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SPECIAL ISSUE / SEPTEMBER 2021

Innovation and Sustainability of Agri-Food System in the Mediterranean Area

New Medit 2021 / Issue n. 3

ISSN: 1594-5685 www.newmedit.iamb.it

Bononia University Press

SPECIAL

ISSUE



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NEDITERRANEAN JOURNAL OF ECONOMICS, AGRICULTURE AND ENVIRONMENT

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Paper submission http://www.newmedit.iamb.it

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Publisher Bononia University Press Via U. Foscolo, 7 40123 Bologna (Italy) tel.: +39 051 232882 fax: +39 051 221019 email: comunicazione@buponline.com

Subscription rate Print: Italy: € 40; Foreign: € 90.

Subscription office ordini@buponline.com

Abstract and Index citation NEW MEDIT is indexed in: SCOPUS, EBSCO, ISI Web Science, CAB Abstracts, EconLit, AGRIS/FAO database

Web page http://www.newmedit.iamb.it

ISBN: 978-88-6923-859-8

ISSN: 1594-5685

ISSN online: 2611-1128

Graphic Layout DoppioClickArt – San Lazzaro (BO)

Cover design Debora Degl'Innocenti

Registrazione Tribunale Ordinario di Bari, n. 1546 del 4/1/2002

Direttore Responsabile Giulio Malorgio

NEW MEDIT è associato alla



Spaces of innovation and women rural entrepreneurship in Italy

MARCELLO DE ROSA*, LUCA BARTOLI*, GERARD MCELWEE**

DOI: 10.30682/nm2103f JEL codes : J16, Q12, Q16

Abstract

This paper deals with "gendering innovation", with the purpose of exploring the entrepreneurial spaces of innovation among Italian farms managed by women. More precisely, the hypothesis is that entrepreneurial orientation has to be considered the engine of innovation adoption in different rural contexts, by creating new spaces for innovation. The research is grounded on primary sources using a questionnaire administered to a sample of women farmers in all regions of Italy, with the purpose of investigating complex dimensions behind the decision of innovation uptake, with a special focus on the relevance of entrepreneurial orientation. Empirical analysis lets different "worlds of female innovation" to emerge, which are grounded on both conventional and alternative agrifood networks. Taking on the perspective of entrepreneurial spaces of innovation implies to design a diversified set of policy action with the purpose of affecting these entrepreneurial spaces. This is particularly urgent in the perspective of gender mainstreaming of rural development policies of the European Union.

Keywords: Women farms, Rural entrepreneurship, Innovation, Italian farms.

1. Introduction

The role of women in farming has been analysed from different theoretical perspectives and classified according to various dimensions underlying either a subsidiary role or a more active participation. Recently, a constituent perspective of women's participation in farming is under observation, within processes of functional repositioning of women farmers along diversified paths of farm's development. These paths design and are designed by different entrepreneurial traits and may originate from heterogeneous entrepreneurial spaces of innovation.

This paper deals with innovation adoption by women farmers in Italy, with the purpose of exploring eventually diversified entrepreneurial spaces of innovations (ESO) in women farms and the role of entrepreneurial traits in shaping these 'spaces'.

The relevance of entrepreneurship in innovation adoption is little analysed, despite extant literature has recognized the important role of women farmers in the process of sociotechnical transition towards innovative and multifunctional agriculture (Seuneke, Bock, 2015). Questioning the entrepreneurial profile as a means to design new spaces of innovation is a relevant topic not enough explored, above all in the Italian agriculture. Therefore, this paper fills a gap in the literature, by acknowledging heterogeneity and flexible gender identities (Bock, Shortall, 2017) in the uptake of innovation.

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The work is structured as follows. The following paragraph deals with an overview of literature, not to be meant as a comprehensive review of literature; rather, it is a broad outline of the main perspectives analysing women's role in farming activity and to let both women's agency and heterogeneity of women's worlds of production and spaces of innovation to emerge. Empirical analysis is devoted to the Italian case. Therefore, we introduce some methodological notes adopted in the analysis before presenting and discussing the results and concluding with insights and possible policy implications.

2. Literature review

The enounced transition of women entrepreneurship studies from childhood towards the adolescence (Hughes *et al.*, 2012) is typified by post-structuralist approaches (Lewis, 2006; Henry, Marlow, 2014) and by the genderedness of change in rural areas, where taking gender relations let to explain drivers of change. As posited by Bock (2006, p. 1): "Studying gender relations is therefore indispensable in order to fully understand the causes and consequences of agricultural and rural development". Consequently, visibility, agency and identity have been important focus, within the so-called cultural turn in rural studies (Brandth, 2002).

