grasslands) and woody vegetation at plot level to improve productivity, food safety and adequacy to specific environments, considering strongly the benefits they provide from a biodiversity and climate change point of view at plot, farm and landscape level. Main social drawbacks associated to the difficulties of a spread implementation should be identified and evaluated, providing best solutions to overcome farmers' problems. Research on the best options adapted to specific feed production gaps of mix farming systems at farm level (adequate combination of crops/grasslands/woody vegetation) to reduce production costs should be carried out, integrating farmers knowledge. Recommendations about cropland, woody vegetation and grasslands

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distribution in the farms at temporary but spatial level should be delivered to enhance ecosystem services provided by farms.
Special attention should be devoted to the role of legumes and woody vegetation (agroforestry practices) distribution at plot and farm level that should be pursued to fill the production area gaps while promoting ecosystem services (biodiversity, nutrient cycling, carbon storage, etc.). Specific operational groups linked to demonstration plots of different farm systems in different pedoclimatic conditions, comparing extensive traditional, intensive modern and mixed farming systems linked to all these research needs should be carried out.

5. Recommendations for how to ensure a broader take up.

Operational groups on mixed farming development at landscape level should gather landscape ecologists or local fauna and flora specialists, researchers in crop and livestock management, technicians, policy makers, farmers, landscape planners, socioeconomists and water authorities and representatives of consumers and society at large to define what are the stakes and issues to target through mixed farming, such as:

- Where should grasslands be located, what type of grasslands and management to improve habitats for biodiversity and preserve water resources while providing high value and feed and food safety?
- How farmers could organize themselves to avoid monocultures, reduce costs, distribute animal manure and place trees within the landscape to avoid pollution and increase carbon storage, promote biodiversity and increase adaptive and mitigation capacity towards climate change?.
- Other local issues: landscape, erosion, etc.

Operational Groups members should elaborate on this basis the criteria to analyze which organization of land use and practices would be more sustainable for each specific area. A multicriteria analysis of Regional Mixed Farming Systems could then be conducted by researchers with the inputs of other stakeholders, and feed the reflection on new practices. Final product would be an action plan presenting the land use to develop and the trajectory to follow: necessary collective investments, public support, seed exchange or purchasing, animal manure management options, governance of exchanges of products between crop, woody vegetation use and livestock farmers.

6. Conclusions

Mixed farming systems should be promoted as they increase alpha and beta diversity while reducing GHG emissions but also increases resilience of agroecosystems to extreme events like flooding, droughts or heats. Mixed farming systems should be adapted to a specific biogeographic conditions and the diversity of crop/ livestock farming systems. Research needs including adaptation of mixed farming systems to specific areas at plot, farm and landscape level and knowledge exchange between regions with the involvement of main stakeholders and actors should be evaluated. Mixed farming systems should be better promoted at landscape level to enhance beta biodiversity within a region to also increase resilience, productivity and ecosystem services through the evaluation of adapted regional policies. The use of woody vegetation should be enhanced as a source of feed and ecosystem services.

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The **EIP-AGRI** aims to catalyse the innovation process in the **agricultural and forestry sectors** by bringing **research and practice closer together** – in research and innovation projects as well as *through* the EIP-AGRI network.

EIPs aim to streamline, simplify and better coordinate existing instruments and initiatives and complement them with actions where necessary. Two specific funding sources are particularly important for the EIP-AGRI:

- the EU Research and Innovation framework, Horizon 2020,
- the EU Rural Development Policy.

An EIP-AGRI Focus Group* is one of several different building blocks of the EIP-AGRI network, which is funded under the EU Rural Development policy. Working on a narrowly defined issue, Focus Groups temporarily bring together 20 experts (such as farmers, advisers, researchers, up- and downstream businesses and NGOs) to map and develop solutions within their field.

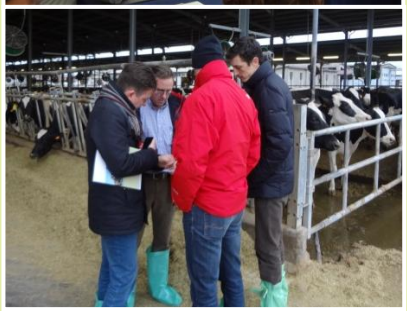
The concrete objectives of a Focus Group are:

- to take stock of the state of art of practice and research in its field, listing problems and opportunities;
- to identify needs from practice and propose directions for further research;
- to propose priorities for innovative actions by suggesting potential projects for Operational Groups working under Rural Development or other project formats to test solutions and opportunities, including ways to disseminate the practical knowledge gathered.

Results are normally published in a report within 12-18 months of the launch of a given Focus Group.

Experts are selected based on an open call for interest. Each expert is appointed based on his or her personal knowledge and experience in the particular field and therefore does not represent an organisation or a Member State.

*More details on EIP-AGRI Focus Group aims and process are given in its charter on:
http://ec.europa.eu/agriculture/eip/focus-groups/charter_en.pdf



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