Farm advisory services and knowledge growth in Italy: comparison among three regional intervention models

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Abstract. The profound changes in European policy for farms advisory services (FAS) require a period of experimentation and results observation before the new CAP 2021-2027. This paper focuses on Measure 2 of Rural Development Programme (RDP) 2014-2020. The paper is focused on the description of case studies in three Italian regions: Campania, Emilia-Romagna and Veneto. Different Measure 2 – sub-measure 2.1 models are analyzed through a qualitative approach, using a conceptual framework adapted by Birner et al. (2009). The paper contributes to the ongoing debate in the scientific literature on the strengths and weakness of policy intervention focused on tailored advisory services to force a broader Agricultural Innovation System.

Keywords: knowledge, innovation, European knowledge policy.
JEL codes: O13, Q16, Q18.

1. INTRODUCTION

Innovation in the agricultural sector is considered the main strategy to improve food production, multifunctionality and agricultural sustainability. In this scenario, policy makers worldwide and especially in the European Union (EU) are structuring a new toolbox to implement more efficient public policy to foster knowledge and innovation in rural areas. Among the most important tools, agricultural advisory services have regained importance (Knierim *et al.*, 2017). Moreover, the framework developed for the next programming period 2021-2027 stresses the importance of interaction among different operators working in the field of agricultural information, through the establishment of new networks and new subjects, like operational groups (Van Oost, 2013; Hermans *et al.*, 2015; Moschitz *et al.*, 2015; Van Oost, 2018).

In the COM 392/2018 proposal for CAP 2021-2027 - Rules on support for strategic plans to be drawn up by Member States under the Common Agricultural Policy (CAP Strategic Plans) and financed by the EAGF and by the EAFRD, the EU's priority is to promote a knowledge-based rural economy with stronger interventions for knowledge transfer and advisory measures.

Several studies have sought to investigate the dimensions of advisory services as main tool to foster innovation adoption (Cristiano *et al.*, 2015; Cristiano, 2012; Storti *et al.*, 2010; Vagnozzi, 2008).

There is an ever greater need for knowledge in this domain due both to far-reaching changes in the agricultural sector and the new economic, environmental and social challenges that the sector is facing. New dimensions have been assigned to agriculture, in terms of strategies, policies and objectives to better support genesis processes of shared and coproduced knowledge (Cristiano *et al.*, 2015). In this scenario, the role of the advisor as a bridge between farms, training and innovation is pivotal to create mutual learning, and open innovation construction and diffusion, in an environment of mutual trust and encouragement (Koutsouris, 2012). This process also fosters connections and interaction among actors within the innovation process (Klerkx *et al.*, 2012a and 2012b).

The profound changes in the European policy for farms advisory services (FAS) require a period of experimentation and results observation before the new CAP 2021-2027. Several factors working together could create the conditions to reach all types of potential beneficiaries, however small and marginal, of agricultural services (Eastwood *et al.*, 2017) and to avoid a «result paradox» (Benvenuti, 2000; Bartoli *et al.*, 2014; De Rosa, 2014). This paper focuses on Measure 2 of Rural Development Programme (RDP) 2014-2020. The Measure is composed by 3 sub-measures that support a wide range of operations for advisory services well connected to different European priorities for rural development. The aim is to promote the use of farms advisory services for improving the sustainable management and economic and environmental performance of agricultural and forestry small and medium-sized farms. This Measure also promotes the training of advisors in order to improve the quality and effectiveness of the advice offered and to better meet farmers' needs.

Only few Italian regions have implemented this public intervention. The paper is focused on the description of case studies in three Italian regions: Campania, Emilia-Romagna and Veneto. These regions have implemented, using Measure 2 – sub-measure 2.1 (support for the use of advisory services) of Rural Development Plan 2014-2020, three different public intervention models to develop the supply of farms advisor services (FAS), to stimulate higher rates of farmer participation in agricultural services and to empower human capital and farmers' attitudes to innovation (EU SCAR, 2012; Touzard *et al.*, 2015). The paper contributes to the ongoing debate in the scientific literature on the strengths and weakness of policy intervention focused on advisory services to force a broader Agricultural Innovation System. The key point is to build tailored models of providing and financing advisory services following peculiarities of regional agriculture. The debate about appropriate models for modern FAS is affected by the existence of few empirical studies.