Against this background, Bock and Shortall (2017) identify the following narrations in rural gender studies: visibility and gender relations, agency and heterogeneity.

As far as the *visibility* of women and gender relations in agriculture is concerned, within the root of Marxist theories, a large literature has underlined the relatively less visible work of women with respect to men, in account of overlapping between productive and reproductive spheres (Errington, Gasson, 1993). As Shortall (2017, p. 90) puts it, *broader feminist trend noted it was not the nature of women's work that led to lack of recognition, but rather their position within a patriarchal household.* These analyses are essentially grounded on a structural determinism underlying the subordinate position of women and the dominant men as static and homogeneous categories and sought structural ad causal explanation (Shortall, Byrne, 2009). With the expression of not willing reproduction, scholars indicate the woman's role in sustaining family farms under a subordinate perspective (Heather *et al.*, 2005).

At the beginning of 90's, a more active role in the farm is attributed to women. Choice, agency, resistance and the altering of gender identities over time have become a relevant field of analysis within the so-called constituent perspective of women's role in agriculture (Shortall, Byrne, 2009; Wright, Annes, 2016). Notwithstanding, in her study on Greek women farmers' transition in the last decades, Charatsari (2014) points out that, on the one side, woman's status in the family significantly improved, while, on the other side, full gender equality is still questionable. Thus, theories of patriarchal gender relations are still at stake and drawn on Whatmore's (1991) seminal work. This narration underlines the difficulties for women to be recognized as authentic farmers (Černič Istenič, Charatsari, 2017), whose identity is often assimilated to wives "occasionally" employed in the farms (Whatmore, 1991).

Against this background, more recent studies have analyzed processes of female emancipation, grounded on struggle for empowerment and recognition of *women's agency*. This struggle seems particularly difficult either for women entered in the farms within marriage, or under farm's patrilineal transmission from father to son (Shortall, 2017).

Furthermore, the perspective of farming work as masculine has reinforced the women's invisibility in the farm, making more difficult for them to gain more visible positions (Brandth, 1995). Male dominance is also at the basis of a sort of skepticism with respect to women's participation to public programs of extension and education, perceived as provided under a "male perspective", as demonstrated in Charatsari et al.'s (2013) research on Greek women farmers. This has also an impact on women's knowledge acquisition, as posited in feminist theories for the generality of women: according to these theories, women are constrained by phenomena of work segregation that limit women's upgrading of competencies (Welter et al., 2014).

Phenomena of "constrained entrepreneurship" are also evident in many female-owned family farm businesses, within context of co-preneurship, where male dominance is realized within the women's ownership (Dyer et al., 2013). We partially disagree with this vision, in that we posit co-preneurship is also possible within mechanisms of cooperation where the family business is managed thanks to collective family entrepreneurship. This is particularly true in case of diversification strategies, with special reference to necessity diversification aiming at being entrepreneurial through coping with exogenous pressures (Bosworth et al., 2015; De Rosa et al., 2019; Henke, Vanni, 2017), then raising levels of farm resilience.

On the opposite side, recent literature, framed in theoretical strand of radical subjectivism, points out the full emancipation of women entrepreneurs and the individual perspective in rural entrepreneurship. According to radical subjectivism (Lachmann, 1986), expectations typify the entrepreneur as future-focused, instead of past-focused (Barrett, 2014). Moreover, decision-making is assumed as individual, under processes of willing reproduction (Heather *et al.*, 2005).

Based on previous considerations, we posit that the acknowledgement of heterogeneity and flexible gender identities is a necessary condition to fully understand the development path in rural gender studies (Bock, Shortall, 2017). This brings about the evidence of diversified trajectories of women entrepreneurship and, consequently, different trajectories of innovation, as the case of high added value agriculture (Wright, Annes, 2016). The rise of multifunctional agriculture has relaunched the visibility of women in the farms, by letting them to "develop a new professional identity as new rural entrepreneurs" (Seuneke, Bock, 2015, p. 42). A visible role of women in performing diversification strategies as response to rural policy have been recently demonstrated in literature (De Rosa et al., 2019), while other studies have framed these strategies within push factors and necessity diversification (Shortall, 2010). However, limiting women's role in rural development to specified paths linked to sustainable agricultural practices seems reductive. The recognition of heterogeneity and flexibility in gender identities is the exit of the multiple worlds of production characterizing women's activity. Consequently, analyses should excavate differences in women entrepreneurship as opposite to male one, and describe the various worlds of entrepreneurial spaces of innovation among women farmers (Welter *et al.*, 2014; Díaz García, Welter, 2011). Set against this background, in this paper the unit of analysis is woman farmer as entrepreneur who manage a farm with the purpose of expanding the business and with the leadership and the managerial skills for achieving determined goals (McElwee, 2006).

