The adoption of agricultural extension policies in the Italian farms

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1. Introduction

The progressive transition towards the paradigm of multifunctional agriculture has redefined farms' boundaries and has accorded to them new opportunities of development. Strategies of product differentiation, through qualification and valorisation of specialties, diversification of farm activities represent important trajectories along which they address agriculture in the new rural paradigm (OECD, 2006). In this context, the role of agricultural extension services has been deeply reviewed to fulfil farmers' new needs. As a consequence, the policy for agricultural extension services

(AES) has been revitalized during the last phases of rural development planning, to empower human capital in agriculture. Nonetheless, "good intentions clash with hard realities" (Anderson, Feder, 2004): the aim of our paper is the analysis of the farms' capability to exploit AESs as a tool to stimulate farm change.

2. Theoretical background

An important change in the analytical perspective of AES has characterized the latest years: previous AES methods had a major drawback in the lack of a system perspective (Asopa, Beye, 1997). More recent approaches have overcome this deficiency by introducing new methods, based on Agricultural Knowledge and Information System (AKIS). *AKIS is the set of agricultural institutions, organizations, persons and their linkages and interactions, engaged in the*

Abstract

The policy for agricultural extension services (AES) has been revitalized during the last phases of rural development policies (2007/2013), to empower human capital in agriculture. A wider package of measures aiming at improving the provision of extension services at farm level is foreseen and financial resources have been allocated in all Italian regions, to strengthen the measures. The paper aims at testing whether such a high proportion of funding matches high levels of utilization of services on behalf of the farms. By assimilating farmers to consumers of AES, the analysis proposes a classification of the farms on the basis of their propensity to consume services.

Keywords: extension activities, rural development strategies, farmers, Italy.

Résumé

La politique pour les services de vulgarisation agricole (SVA) a été revitalisée dans les dernières phases d'élaboration des politiques de développement rural (2007/2013), pour responsabiliser le capital humain en agriculture. Un paquet plus large de mesures, destinées à améliorer l'offre de services de vulgarisation au niveau des exploitations, a été prévu et des ressources financières ont été allouées dans toutes les régions italiennes afin de renforcer ces mesures. Le but de cet article est de vérifier si à une telle proportion de financement correspondent des niveaux élevés d'utilisation des services par les exploitations. En assimilant les agriculteurs aux utilisateurs de SVA, l'analyse propose une classification des exploitations agricoles sur la base de leur propension à consommer des services.

Mots-clés: vulgarisation, stratégies de développement rural, agriculteurs, Italie.

generation, transformation, transmission, storage, retrieval, regulation, consolidation, dissemination, diffusion and utilization of knowledge and information, with the purpose of working synergically to support opinion formation, decision making, problem solving and/or innovation in a given sector, branch, discipline or other domain (Roling, 1989: 1-2). A more complete definition includes the idea of rural development as framework to implement AKIS model: therefore, *an AKIS/RD is the entire complex of agencies and institutions that provide rural people with the knowledge and informa-*

tion necessary for promoting innovation in their diversified livelihoods. It can be considered equivalent to an "enhanced AKIS" in that it incorporates both agricultural and non-agricultural knowledge and information services (Rivera *et al*., 2005).

As a consequence of the overcoming of modernization paradigm and the affirmation of the multifunctional role of agriculture, in recent years the policy of agricultural extension services has been reviewed to come off with a more complex scenario which characterizes the agricultural sector (Esposti, 2012). In this context, pluralistic models of AES governance prevail, where public, private and NGO actors play a relevant role (Umali and Schwartz, 1994). New sets of opportunities for stimulating farms' boundary shift (Banks, Long, van der Ploeg, 2002) are predicted in the policy agenda; accordingly, AESs are asked to support the evolution of the agricultural sector. The possibility to accomplish transition towards new rural paradigm involves, on the one hand, the redefinition of institutional assets gov-

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erning the supply of services. On the other, it implies crossing from linear models of transfer, which belong to "best practices" perspectives, to "best fit" approaches, able to delineate "a menu of options that can be combined in different ways" (Birner *et al.*, 2006). Contextual factors have to be considered, to organize and structure an adequate AES. To this end, regional rural development policy has revitalized the role of extension in fostering rural development. A wide package of measures aiming at improving extension services at farm level is foreseen, the most important being[1]:

– Measure 111: Vocational training and information actions
– Measure 114: Use of advisory services
– Measure 115: Setting up of management, relief and advisory services.