2. MATERIALS AND METHODS

Different Measure 2 – sub-measure 2.1 models are analyzed through a qualitative approach, using a conceptual framework adapted by Birner *et al.* (2009). The conceptual framework for the design and analysis of agricultural advisory services considers five different dimensions: contextual factors, the agricultural advisory services characteristics, services performance, services impact and the central role of the clients (Birner *et al.*, 2009). In particular, the study focuses on agricultural advisory services characteristics. Indeed, due to the initial stage of implementation of the measures in the different regions, the impact of the FAS and the role of clients are not yet detectable. Moreover the contextual factors are not analyzed in this study because it focuses exclusively on the implementation of the European policy for the development of regional agricultural advisory services. To analyze agricultural advisory services characteristics, four different aspects have been considered: governance structure, capacity, management and advisory methods.

The governance structures variables focus on financing model of agricultural advisory services. The structure could be financed by public sector, by private sector or by farmer-based organizations. The capacity variables are related to human capital characteristics (number of advisors, skills, experience). The management variables focus on management style and on procedures for monitoring and evaluating advisory activities. The advisory methods focus on methods that are used by the field staff of agricultural advisory services in their interaction with farmers (Birner *et al.*, 2009).

After description of the policy models based on the available public documents, the regional approaches are compared using the described aspects. Our empirical research is divided into two parts. The first is devoted

to describing the three intervention models proposed by the Regional Authorities of Campania, Veneto and Emilia-Romagna. In the second part of the study, data, available in funding applications, related to farm requirements, advisors characteristics and budget and expenditure progress will be analyzed. In Campania, Veneto and Emilia-Romagna, as Measures 2 sub-measures 2.1 are in an early stage of implementation, data are scant. However, the available information provides insights for interesting reflections.

3. REGIONAL POLICY MODEL

3.1. Emilia-Romagna Region

The Regional Authority of Emilia-Romagna has implemented Measure 2 – sub-measure 2.1 model based on three main needs: Focus area 01[1] - Fostering innovation, cooperation and the development of the knowledge base in rural areas, Focus area 02 - Strengthening the links between agriculture, food production and forestry and research and innovation, Focus area 03 - Fostering lifelong learning and vocational training in the agricultural and forestry sectors. The governance structure is based on public calls for financing Measure 2 interventions. Regarding to capacity features, beneficiaries of public calls are consultants with documented experience in the field covered by the call for tenders. For consultants and their advisory bodies to apply, the Regional Authority requires approval. The selection of proposals is based on three criteria: 1) compliance with the needs and objectives of the Focus areas set in the calls, 2) requested budget, 3) feasibility of the objectives. On the part of the target group, farmers' age and intervention areas falling within zone C (intermediate rural areas), zone D (areas with development problems), within parks and nature reserves and within vulnerable zones identified under the Nitrates Directive are higher valued evaluated characteristics. The advisory methods have to match with thirteen advisory topics proposed by the Emilia-Romagna region (Tab. 1).

The Emilia-Romagna model is structured into two steps and is based on a list of consulting projects approved by the Regional Authority. Farmers can make their choices among the various possibilities included in the catalogue. The two phases are:

1 Focus area: European priorities for Rural Development are broken down into specific areas of intervention, known as Focus Areas (FAs). The RDP sets out quantified targets against selected FAs outlining the Measures and their allocated funding that will be used to reach these targets.

Tab. 1. List of advisory activities in the Emilia-Romagna Region.

Topics
Precision farming and HW and SW applications of precision agriculture
Antibiotic resistance control techniques
Biosecurity and animal welfare
Biodiversity and defence of crops from invasive wildlife
Conservative agriculture and reduction of footprint
Water waste and livestock effluent treatment techniques
Organic agriculture
Methods to reduce nitrates in aquifers
Low-impact defence for control of adversity in agriculture
Adaptation to climate change due to changes in water regimes
Qualitative optimization of water resources
Innovative technologies for irrigation and water saving
Techniques for reducing GHG and ammonia emissions in farms

Source: own elaboration.

1   to evaluate and publish a consultancy project on the «green catalogue» and contextual recognition / accreditation of an advisory body;
2   to identify the farmer concerned and to set the level of economic support.