2.1. *Identifying entrepreneurial spaces of innovation*

Gendering innovation implies classifying innovation according to gender, in a context of farm's adjustment boosted by shifting external environment, with the purpose of raising farm resilience. By putting forwards an innovation perspective as contrary to opposition perspective (Adinolfi, Capitanio, 2009, in this paper we posit that women farmers may affect the "technological landscape", leading to diversified paths of sociotechnical transition (Darnhofer, 2015), driven by different strategies at farm level. This could be the exit of diversified entrepreneurial spaces of innovation, marked by diverse both ordinary and dynamic capabilities. As posited by McElwee and Smith (2015, p. 443), "Dynamic capabilities consists of two components: (1) the shifting character of the environment; and (2) the key role played by strategic management in appropriately adapting, integrating and re-configuring internal and external organizational skills, resources and functional competences toward changing environments".

As far as external environment is concerned, high barriers to entrepreneurship in both developing and developed countries characterize women farmers (Ghouse *et al.*, 2017). The relatively high barriers that women have to face with respect to men, like access to land, to capital, etc., may push alternative view towards sustainable innovation, added value agriculture (Wright, Annes, 2016), diversification strategies and other not conventional ways of farming within what some authors have labelled as "feminist agrifood systems theory (FAST)" (Sachs *et al.*, 2016). With the purpose of escaping the traditional vision of women entrepreneurship developed inside patriarchal norms, Sachs *et al.* (2016) put forward a theory of alternative, sustainable and agronomically sound agriculture, by offering a clear evidence of the role of institutional and social context in performing these alternative transition pathways toward sustainable agriculture.

The relevance of context is evident in entrepreneurship literature (Welter, 2011). As a consequence, in order to define entrepreneurial spaces of innovation, it is necessary to make reference to a consolidated tradition of researches based on contextualization of entrepreneurship, with special reference to innovation adoption in territorial systems (Kebir et al., 2012). In this backdrop, innovation adoption is not the simple exit of technical variables, but the result of an entrepreneurial process, also affected by institutional variables, like norms and values, acting live individual's subconsciousness (McElwee, 2008; Hosseini, McElwee, 2011). Consequently, in-depth analyses of the complex mechanisms of innovation adoption among women farmers may be clarified as in Figure 1, which illustrates the three groups of criteria to be taken into account, in order to specify the dimensions of innovation: technical criteria, socio-institutional criteria, territorial criteria (Kebir et al., 2017).

Technical criteria refer to the "technical" dimension of the innovation, that is content of innovation and elements that are brought together to generate concretely the innovation. Is this innovation about developing a new activity, about consolidating an existing production system? Is it mobilizing specific/generic resources? To answer these questions, by making reference to Schumpeterian classification, product, process, organizational arrangements, new markets and their possible combination will be considered. Moreover, we will try to combine different innovation with the purpose of exploring linked mechanisms of innovation in women farms.

Socio-institutional criteria make reference to actors involved and forms of coordination. A

first element to be taken into account is "decision-making". More precisely, it is necessary to excavate person in charge of decision making process, and, secondly, if decision-making is either individual or collective (family level). Actually, more than 95% of both Italian and European farm are family business, which foster mechanisms of collective entrepreneurship (McElwee, 2005). Therefore, it is necessary to take into account the set of relations and interdependencies that, unavoidably happens within family farm business.

Two different perspectives on decision-making may be considered:

- individual processes of decision-making, rooted within aforementioned theories of radical subjectivist, where women are responsible for farm's strategy matured within personal expectations;
- co-preneurship, where farm decision-making relies on a family context of collective entrepreneurship, ranging from the couple (e.g., husband/wife or father/daughter) to family managed processes.

Among socio-institutional variables, another key element to be analysed is related to farm's characteristics, which can be explored through the support of a segmentation framework (McElwee, Smith, 2012). It takes into account both structural (farm's size, territorial localization, etc.) and personal characteristics of the farmer (age, level of education, etc.), jointly with the forms of coordination farms activate with the other steps of the agrifood chain. As far as entrepreneurial characteristics of farmers are concerned, Vesala et al.'s (2007) classification will be taken into account, by splitting individual values (optimism, self-efficacy, personal control) and economics values (risk-taking, growth orientation and innovativeness).