These measures concern activities aiming at improving farmers' training and promoting an upgrading in farmer's economic and technical knowledge (measure 111). To fulfil this objective, farmers are supported in using advisory services, above all in the field of good agricultural practices and compulsory management criteria (measure 114); finally, measure 115 supports farm management, above all to encourage young farmers' and women's access to the agricultural sector.

Financial resources have been allocated in all Italian regions, to strengthen the measures and stimulate farms. Nonetheless, higher levels of investments in extension services do not always correspond to adequate levels of demand, due to a set of causes that should be deepened. As recently underlined by Pascucci and De Magistris (2012), "*the way farmers react to this change and select the most appropriate services still remain puzzling*". In this context, a good demand of research concerns the capability of AESs to satisfy the main trajectories of recent agricultural and rural systems. If we consider Renting and Wiskerke's (2010) distinction between agroindustrial and territorial integrated paradigm , a relevant question arises: are agricultural services coherent with both paradigms? Are they offering an adequate system of supply which satisfies potential demand on behalf of the farms? From this standpoint, some shortages emerge in the literature: the majorities of studies on the subject have pointed out the relevance of supply-side topics: less attention has been devoted to demand-side ties, even if recent attempts have been realized in specific regions or on specific themes . These analyses are important in emphasizing key-topics in performing the access of AES, as underlined by Lamine *et al.* (2010) in their study of path-dependency through socio-historical approaches, and by Charatsary *et al.* (2010), who assimilate farmers to con-

sumers of agricultural services and emphasize the costs of this activity in terms of spending time and money. In the following, we will try to provide an exhaustive analysis of farmers' behaviour with respect to AES in Italy. According to Charatsary *et al.* (2010), farmers are considered as consumers of services and classified on the basis of a set of characteristics. In this framework, the necessary attention has to be paid to the analysis of what impedes a full "consumption" of agricultural extension services. Hence, the research inquires the following aspects which integrate the classification of farms on the basis of consumption of services: the socioeconomic characteristics of farms getting access to AES; the description of learning gaps, that is a set of motivations which interfere in the learning process; the degree of farms' satisfaction towards extension services. Therefore, in the following paragraphs, after a brief methodological note (par. 3) we will continue by testing the rate of regional expenditure on AES in Italy, to highlight the main regions which have been investing on agricultural services (par. 4). Hereafter, we will concentrate on the analysis of the access to agricultural services on behalf of a sample of farms (par. 5). The analysis will give further insight into this complex theme of research (par. 6), before providing some brief concluding remarks (par. 7).

3. Materials and methods

Two methodological steps have been necessary, to fulfil our aims: the first concerns the classification of the Italian regions on the basis of their propensity to fund measures 111, 114, 115. To test the regional propensity towards AES, a specialization index has been calculated, to effectively evaluate the importance of the intervention. To estimate the relevance of the regional expenditure, we have calculated a specialization index as follows:

$$SPIaes_{ij} = (x_{ij} : \Sigma_i x_{ij}) / (\Sigma_j x_{ij} : \Sigma_i \Sigma_j x_{ij})$$

Where:
i represents the Italian regions
j indicates the type of measure
x is the amount of expenditure in each measure j on behalf of each region i

A specialization is obtained in the case of value higher than 1. The index is calculated for each measure; the sum of every index (for each measure) contributes to the final score.

The second methodological step concerns the demand analysis of AES on behalf of a sample of Italian farms, localized within the regions with the highest levels of expenditure. The sample comes from the database of the Italian Institute of Statistics, which is extracted through a stratified sample with proportional allocation (Cochran, 1977); a questionnaire was proposed to the sample, administered through telephone surveys. The questionnaire is structured around the following key aspects: a) use of AES (information, training, advisory services); b) source of services (public, private, NGOs); c) frequency of contacts; d) farm-

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[1] This paper analyses only services of education and extension; therefore it excludes measures concerning research activity.
[2] See Renting and Wiskerke (2010) for a precise description of the two paradigms.
[3] An interesting analysis, done on aggregate levels, focuses on role of services in fostering farm innovation (Ascione, Cristiano, Tarangioli, 2011).