The two phases can be implemented over different time spans, even weeks or months, rarely one or two years. The main peculiarity of the Emilia-Romagna governance model, which differentiates from all other regions in Italy and almost all European regions, is that a substantial part of the extension service is paid for by farmers. The latter pay 40% of the consultancy costs, plus 22% VAT and 4% for consultants' social security fund, while the Regional Authority only reimburses 60% of the cost. In practice, this funding structure leads to an almost equal split between public and private. The funds can be booked upon application and the funds granted follow a monthly ranking. To guarantee continuous availability until 2020, the total dedicated amount (€ 3 million) was divided into nine parts, each activated every four months. To date, six of the 36 rankings scheduled have already been concluded. The monitoring of advisory services is done through the reporting documents. The intervention model doesn't focus on specific advisory methods.

3.2 Veneto Region

The governance structure is based on beneficiaries of Measure 2 sub-measure 2.1 that are public or private advisory bodies or advisory networks (as described by a special regulation on network aggregation forms) with

documented experience in the field included in the calls and with requirements as provided for by the Ministerial Decree of 3 February 2016 concerning «Establishment of the farm advisory system in agriculture».

Advisory services consist of a set of interventions carried out by advisory bodies to support farms for technological / managerial / market changes necessary to improve their competitiveness and achieve sustainable use of production factors. Therefore, services aim to increase the economic and environmental performance of farms.

To improve advisors' specific skills and to better specify capacity peculiarities, each tender has specific requirements to identify beneficiaries.

The selection of proposals is based on a set of criteria, regarding capacity, advisory methods and management futures, that can be summarized in the following six below: 1) suitable skills to conduct consulting activities, 2) characteristics of advisory approach and project, 3) compliance with the needs and objectives of the focus areas set in the calls, 4) compliance with the horizontal objectives, 5) targeting of farmers, 6) coherence with needs of intervention area. Public calls are published for Measure 2 – sub-measure 2.1 interventions. The financial support provided by the Veneto Regional Authority amounts to 100% of the intervention. There are 18 advi-

sory topics proposed by the regional authority (Tab. 2).

The quantity of advisory activities is estimated using standard costs. For each advisory service, the related protocols were prepared. This guide briefly describes the aims and objectives, the specific technical aspects for the service implementation, especially the minimum number of visits to farms, the intermediate and final outputs and the cost. With regard to the latter aspect, for each protocol a specific analysis was carried out to identify the number of specific working hours (Consultant Work Hours - CWH) demanded from the consultant generally required to perform such services. The unit cost of the advisory service was determined by multiplying the CWHs by the standard cost (42 euros / hour).

Agricultural advisory activities are divided into two types:
- basic consultancy;
- specialized consultancy.

3.3 Campania Region

Beneficiaries of Measure 2 - sub-measure 2.1 are advisory bodies with requirements envisaged by the Ministerial Decree of 3 February 2016 concerning «Establishment of the farm advisory system in agriculture». Members of advisory bodies have to:

Tab. 2. Lists for advisory activities in the Veneto Region.

Advisory activities	Hours of work	Unit cost for advisory activities (euro)
Optimization of production factors, overcoming critical points, developing opportunities, also through the use of RDP measures	15	630
Advice on safety in the company to improve the organization and working conditions	12	504
Credit access opportunities.	25	1,050
Starting farm activities	25	1,050
Introduction of innovative, medicinal or non-food crops into the company	25	1,050
Consulting aimed at launching direct sales.	25	1,050
Advice aimed at preparing a marketing and communication plan	20	840
Consulting for management digitalization	20	840
Consultancy aimed at mapping and managing risks for the agricultural company	15	630
Animal welfare-oriented advice (dairy cattle)	35	1,470
Animal welfare-oriented advice (beef cattle)	25	1,050
Advice on conditionality (vegetable)	12	504
Advice on conditionality (animal)	12	504
Sustainable management of specialized crops: viticulture	30	1,260
Sustainable management of specialized crops: fruit growing	30	1,260
Sustainable management of specialized crops: horticulture	30	1,260
Sustainable management of specialized crops: floriculture and nursery	30	1,260
Advice on conversion to organic agricolture	30	1,260

Source: own elaboration.

Tab. 3. Lists for advisory activities in the Campania Region.