Territorial criteria of innovation focus on space and time patterns that both shape and are the results of the innovation dynamic. More precisely, territorial dimension excavates the geographical scales of the innovation project, with a special reference to the distinction among rural urban and rural (periurban and remote) areas. In different territorial contexts, proximity and distant interactions are supposed to be different (to

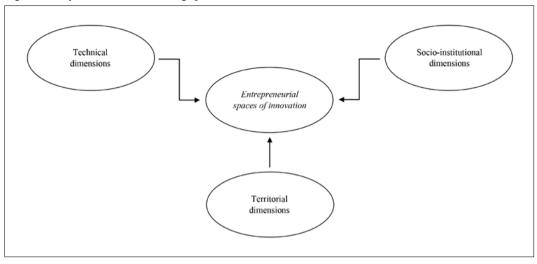


Figure 1 - Key dimensions in defining spaces of innovation.

have different content and/or to rely on different institutions). Moreover, knowledge circulates much more easily than in the past. People, information, codified knowledge, etc. move across space and get anchored locally in various degrees, thanks to the growing role of innovation support services. Therefore, territorial dimension is also about understanding the knowledge anchorage and eventual role of the innovation support services in the innovation process.

Interdependencies among the three criteria shape different trajectories of innovation, by enlightening diversified entrepreneurial spaces of innovation. Thus, the aim of the paper is to analyze entrepreneurial spaces of innovation in the Italian worlds of gendered agriculture, with the purpose of:

- a) identifying some "entrepreneurial spaces of innovation" within Italian female farms;
- b) verifying how entrepreneurial identity of women farmers affect spaces of innovation and innovation adoption.

3. Methodology

With the purpose of exploring spaces of innovation and the relevance of entrepreneurial profile in female-owned farms, we have submitted a questionnaire to a sample of 300 women farms in Italy. The sample has been extracted within the women enrolled in the Trade Union, by taking into account farm's territorial localization (rural-urban), farm size, sociodemographic variables (age, level of education, family composition). Women farmers belong to the Italian Association *"Coldiretti Donne Impresa"*. The sampling procedure evidence some limits because non-probability sampling procedure downsizes the possibility to get generalizable results. Despite that, we agree with literature underlying how non-random sampling could be considered as reliable in exploratory researches (Saumure and Given, 2008).

The questionnaire has been administered through *CATI* techniques (*Computer Assisted Telephone Interviews*); the recalling procedure allowed relatively rigorous answers. The questionnaires were sent in the period March-June 2019 and are articulated in four domains, which make reference to McElwee and Smith's (2012) segmentation framework and on the analysis of entrepreneurial identity of farmers, developed by Vesala *et al.* (2007):

- sociodemographic domain, where personal characteristics of farmers are evidenced. Key questions submitted in this profile are:
 - a. level of education
 - b. age
 - c. family composition (single farmer, childless couple, couples with children)

Table 1 - Active and illustrative variables for multivariate analysis.

Active variables	
Combination of innovations	(10 CATEGORIES)
Decision-making (who takes on strategic decisions) (4 CATEGOR	
ENTREPRENEURIAL DOMAIN	
Economic values	
Risk taking	(4 CATEGORIES)
Proactiveness	(4 CATEGORIES)
Innovativeness	(4 CATEGORIES)
Individual values	
Self-efficacy	(4 CATEGORIES)
Optimism	(3 CATEGORIES)
Personal control	(3 CATEGORIES)
Illustrative variables	
Region	(19 CATEGORIES)
Year of start	(5 CATEGORIES)
Setting up	(3 CATEGORIES)
Family composition	(6 CATEGORIES)
Life cycle of family	(4 CATEGORIES)
Level of education	
Age	(4 CATEGORIES)
UAA	(6 CATEGORIES)
Producers' organization	(3 CATEGORIES)
Benefits from innovation	(4 CATEGORIES)
Combination of benefits	(6 CATEGORIES)
Farm's localization – Altitude	(3 CATEGORIES)
Product destination	(4 CATEGORIES)
Combination of product destination	(10 CATEGORIES)
Product quality	(6 CATEGORIES)
Source of quality information	(4 CATEGORIES)
Diversification	(4 CATEGORIES)
Internet	(3 CATEGORIES)
Informatics equipment	(4 CATEGORIES)
Economic size	(6 CATEGORIES)
Productive specialization	(8 CATEGORIES)
Labour force	(5 CATEGORIES)
Policy access	(4 CATEGORIES)
Productive factors	(4 CATEGORIES)
Relations with other farmers	(4 CATEGORIES)
Sources of information	(7 CATEGORIES)