ers' satisfaction; e) introduction of change in farm's activity. Other information collected concern socioeconomic and demographic characteristics of sampled farms, territorial localization (region and type of rural areas, along the four rural zones predicted in the national strategic plan), kind of production. The data collected was processed through a multivariate analysis (multiple correspondence and cluster), which has brought out homogeneous groups of farms on the basis of their propensity to adopt AESs. Two objectives characterise this part of the analysis: the first is to study the demand for AESs and, more precisely:

Table 1 - *Active variables.*	
Variables	**Categories of variables**
X1 Professional farmer	2
X2 Self-consumption production	2
X3 Awareness about the existence of AES	3
X4 Change and innovation introduced in farming	2
X5 Source of information (magazine)	8
X6 Source of information (internet)	8
X7 Source of information (fairies)	8
X8 Source of information (other)	7
X9 Source of training (courses)	8
X10 Source of training (conferences and seminars)	8
X11 Source of training (farmers field school)	8
X12 Source of advice (farm visits)	8
X13 Source of counter advice	8
X14 Source of phone advice	8
X15 Use of information (magazine)	6
X16 Use of information (internet)	8
X17 Use of information (fairies)	8
X18 Use of information (other)	7
X19 Use of training (courses)	8
X20 Use of training (conferences and seminars)	8
X21 Use of training (farmers field school)	8
X22 Use of advice (farm visits)	8
X23 Use of counter advice	8
X24 Use of phone advice	8
X25 What types of AES are used?	8
X26 Number of contacts/month (magazines)	4
X27 Number of contacts/month (internet)	4
X28 Number of contacts/month (fairies)	4
X29 Number of contacts/month (other)	4
X30 Number of contacts/month (training courses)	4
X31 Number of contacts/month (conferences and seminars)	4
X32 Number of contacts/month (farmers field school)	4
X33 Number of contacts/month (farm visits)	4
X34 Number of contacts/month (counter)	4
X35 Number of contacts/month (phone)	4
X36 Combination services used/introduction of farm changes	4
X37 Introduction of farm changes	7
X38 Customer satisfaction (information)	5
X39 Customer satisfaction (training)	5
X40 Customer satisfaction (technical assistance)	5
X41 Duration (years) of services used (information)	4
X42 Duration (years) of services used (training)	4
X43 Duration (years) of services used (technical assistance)	4
X44 Services not available but potentially useful	9
X45 Willingness to pay for services	3
X46 Public funding received	3
Sources: Own calculations.	

- understand the incidence of farms having access to AESs, by splitting the three key types of services: information, training, knowledge. In this context, we have investigated, on the one side, the source of services (public, private, N-GO) which, according to Rivera et Alex (2004), plays a relevant role in providing extension and, on the other, the intensity of access, under the hypothesis that relational aspects and duration of contact represent important factors in facilitating access to AESs (Labarthe, 2005);
- analyse customer (farm) satisfaction about AES and possible reasons for not consuming them.

The second aim is to link the access to AES to the introduction of farm change: a set of questions concerning modification in farm activity has been predicted, in order to test the connection among the use of AES and the introduction of modification in the farm activity.

A multivariate analysis has been conducted, through multiple correspondence and cluster analysis; as a consequence, homogeneous groups of farms on the basis of the use of AESs has been deduced. To complete our survey, we have deepened two important aspects: first, the reasons for not consuming AESs, second the degree of farmers' satisfaction towards AESs. As a consequence, a set of coherent questions were posed to farmers to investigate the two themes.

The selected active variables are listed below, in table 1.

Illustrative variables aiming at obtaining information about farm's socioeconomic characteristics investigate three groups of variables, listed in table 2.