Topics	Advisory activities
Innovative agricultural production	1 - 45 - 61 - 64
Biomarketing	2
Organic Farming	3 - 4 -5 - 6 - 7 - 8
Biodiversity	9
Landscape	10
Agriculture, Forestry and Pasture Activities harmonisation	11
Improvements in Energy Efficiency and Biogas	12 - 55
Organic Fraction Management from either Livestock and Oil Mill Wastes	13 - 24 - 60
Improving Economic Performance and Productivity of Livestock Farms and Dairies & Farm Buildings Upgrade	14 - 15 - 17 - 18
Actions to safeguard the integrity of livestock and to combat zoonoses	16
Processing of livestock products - food safety	19 - 21
Development of associative and cooperative forms	20 - 27 - 69
Animal welfare and animal welfare voluntary certification systems	22 - 23
IT and digital technologies	25 - 43 - 56 - 73
Workplace health and safety in Agricultural/Forestry Enterprises	26 - 48
Estimate and evaluation of damages	29 - 57 - 58
Damage prevention	30 - 31 - 59
Sustainable forest management and activities related to mushrooms and truffles	32 - 38 - 39 - 41
Collection and management of forest reproductive material	33 - 40
Prevention of natural disasters (fires and hydrogeological instability)	34 - 35 - 36 - 37
Management control and development of the agricultural enterprise	44 - 46 - 47
Developing a business plan in order to get access to credit	49
Income integration and multi-functionality	50 - 51 - 52
Introduction of investing activities and their ex ante evaluation in farm gate sales	53 - 54
Plant products processing - food safety	62
Phytopathological crises	63
Viticulture	65 - 66
Olive cultivation	67 - 68
Irrigation and fertigation	70
Product quality certification systems	28 - 42 - 74 - 75 - 76 - 77
Fodder production farming and pasture management	71 - 72

Source: own elaboration.

- be registered in professional associations and boards for the respective advisory areas;
- be qualified for listing in professional associations or colleges;
- have at least three years' work experience as consultants in the field of technical assistance or consultancy or in the areas for which the consultant intends to provide the service.

Governance structure of Measure 2 is based on tenders with multiple lots, published for financing interventions. Each tender includes different advisory services to fund. The aims of this approach are to divide the possible advisor services in order to increase attraction for small-and-medium-sized advisory bodies and reduce the number of bureaucratic procedures.

To improve management of advisory services, Regional Authority has implemented an inventory of advisory activities, comprising a set of activities analytically described and also provides advisory bodies with useful information to draw up the project (amount, focus area etc).

To identify the best methodology for applying Measure 2, a «Regional Catalogue of Advisory Activities» (77 activities) was discussed by the Committee of Professions and Professional Associations/Colleges (Tab. 3). To better define farmers' needs, advisory methods, connections among different actors to facilitate innovation diffusion and to establish priorities for FAS, the Regional Authority set up the Orientation Committee of the Agriculture Advisory System (D.G.R. n. 112 - 07.03.2017).

The Committee approved on 6 September 2017:

- Regional catalogue of Advisory Activities;
- Context Analysis – to identify object and territorial distribution of the possible services.

Regarding capacity, highly qualified technical staff is awarded with reference developed in the areas of the contract. Furthermore, on the part of the target group, farmers and rural entrepreneurs involved in agritourism, traditional catering, hotel reception, rural tourism, tourist services (guiding, organization of incoming tourism, management of sites of interest, museums, etc.), crafts (woodworking; stone working; artistic and traditional ceramics and terracotta, etc.) could be recipients of advisory services. Each farm could receive advisory services for an amount of 1,500 euros per year. To date, three tender procedures have been activated with a total amount of € 9,600,000.

4. RESULTS

Following the dimensions included in the adapted conceptual framework (Birner *et al.*, 2009), it is possible to summarize main results of analysis. Regarding to governance structure, Veneto, Emilia-Romagna and Campania have implemented, using Measure 2 of their Rural Development Programme, contracting out financed by public sector to develop advisory services. The results show three different intervention models to implement sub-measure 2.1. Emilia-Romagna, Veneto and Campania have the same objective: to foster extension services for different and more modern farm sizes. As the public procedure to activate intervention, Emilia-Romagna and Veneto have chosen calls, while Campania has chosen tender.

The capacity variables are strategic in all regional interventions. Skills, experience, training of advisors are well defined. Member States are obliged to provide a Farm Advisory System for all farmers but they cannot use Measure 2 to implement this. Public documents seem to show that Campania is currently implementing this strategy. Indeed, advisory bodies that present proposals for M2 funds have to demonstrate requirements as envisaged by the Ministerial Decree of 3 February 2016 concerning «Establishment of the farm advisory system in agriculture». However, it is important to point out that in Campania, Veneto and Emilia-Romagna, Measure 2 sub-measure 2.1 is intended to support activities that go beyond the obligatory provision of advice under the farm advisory system.

Related to amount of economic effort made for advisory services, the support rate for measure interventions ranges from 50% (Emilia-Romagna) to 100% (Campania and Veneto). The amount of economic effort made for advisory services represents a strategic variable of capacity dimension.