- d. localisation in the life cycle (young, mature, old);
- 2. strategic domain where we explore business characteristics and processes, through key questions like:
 - a. primary sector (crop, livestock, etc.)
 - b. strategies of differentiation (organic farming, typical products, etc.) or diversification (into farming or non-farming activities)
 - c. farm's physical and economic size
 - d. distribution channels
 - e. policy support (for instance, funds received from the common agricultural, policy);
- 3. entrepreneurial domain, which focuses on farmers' entrepreneurial profile, with special reference to:
 - a. economics values proactiveness, risk-orientation, innovativeness
 - b. individual values self-efficacy, optimism, personal control)

Questions to be submitted are drawn on Vesala *et al.*'s (2007) paper. As they reveal, *the model consists of self-categorization, understood as a dimension of social identity* (p. 53);

- 4. relational domain, which analyses forms of coordination:
 - a. cooperative spirit
 - b. adhesion to producers' organization
 - c. support networks;
- 5. Uptake of innovation, analysing the adoption process and effects of innovation, through the following aspects:

- a. type of innovation adopted (product, process, organizational, etc.)
- b. possible combinations of innovation
- c. eventual benefits from introducing innovations.

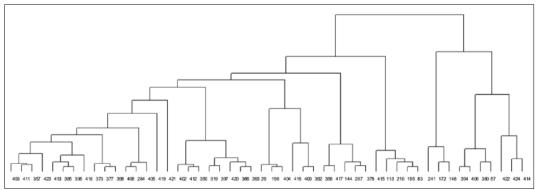
Data collected are processed through statistical techniques aiming at specifying the various entrepreneurial spaces of innovation and, consequently, different 'worlds of innovation' typified by several innovations and supported by different entrepreneurial profiles. With purpose of grouping homogeneous farms with respect to innovation adoption, a cluster analysis has been carried out. The following active and illustrative variables have been taken into account to classify the farms (Table 1):

Variable characterizing farmer's entrepreneurial profile are considered as active in shaping the clustering procedure, jointly with the innovation adopted.

Classification procedure has been processed through the SPAD program, by adopting a criterion of hierarchical classification following the Ward method, through 10 iterations of consolidation with mobile centers. This technique allowed to identify 50 clusters represented in a dendrogram (Figure 2). Additionally, we have evaluated the goodness of classification by analyzing the various breakdowns of total inertia correspondent to, respectively, 2, 4 and 6 clusters.

As far as 2 clusters decomposition is concerned, the between inertia on total inertia ratio is equal to 0.3323. The second cluster is less numerous than the first but it is more homogeneous. After the fourth iteration, consolidation

Figure 2 - Dendrogram of the cluster analysis.



procedure stopped because the relative increase of the between inertia with respect to the previous iteration was 0%.

Regarding four clusters classification, the ratio is equal to 0.5001. The first clusters of the previous partition containing 89% of farms and is now divided into two groups of, respectively, 85% and 4% of total. The second cluster absorbing 11% of total in the previous partition is now divided in two groups (whose relevance is respectively 1% and 10%), remaining stable in the following partition also.

Finally, by adopting the six clusters classification we observed an increase in between inertia and total inertia ratio (0.5387). Only the first cluster of the previous classification splits into three groups with percentage incidence of, respectively, 71%, 10%, 4%. Third and fourth clusters remain unchanged.

By taking into account the aims of our paper, we have decided to opt for the first classification, with two clusters.

4. Results

Out of 300, 237 questionnaires have been considered as valid for the analysis, with a rate of acceptance equal to 81.3%. Starting from the key question on the person taking on strategic decisions in the farms, the multivariate analysis gives back an interesting distinction be-

tween women farmers, by aggregating two main groups of farms describing two main entrepreneurial spaces of innovation, as represented in Tables 2 and 3.

I Macro-cluster

Table 2 reports the main variables, categories and value test characterizing the first group of farms. Moreover, other variables emerge from empirical analysis, which are of help in characterizing the cluster. In order to better specify spaces of innovation, the three dimensions have been taken into account.

As far as socio-institutional dimension is concerned, the analysis of business characteristics evidences that the first group of female farmers is made up of 206 women farmers, 52% of which are young farmers, located in the youngest phases of life cycle, therefore with a long life horizon. A relevant percentage of farms (42,5%) is in the mature phase of life cycle. Farms have been inherited mostly after 2010, mainly through vertical transmissions. Both small (<10 hectares) and big (between 30-50 hectares) farms are present in the cluster, while only farms with high economic dimensions have been found (>50,000 ESU). This is a relevant result, in that good economic performance are realized within both small and medium and big farms. Moreover, women entrepreneurs are well educated, with professional

Table 2 - First path of transition toward innovation.