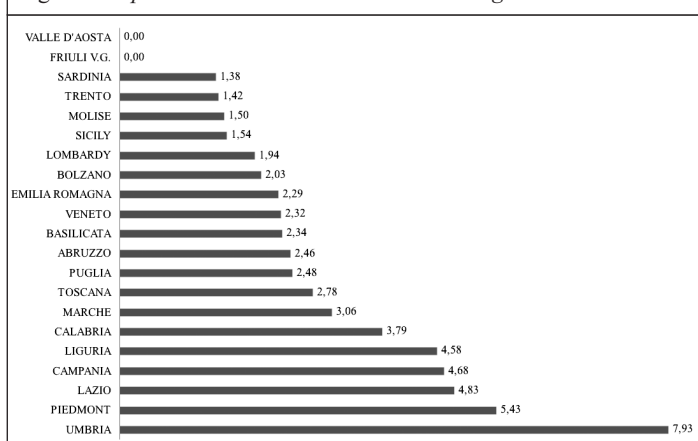| Table 2 - *Illustrative variables.*	
∞ *Non-competitive farms*	∞ Farms with reduced equipment; ∞ Self-consumption farms, with low market orientation
Farms with precarious competitiveness (or with aided competitiveness)	∞ Diversified farms, farms with low input agriculture and high positive externalities ∞ Necessity to get public support to reach economic equilibrium
Competitive farms	∞ Full-time, industrialized farms, high equipment of factors ∞ Farms with intensive agriculture ∞ Market-oriented production
Demographic factors	
Average age of the family members involved in agricultural activity	∞ Average age < 40 ∞ 40 < Average age < 60 ∞ Average age > 60
Intergenerational transmission	Presence of heir in farm activity
Territorial localization	
(four areas predicted by the national strategic plans)	∞ Urban poles ∞ Areas with intensive agriculture ∞ Rural intermediate areas ∞ Rural marginal areas
Sources: Own calculations.	

4. Results
4.1 The selection of regions

The specialization index permits to highlight the most important regions in terms of investments on extension. Figure 1 clearly illustrates the graded list of the regions classi-

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[4] Non Governmental Organizations.

fied on the basis of specialization in the regional expenditure to support AESs.

The first four regions are localized in almost all geographical districts of Italy. Umbria (central-eastern), Piedmont (north-western), Lazio (central-western) and Campania (south) are the most relevant regions. Therefore, they were chosen for the successive analysis of demand for AESs on behalf of farms. However, in order to fill a geographical gap and, hence, to consider all districts, a north-eastern region, Veneto, has been added with the highest level of index in the area.

Figure 1 - *Specialization indexes in the Italian regions.*

VALLE D'AOSTA	0,00
FRIULI V.G.	0,00
SARDINIA	1,38
TRENTO	1,42
MOLISE	1,50
SICILY	1,54
LOMBARDY	1,94
BOLZANO	2,03
EMILIA ROMAGNA	2,29
VENETO	2,32
BASILICATA	2,34
ABRUZZO	2,46
PUGLIA	2,48
TOSCANA	2,78
MARCHE	3,06
CALABRIA	3,79
LIGURIA	4,58
CAMPANIA	4,68
LAZIO	4,83
PIEDMONT	5,43
UMBRIA	7,93

4.2. Demand analysis of AESs.

The demand analysis was conducted through multivariate tools of investigation, more specifically multiple correspondence and cluster analysis. The first one has identified four main explicative factors, on the basis of which the following cluster analysis has been carried out, to obtain homogeneous groups of farms.

Multiple correspondence analysis

Multiple correspondence analysis gave back 4 clearly identifiable factors, which explain 21.67% of the total variance (table 3).

Table 3 - *Extracted factors.*

Factors	Variance %	cum. %
1	9,16	9,16
2	5,60	14,76
3	3,50	18,26
4	3,40	21,67
Sources: Own calculations.		

Factor I could be defined as *degree of use of AESs*. It compares farms using services and farms not using them. Table 4 puts in evidence the main active variables influencing the factor.

On the negative side, farms with full access to services (training, information and advisory) are found. They are competitive farms localized mainly in Veneto (north-eastern Italy).