The management variables fit to the objectives of Measure 2 at different levels. The advisory services funded by Rural Development Programme, are indirectly demand-driven because regional authority defines farmers' needs and sometimes advisory methods in the calls to finance Measure 2 sub-measure. This peculiarity requires new ability to facilitate the interaction between multiple stakeholders and the use of adaptive planning methods (Birner *et al.*, 2009).

Finally, in the regional models the advisory methods are not described and innovative advisory methodologies are not encouraged. Farmers' needs are often recalled and translated into types of services to be provided, but the lack of more effective methodologies for detection of needs is a crucial aspect because the intervention design in all regions focuses on providing tailored extension services for specific problems. The challenge is to match farmers' demands and needs.

Regional lists for advisory activities are rich and focus on traditional and innovative farmers' needs. The catalogue produced by Emilia-Romagna contains 13 topics (Tab. 4). To date, 628 farms have been involved. The preferred topics concern nitrate reduction and integrated pest management; followed by animal welfare and

Tab. 4. Lists for advisory activities and involved farms related to calls until May 2019 in the Emilia-Romagna Region.

Topics	Farms (n.)
Precision farming and HW and SW applications of precision agriculture	15
Antibiotic resistance control techniques	23
Biosecurity and animal welfare	77
Biodiversity and defence of crops from invasive wildlife	37
Conservative agriculture and reduction of footprint	1
Water waste and livestock effluent treatment techniques	46
Biological agriculture	65
Methods to reduce nitrates in aquifers	147
Low-impact defence for control of adversity in agriculture	127
Adaptation to climate change due to changes in water regimes	1
Qualitative optimization of water resources	8
Innovative technologies for irrigation and water saving	24
Techniques for reducing GHG and ammonia emissions in farms	57
Total	628

Source: own elaboration.

organic agriculture by number of farms. More modern topics such as precision farming, carbon footprint reduction, adaptation to climate change and optimization of water resources fail to go beyond 30 farms involved. To date, 19 advisory bodies have been involved, comprising 76 consultants. All consultants belonged to the professional area of agronomists and veterinarians.

From the analysis of the projects approved it emerges that the average cost of an advisory service consultancy is 1,036 euros, ranging from a minimum of 380 and a maximum of 1,480 euros. It should be noted that the average cost of the services evaluated qualitatively as «very high» was 998 euros, hence a little more contained than the average of all the proposals.

The catalogue produced by the Veneto Regional Authority contains 18 topics (Tab. 5). To date, 7,851 farms have been involved. The most popular areas are related to cross compliance and improvements in work organization. Sustainable viticulture and input optimization follow the first two topics, with about 500 farms involved. More modern areas consist in innovative production, marketing, risk management and sustainable horticulture, without exceeding 50/60 farms per area. Importantly, no farm chose the topic related to digitalization. To date, 259 consultants have been involved, including 202 agronomists and veterinarians.

The catalogue produced by Campania contains 31 topics from 77 activities in the Regional catalogue (Tab. 6). To date, 8,059 farms have been involved. The most popular topics are related to assessment and development of a short supply chain, management control, water management and sustainable bioenergy, fertigation strategy, biogas production, diversification and multifunctionality. These are followed by food and job safety. Areas like marketing or activities related to forests and biodiversity conservation do not exceed 100 farms involved. To date, 67 advisory bodies have been involved, consisting of 386 consultants; 45% of consultants are agronomists or veterinarians, the rest from other disciplines (architecture, engineering, law, business consultancy etc.).

5. CONCLUSIONS

The role of agricultural advisory services is changing thanks to innovation adoption and the current European Agricultural Policy approach. Regional authorities are advancing financial and managerial reforms to improve new policy design. Given the need for modernization of the rural and agricultural sector, the present emphasis on participation of stakeholders in pro-

Tab. 5. Lists for advisory activities and involved farms related to calls until May 2019 in the Veneto Region.