Variable	Categories	T-value
Proactiveness	Strongly oriented to develop my farm	10.63
Innovativeness	Highly propense to innovate	8.14
Innovation adopted	Various innovations	6.16
Age and family composition	<40 year	5.01
Strategic decisions	Consult with other family members	4.95
Life cycle	Family in the youngest phase of life cycle	4.91
Starting year	After 2010	4.40
Sources of information	Acquisition of information from various sources	2.94
Benefits from innovation	Various benefits (economic, quality of life, compliance, etc.)	2.78
Commercial destination of product	Both direct selling and modern distribution	2.67
Self-efficacy	I think I have higher entrepreneurial capabilities with respect to other women farmers	2.45

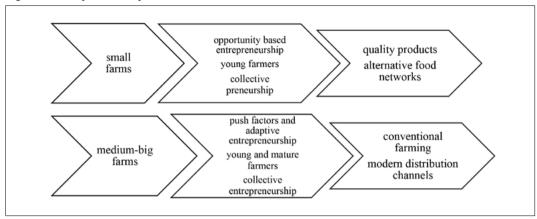


Figure 3 - Entrepreneurial spaces of innovation in the first cluster.

skills and a diploma in agriculture or a degree in agriculture or other topics.

Decision-making process gains ground within processes of co-preneurship: this means interviewed women declare to share strategic decisions with other members of the family, either the father or the husband or all the family members. However, differently from researches on male dominance in co-preneurship, here sharing decision-making seems a positive and effective strategy, bringing about the uptake of innovation. Innovation adoption seems the exit of a good (collective) entrepreneurial orientation, grounded on proactiveness (value test = 10.63), innovativeness (value test = 8.14) and on good personal values, mainly self-efficacy (value test = 2.45). In particular, women farmers of this group have a relatively high self-efficacy, in that they declare "to have higher entrepreneurial capabilities with respect to other women farmers".

Moving to the technical dimension, women farmers of the cluster are innovative, introducing a wide range of innovations, linked to various benefits, like costs reduction, rise of income, better quality of life and compliance with normative prescriptions, for instance environmental compliance. Against this background, two distinct trajectories of innovation emerge. The first one is realized along the path of conventional farming. Women farmers act in the modern distribution channels, introducing innovations aimed at improving relationships with other actors of the food chain. Modern global value chains are highly demanding in terms of quality requirements and prescriptions (for instance, Global Gap, BRC/IFS, etc.). Therefore, innovation engenders mechanisms of necessity entrepreneurship (Dawson, Henley, 2012), pushed by requirements of big retailers.

The second trajectory of innovation is characterized by pull motivation and by the intention to second processes of boundary shift (Banks et al., 2002). These happen along the line of an opportunity business models, whose dimensions are related to the search for alternative niches and regional markets, characterized by a value proposition meeting the needs of a growing share of consumers and by an effective support from rural development policies of the EU. This innovation deals with small farms aiming to reorganize internal resources to produce quality products (deepening strategies) or to diversify agricultural production (broadening) into both agricultural (for instance, crop and animal breeding) and non-agricultural (for instance, rural tourism) activities (Vik, McElwee, 2011). In some cases, diversification is a precise strategy, despite, in some cases it has to be considered as a necessity diversification strategy (Bosworth et al., 2015).

Finally, regarding territorial dimension, lowland areas emerge as prevalent in performing aforementioned trajectories of innovation, involving both localized and national markets. A small percentage of farms in this cluster is located in rural remote areas, by privileging the second profile of innovation, linked to niche quality products and local markets. The other element to be considered concerns the mechanisms of knowledge anchoring, characterizing the first group of farms. Knowledge acquisition is effective in highly performing territorial networks made up of both formal and informal channels. Therefore, the regional agricultural knowledge and innovation systems is able to address innovation adoption in these farms, thanks to aforementioned high levels of entrepreneurial orientation. Figure 3 synthesises previous considerations, enlightening the two discovered entrepreneurial spaces of innovation.

II Macro-cluster

The second group absorbs 31 women farmers, whose path of transition is grounded on radical subjectivism, more precisely, on a women's willing reproduction framework. Decision-making is completely in charge of the women entrepreneurs, takin on the entire responsibility of strategic decisions. However, differently from the previous one, in this case, low propensity to innovate typify the group of farms.

Keywords of this cluster seems resilience, meant as the result of entrepreneurial behavior, stemming from both individual and economic values of farmers. This has an impact on propensity to innovate. Actually, farm's intention is to preserve the status quo, without intention of feeding further innovations.