The used services are most of all offered by non-public sources (NGO+private) and farmers express good judge-

Table 4 - *Active variables influencing factor I.*

Variables	Categories of variables	Values-Test
x36	Use of services + change	-34,63
x25	Information+training+extension	-34,51
x22	Yes	-34,12
x19	Yes	-33,97
x37	Yes	-31,38
…		
central zone		
…		
x36	No services, no change	31,10
x39	Na (no answer)	31,31
x33	No contact	31,38
x41	Na	31,61
x37	No change	31,65
x30	No contact	31,80
x42	Na	31,96
x43	Na	32,13
x12	Na	32,63
x40	Na	33,02
x9	Na	33,28
x25	No service	33,29
x38	Na	33,47
Sources: Own calculations.		

ments about them. The role of AESs is relevant in fostering the introduction of innovation. On the positive side, we find farms with no access to AESs; they are localized in southern Italy and are mostly non competitive farms, with no type of contact with information, training nor extension. It is not surprising that these farms did not introduce any change in their activity.

Factor II describes *awareness about A*ESs and compares farms with different degrees of awareness (table 5): as a matter of fact, on the one side, there are farms with a good

Table 5 - *Active variables influencing factor II.*

Variables	Categories of variables	Values-Test
x3	Yes	-35,49
x45	No	-14,24
…		
central zone		
...		
x45	Na	30,21
x46	Na	30,97
x3	Do not know	39,52
x24	Na	40,86
x18	Na	41,12
x20	Na	41,20
x15	Na	41,30
x22	Na	41,30
x16	Na	41,42
x17	Na	41,42
Sources: Own calculations.		

Table 6 - *Active variables influencing factor III.*

Variables	Categories of variables	Values-Test
x19	not adequate or not able personnel	-22,17
x21	not adequate or not able personnel	-21,97
x7	not adequate or not able personnel	-20,61
x18	not adequate or not able personnel	-20,39
…		
central zone		
...		
x23	not interested or self-reliant	28,30
x22	not interested or self-reliant	28,35
x24	not interested or self-reliant	28,90
x15	not interested or self-reliant	31,97
x16	not interested or self-reliant	32,63
x17	not interested or self-reliant	32,88
x9	not interested or self-reliant	33,11
x19	not interested or self-reliant	33,47
x18	not interested or self-reliant	33,56
x21	not interested or self-reliant	33,59
Sources: Own calculations.		

awareness about AESs, even though they do not apply them. Instead, farms which are unaware of AESs characterise the other side.

Factor III could be defined as *reasons not to use AES*. The factor explains two main causes for not using AESs: the first one is a negative perception and a sense of AES's in-

Table 7 - *Active variables influencing factor IV.*

Variables	Categories of variables	Values-Test
x13	NGO	-17,92
x26	1	-17,55
x23	yes	-14,89
x41	> 10 years	-14,74
x9	NGO	-12,71
x30	1	-11,65
x43	> 10 years	-11,32
x33	1	-11,01
x42	> 10 years	-10,49
x38	Sufficient	-8,25
x12	Private	-7,62
…		
central zone		
...		
x12	Public+NGO	6,61
x9	Public	7,01
x38	Poor	8,33
x30	>2 contacts	8,41
x39	Poor	8,54
x41	< 5 years	8,66
x5	Public+NGO	9,15
x34	no contact	17,17
Sources: Own calculations.		

adequateness to the real need of farming. Other possible reasons are linked either to the low diffusion of AESs on the territory or to informational asymmetries. Northern regions are mainly interested in this type of motivation.

On the other side, refusing these services is due to the indifference towards the real utility of AESs and to a sort of farmers' self-reliance. Here, southern regions are prevailingly represented.

Factor IV illustrates both the *source of AES and duration of contacts.* It sets services exclusively provided by NGOs and private actors against services provided by the public sector and NGOs (table 7). The low presence of public sectors distinguishes central regions (Umbria and Lazio), while Piedmont and Campania get access to public sector. AESs offered by NGOs or private sector are sufficiently appreciated, while the public sector does not satisfy farmers and, in many cases, is fully negative. Besides, relationships between privateNGOs and farmers seem more durable (>10 years) with respect to relations between farmers and public operators (<5 years).