Topics	Farms (n.)
Management consulting aimed at achieving economic optimization of production factors, at overcoming critical points, at developing opportunities, also through the use of RDP measures	544
Advice on safety to improve organization and working conditions	1472
Advice on credit access opportunities.	384
Starting farm activities	100
Introduction of innovative, medicinal or non-food crops	24
Direct sales	161
Marketing and communication plan	56
Management digitalization	0
Mapping and managing risks for the agricultural company	48
Animal welfare-oriented advice (dairy cattle)	474
Animal welfare-oriented advice (beef cattle)	249
Advice on conditionality (vegetable)	3166
Advice on conditionality (animal)	332
Sustainable management of specialized crops: viticulture	191
Sustainable management of specialized crops: fruit growing	551
Sustainable management of specialized crops: horticulture	62
Sustainable management of specialized crops: floriculture and nursery	35
Conversion to organic agriculture	2
Total	7851

Source: own elaboration.

grammes and community demand-driven projects seems correct.

The aim of Measure 2 sub-measure 2.1 - Aid for obtaining advisory services - is well specified in the regional models. Fostering advisory services for different and more modern farm with public intervention is a complex process involving many stakeholders with different needs and behaviours. Advisory services should represent the link between these different subjects. In particular, advisors should connect the agricultural and research sectors. Modern advisory services have to identify farmers' needs and have to translate them into tailor-made innovations. To implement this process an innovative approach has to be followed to create a governance structure and local networks among different participants.

In Campania, Veneto and Emilia-Romagna, since Measures 2 sub-measures 2.1 are in an early stage of implementation there are few data. However, the available information provides insights for interesting reflection. The first concerns the modern monitoring mecha-

Tab. 6. Lists for advisory activities and involved farms related to calls until May 2019 in the Campania Region.

Topics	Farms (n.)
Innovative agricultural production	282
Biomarketing	61
Organic Farming	292
Biodiversity	157
Landscape	139
Agriculture, Forestry and Pasture Activities harmonisation	11
Improvements in Energy Efficiency and Biogas	484
Organic Fraction Management from either Livestock and Oil Mill Wastes	302
Improving Economic Performance and Productivity of Livestock Farms and Dairies & Farm Buildings Upgrade	363
Actions to safeguard the integrity of livestock and to combat zoonoses	10
Processing of livestock products - food safety	216
Development of associative and cooperative forms	217
Animal welfare and animal welfare voluntary certification systems	109
IT and digital technologies	255
Workplace health and safety in Agricultural/Forestry Enterprises	444
Estimate and evaluation of damages	157
Damage prevention	483
Sustainable forest management and activities related to mushrooms and truffles	151
Collection and management of forest reproductive material	0
Prevention of natural disasters (fires and hydrogeological instability)	53
Management control and development of the agricultural enterprise	613
Developing a business plan in order to get access to credit	171
Income integration and multi-functionality	427
Introduction of investing activities and their ex ante evaluation in farm gate sales	684
Plant products processing - food safety	406
Phytopathological crises	177
Viticulture	24
Olive cultivation	222
Irrigation and fertigation	679
Product quality certification systems	224
Fodder production farming and pasture management	246
Total	8059

Source: own elaboration.

nism that is able to capture and follow major changes and the policy output. This programming period represents the first attempt at a new scheme, implemented by regional authorities, to collect and analyze digitized proposals and characteristics of those involved. The second

is represented by target groups of Measure 2. According to current data, the number of farmers involved in extension activities is not large. This applies especially to the most innovative issues (digital innovation, robotics, precision farming, international marketing) and to more complex or not very immediate environmental issues (biodiversity, water management, forestry). This weakness could be mitigated by more efficient communication strategies targeting farmers and by an innovative role and greater interaction among different Measures. In particular, Measure 1 dedicated to knowledge transfer, Measure 2 for advisory services to support businesses and Measure 16 that foresee the creation of partnerships among more than one actor could act together. In all cases, training and advice supported by Measure 1 and Measure 2 should target the needs of rural businesses and Measure 16 should facilitate a new approach to cooperation by farmers, advisors and researchers.

The last insight concerns the characteristics of consultants. Advisory services have to respond more effectively to the needs of farmers and other rural actors. Modern consultants need to be able to give holistic solutions to specific problems experienced by farmers. Extension officers need to be retrained in order to integrate a broad spectrum of specific issues with a view to giving farm-tailored advice. Farmers' needs are often highlighted in the Measure 2 but the lack of more effective methodologies for detection of needs remains a crucial aspect. The challenge to match farmers' demands and needs is not yet won.

This article has applied a conceptual framework (Birner *et al.*, 2009) that could represent a guide to analyse different implemented models of advisory services. The aim of the analysis is to reduce the failure of advisory services linked to the lack of connection with the real farmers' needs. The profound changes in future CAP 2021-2027 for farms advisor services (FAS) require new developments in this research area.

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