Sociodemographic variables may be partially explicative, in that we are dealing with either mature or old entrepreneurs located in the mature/old phases of family life cycle. Consequently, the location in the last phases of life cycle reduces the life horizon and, as a consequence, the propensity to innovate. Furthermore, level of education is relatively low, even though a small percentage of women farmers (20%) got a post-graduation diploma.

In addition to socio-demographic variables, entrepreneurial identity of these women farmers lets to integrate the motivations for low propensity to innovate (Table 3). In terms of proactiveness (value test = 6.80), these farms are not growth oriented, in account of low optimism (value test = 2.42) and by serious doubts about farm's capability to persist, despite the relatively good self-efficacy. Actually, women farmers consider their entrepreneurial capabilities as on average with respect to other women farmers.

As far as territorial dimension is concerned, these farms are mainly located in peripheral areas, with special reference to remote rural areas and hills areas. These may represent a barrier for the uptake of innovation. Nonetheless, also in this group we can distinguish two main trajectories, both grounded on the objective of farm's resilience: the status quo and the deactivation trajectory. The first one is characterized by the presence of women farmers that in recent years have already introduced some innovation and, consequently, are not motivated to further invest. They are motivated by the aim of preserving the farm. Innovation introduced regard the adhesion to quality products linked to the territory like geographical indications. Therefore, innovation

Variable	Categories	T-value
Proactiveness	Inclined to maintain the status quo	6.80
Proactiveness	Oriented to business deactivation	6.53
Innovativeness	Not inclined to innovate	6.53
Family life cycle	Mature family	5.05
Innovativeness	Not inclined, because innovations have been already introduced	4.69
Decision making	Women takes on strategic decisions	4.63
Age	41-64	4.59
Self-efficacy	I think I have average entrepreneurial capabilities	2.53
Optimism	No optimism, I have serious doubts concerning my farm's persistency	2.42

Table 3 - Second path of transition toward innovation.

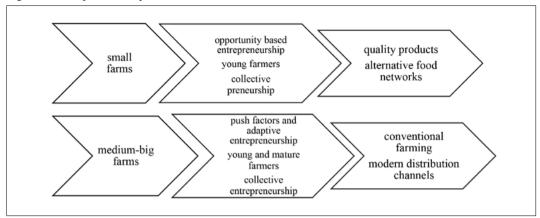


Figure 4 - Entrepreneurial spaces of innovation in the second cluster.

recently introduced concern structural adjustments to comply with quality requirements provided by the code of practices, new knowledge acquisition to incorporate traditional informal knowledge in the product and organizational adjustment to reorganizes internal resources in the collective perspective of valorization. As a consequence, resilience is a trigger for entrepreneurial behavior (Korber, McNaughton, 2017).

The second one is targeted to farm's deactivation, as means for farm to survive, within processes of marginalization of the farm enterprise deeply underlined in literature, especially in remote rural contexts. In this backdrop, strategies of resilience happen in the context of entrepreneurial failure (Korber, McNaughton, 2017).

In order to synthesise our findings, Figure 4 illustrates the two spaces of innovation emerging from the second macro-cluster.

5. Discussion

The three key points of visibility, agency and heterogeneity pointed out in the literature review have been explored through the lens of rural entrepreneurship, with special reference to the women's entrepreneurial orientation framed within a multidimensional perspective of the "context" (Welter, 2011). Based on the consideration of the three criteria (technical, socio-institutional, territorial), empirical provides a dichotomous picture of spaces of innovation in women farming. A clear difference in entrepreneurial orientation marks the difference between the two main groups of farms. In the first group, high levels of entrepreneurial orientation boost innovation adoption: numerous innovations have been recently introduced, ranging from the implementation of new practices (for instance, organic farming), new knowledge, supported by effective knowledge networks and new organizational arrangements. Consequently, in these farms, implementation of innovation involves either the hardware (new techniques) and the software (new knowledge) and the orgware (new institutions and organizations) (Faure et al., 2018). Moreover, networking skills of farmers have brought about strong ties with intermediaries and facilitators of innovation, who act as innovation brokers. Therefore, women farmers have demonstrated good capacities to activate relationships within their context, aimed at boosting knowledge circulation and anchoring and, consequently innovation adoption.

Opportunity-based entrepreneurship typifies women farmers of the cluster, with the purpose of being competitive in modern food supply chain or in alternative food network. Actually, a significant share of these farms is oriented towards paths of farm diversification and qualification of agricultural products, along alternative food networks. Niche and novelty products are the hallmarks of women farmers of this group of rural entrepreneurs, whose production is mainly channelled through alternative food networks, mostly direct selling or short food supply chains.