Cluster analysis

Cluster analysis was conducted through the hierarchical method. It highlighted 10 clusters of clearly identifiable homogeneous farms, in relation to AES. Table 8 shows the values-test for each cluster, while figure 2 exemplifies the articulation of the groups of farms.
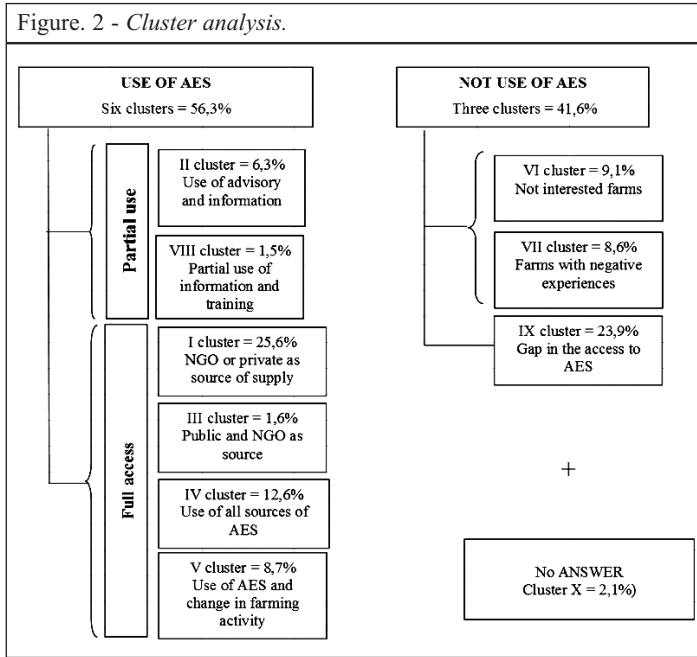
Table 8 - *Values-test of factors.*

	n.	1	2	3	4
Cluster 1	524	-11.5	-0.3	-11.5	-8.5
Cluster 2	129	-6.8	0.5	7.1	-5.9
Cluster 3	32	-3.9	1.0	1.2	6.4
Cluster 4	257	-20.5	6.7	7.4	-2.9
Cluster 5	179	-14.2	3.4	1.3	11.1
Cluster 6	186	16.2	-10.4	32.3	-7.5
Cluster 7	177	13.0	-6.6	-18.0	-20.9
Cluster 8	31	1.8	-1.7	-3.1	6.0
Cluster 9	489	16.4	-9.2	-11.4	25.0
Cluster 10	43	17.0	41.3	0.5	-0.5
Sources: Own calculations.					

Two macro-clusters are distinct; the one relative to farms having access to AES is the prevailing macro-cluster, which includes 56.3% of the total. It is in turn divided up into two sub-groups of farms which show either partial or full "consumption" of AESs. The other macro-cluster absorbs 41.6% of farms and refers to farms not using AES. If the macro-cluster is not used, a difference between clusters VI and VII and cluster IX emerges: the first two are conscious about AES but they do not want to consume them, due to the negative experience in the past or to other motivations (family farm in the ancient phase of the life cycle or an excessive

Figure. 2 - *Cluster analysis.*

USE OF AES		
Six clusters = 56,3%		

	Partial use	II cluster = 6,3% Use of advisory and information
		VIII cluster = 1,5% Partial use of information and training
	Full access	I cluster = 25,6% NGO or private as source of supply
		III cluster = 1,6% Public and NGO as source
		IV cluster = 12,6% Use of all sources of AES
		V cluster = 8,7% Use of AES and change in farming activity

NOT USE OF AES
Three clusters = 41,6%

| VI cluster = 9,1% Not interested farms |
| VII cluster = 8,6% Farms with negative experiences |
| IX cluster = 23,9% Gap in the access to AES |

+

| No ANSWER Cluster X = 2,1%) |

cost of access to be sustained). Finally, the last cluster contains 2.1% of farms which gave no feedback regarding AESs. In the following pages we propose a more detailed description of the clusters.

Farming with access to AESs

Six clusters of farms are included in the macro-group which use AESs. This could be a partial or a full use.

Cluster II and VIII put in evidence a *partial utilization of agricultural services*, more precisely:
– cluster II includes 6.3% of farms and refers to farms, localized in intermediate rural areas, using two main types of services, advisory and information; the farms in question are localized mainly in central Italy (Umbria and Lazio). These farms are characterized by sustainable agricultural production, with low environmental impact. Therefore, AESs are mainly aimed at introducing mandatory standards, like those foreseen within the unique payment regime. The access to AESs is ensured by diversified sources, from public to NGOs to private. Inside the private source, an important channel of information is informal, which links farmers through informal networks of information. The overall assessment about AES is positive, with particular satisfaction on private extension services.
– The farms of cluster VIII are a limited share (1.5%) and get access to information and training, with no access to advisory services. Farms are mainly localized in northwest Italy and in many cases are specialized in wine production. Sources of services are mainly public or NGOs, with no private support. Farms show high propensity to consume services but, in a lot of cases, they must renounce to use them due to high costs of access.

Farms showing a *full access to AESs* are less than half and comprehend four clusters:

– cluster I includes 25.6% of farms which, systematically, have been using AESs for more than 10 years. Regularly consumed services are either advisory, information and only some training. Sources of services are mostly private and not governmental, with a low presence of public sector. The services provided are very effective; therefore they stimulate the introduction of changes in the farm's activity. Finally, farms judgments about AESs are relatively satisfying, above all in the case of advisory services.
– cluster IV includes specialized farms (12.6%) localized in north-eastern Italy. They demonstrate a full utilization of services in all possible forms: advisory, information and training. AESs are very important for farming activity, as revealed by the high frequency of contacts with workers of AESs, coming from the public, private and N-GO sector. This attitude gives farms opportunities for strategic change: modification in farms' activity involves not only structural but also technical, commercial and managerial aspects. The role of assistance is evident even from the capability to exploit opportunities given by the rural development policies.
– cluster V is composed of farms using AES to introduce innovation linked to binding legislation: therefore, the role of advisory, training and information services is relevant in performing the introduction of compulsory standards in farming activity. The farms of the cluster are mainly localized in Campania region, but also in Piedmont. The judgment about AES is contradictory: it is positive concerning advisory and information services, negative regarding training, due to the high cost of access to courses on behalf of entrepreneurs.

Farms not using AESs

A consistent and diversified set of farms does not use AESs (43.7%). The reasons are various, ranging from the lack of interest in AESs to an excessive cost of access or to negative past experiences or to services which donot match the specific demand. Clusters involved are 4:
– cluster VI includes 9.1% of non interested farms, which do not use services consciously: agricultural activity is mainly for self-consumption and it is performed in a non professional way. In many cases farms are managed by families in the old phase of their life cycle. As a matter of fact, it not surprising that no changes in farm activity have been recently introduced and that farms continue their activity along inertial paths.
– cluster VII consists of farms which had negative past experiences with AESs and, therefore, they do not intend to use them again. Farms are localized in central Italy and absorb 8.6% of the total sample. Personnel employed in AESs is not perceived as effective in performing useful services for the farm activity. As a consequence, farms would like to consume services but decide not to.
– cluster IX includes a relevant set of farms (23,9%) localized in Campania and Piedmont: they operate out of the

market and produce just for self-consumption. However, the limited use of services (just 10% of the cluster use them) is not linked to structural characteristics but it is a consequence of a sort of product gap: the provision of services is not adequate to the needs of these farms. As a matter of fact, farms of the cluster would consume services but they cannot, because they do not satisfy the farmers' needs. The lack of introduction of change in farm activity is a natural consequence of this scenario.

– finally, cluster X takes account of a small share of farms (2.1%) which have given no answer to the questionnaire and have expressed a total indifference concerning AESs.

5. Discussion

Cluster analysis shows a clear dichotomy in the access to agricultural services: to obtain further detailed information about the access to AES it could be helpful considering some further insight stemming from illustrative variables which we have used in the multivariate analysis:

1) *farms using services* are professional farms with high market orientation but with some internal differentiations. We can find, on the one side, professional farms with high structural and economic equipment, specialised in livestock or arable crops; entrepreneurs are, on average, 51 years old: furthermore they can count on the possibility of vertical transmission of farms to their descendants, which stimulates high investments and fosters a strong interdependency with the providers of extension services. On the other side, relational farms, with strategies of horizontal integration, are a relevant part of the cluster. The farms are professional too, they produce standardised products and obtain good economic performances. The main fields of activity are the horticultural, floricultural and mixed crops and livestock sectors. From a territorial point of view, they mainly operate in intensive and specialised agricultural areas. A relevant trait of these farms is the localization of family members in the younger phase of their life cycle, who are interested in services and willing to invest in the future to consolidate their farming activity. As a consequence, it is not surprising that the main source of services is private and not governmental organizations, with a reduced presence of the public sector. The farms express a good degree of satisfaction about the services used, with a few exceptions.

2) *farms not using services* are mostly small farms with low market orientation; farm types are prevailingly in the sphere of non-competition or, in few cases, in the domain of precarious competitiveness, with no change in the last years: marginal and subsistence farms predominate in these clusters. From a territorial point of view, these farms are localised in two territorial poles, urban areas or in rural marginal areas. Besides, family members are in the mature or in the older phase of their life cycle: therefore, they obviously do not get frequent access to AES. As a matter of fact, they declare not to use services either because they are not interested in or be-

cause services are not always adequate to their needs, due to insufficiently trained personnel or to a sort of "distributional gap", that is the AES is not distributed throughout the territory. This produces high costs in the case of farms located in marginal areas. Farms with negative past experience complete the scenario of the disuse of AES.

6. Concluding remarks

Anderson and Feder (2004) were right in saying "good intentions clash with hard realities". The recent strengthening of policy for agricultural services is a good starting point, but it is still insufficient. Our research has presented some results from an investigation in Italy, which confirms a dichotomy in the access to services on behalf of farms. Besides, access/no access to services are divided up into a series of typologies which have been analyzed in the paper.

From the empirical evidence a set of implications emerge: the first affects the categories of users. Our impression is that AESs are still oriented towards a traditional type of provision. If we recall the previous distinction of Renting and Wiskerke (2010), our impression is that AESs are actually supporting the agroindustrial paradigm, more than the alternative territorial integrated (and multifunctional) paradigm. The analysis of learning gaps confirm this impression, above all in the cases of farms with precarious competitiveness, where diversified and environmental friendly activities are at work. These farms could be more stimulated by a more adequate system of extension but, as they have declared, provision is not coherent with a renewed demand for new types of services. Moreover, as previously demonstrated (Labarthe and Laurent, 2009), small farmers seem more excluded from services consistent with their needs. As demonstrated in recent socio-historical approaches to AES (Lamine *et al.*, 2010), path-dependency models of diffusion of services create possible lock-in effects. Talking about modernisation of agriculture, Noe (2003: 1) clearly points out: *the growing amount of knowledge and how this knowledge is produced and circulated may be an even stronger factor of explanation for this development and thereby a key to understanding the challenges and obstacles to the development of farming which takes into consideration ecological, social and political factors, hereafter abbreviated as "multidimensional farming".* As a consequence, a large part of farms remains left out, due to the types of services provided, mainly production-oriented and less careful to environmental and multifunctional aspects of agricultural activity. Previous reflections induce to think about a sort of consolidation of what has been defined in the literature as a "result paradox" (Benvenuti, 2000), where farms having less necessity get more from AES. Therefore, are AESs still a privilege for the few?

A second important conclusion concerns the territorial discrepancies in the consumption of services: northern territories show higher attitude to gain access to AES, while in the south low percentages of consumption have been found. Paradoxically, higher rates of expenditure in services do not correspond to higher propensity to get access on behalf of farmers. Farms of Veneto region are mainly localized in

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[5] This aspect has been emphasised in developing countries by van de Baan and Hawkins (1988).

cluster with medium-high rates of consumption of services. Besides, marginal rural areas and urban poles seem more distant from services with respect to farms localized in areas with intensive agriculture or in intermediate rural areas.

Finally, that brings up to aspects, recently emphasized by Vagnozzi (2012), related to the efficacy of AES: the paper has investigated the source of services and has emphasized the efficacy of services offered by the private sector or NGOs, with respect to the public sector; the analysis of farmer/customer satisfaction has revealed good performances obtained by the private sector and NGOs, while services offered by the public sector still show low levels of approval. Due to the particular nature of public good held by some multifunctional agricultural productions, the role of the public sector will continue to be relevant: in this perspective, further analyses regarding the governance of AES are wished to shed light on the real efficacy/efficiency of agricultural services. As Birner *et al.* (2006) and Rivera (1996) point out, a shared framework for designing and analyzing pluralistic agricultural services is needed to obtain more rigorous tools for the evaluation and monitoring of AES and, finally, to avoid money waste.

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