If, as posited by Darnhofer (2014), diversity in farming is a key aspect to strengthen the resilience of farming systems, we can affirm that women farmers provide a strong contribution to build up resilient farming systems. Nonetheless, what emerges from our analysis is that the diversity strategy is grounded on family farm resources, including co-preneurship in decision-making, which confirms other analyses on the Italian agriculture (Sanlorenzo, 2011). This means diversification relies on the availability of internal resources granted by the family members. Optimism is therefore, a logic consequence of this adaptive strategy to external pressures. Therefore, a virtuous and effective mechanisms of co-preneurship emerges, which, differently from other studies in literature, create spaces of cooperation between family members, bringing about positive influence on innovation adoption.

To sum up with, enterprising and successful women farmers characterize the first group, thanks to personality traits grounded on belief in their ability to control events, problem-solving abilities and networking skills (McElwee, 2006). These women farmers play a fundamental role in the transition process towards multifunctional agriculture and multifunctional entrepreneurship, acting as drivers of change also for other members of the family, as confirmed in recent researches. From this point of view, we agree with Seuneke and Bock (2015, p. 48), when affirming: "These gendered aspects of entrepreneurial learning are essential building blocks to the development of multifunctional entrepreneurship by family farmers". In order to consolidate their entrepreneurial identities, an effective policy action could be related to strengthening rural markets, with special reference to niche market, particularly in remote and peripheral rural contexts. Community supported agriculture, new roles of consumers-citizens in the newly created food market may act as engine for promoting new localized markets and niche innovation. In this backdrop, a renegotiation of gender role is fundamental for rural sustainability (Shortall, Byrne, 2009).

As far as the second group of women farmers is concerned, a different entrepreneurial profile emerges, characterized by an individual approach to decision-making, framed in the framework of radical subjectivism, partially moderated by the presence of family context. Prevailingly mature women manage these farms, in family businesses located in the mature and elderly phases of life cycle, as already posited in previous studies underlying how sociodemographic variables influence women's ability to cope with the constraints (Bock, 2010, p. 24). The reduced life horizon may interfere on innovation propensity and on the perception of the future of farming, bringing about prevalent resistant strategies. Actually, these women are more inclined to maintain the status quo than to develop new trajectories of innovation, while in other cases, women declare to have already introduced innovation. Consequently, resilience is the key strategy of these farms, carried out with the purpose of granting farm's persistency. Our analysis has demonstrated that resilience is either a trigger of entrepreneurial processes or the cause of entrepreneurial failure. In the first case, to strengthen farm's persistency is the main target, while, in the second case, to survive and resist before leaving the market is a key objective. As evidenced in the analysis, farms' deactivation prevails in the second case, in account of a reduced level of optimism and a relatively lower entrepreneurial orientation, marked by low individual values. This result is coherent with recent literature underlying the relevance of personal characteristics in affecting entrepreneurial orientation in family business entrepreneurship (Bégin, Favolle, 2014).

6. Conclusion

This paper aimed at exploring entrepreneurial spaces of innovation in women farms of Italy, by offering an articulated set of innovation strategies shaped by different entrepreneurial profiles. The analysis we carried out allows to fill a gap in literature, providing sound relevance on the role of entrepreneurship in addressing trajectories of innovation from a gender perspective. The results confirm

a) on the one side, literature acknowledging heterogeneity and flexible gender identities. As a matter of fact, *it is no longer enough to distinguish between men and* women, differences among women and among men become more and more recognized (Bock, 2006, p. 5);

- b) on the other side, the paper validates the constituent perspective adopted in the paper, which observe female entrepreneurship under the lens of willing reproduction (Contzen, Forney, 2017; Heather *et al.*, 2005);
- c) literature on gender gap, by emphasizing the relevance of men in affecting female strategies, under either patriarchal and co-preneurship perspective.

The articulated trajectories of innovation call for more targeted policies tools, able to make these women farmers more resilient.

By takin into account the two macro-clusters identified in the empirical analysis, in the first case (resilience as exit of entrepreneurial behavior), policy action is already available in the framework of the second pillar of the CAP. Actually, the valorization strategy adopted by these farms is set up on collective action aimed at valorizing geographical indications. Consequently, empowering collective action become fundamental in order to facilitate access to innovation which may make them more resilient. A typical example is represented by European innovation partnership program that, through bottom-up mechanisms, stimulate innovation at collective territorial level. Furthermore, policy to support quality schemes is strongly encouraged in the actual provision of measures to better qualify agricultural products. In the second case, direct payments to farmers should be maintained, in account of not commodity outputs (landscape reservation, positive environmental externalities, etc.) produced by these farmers operating in difficult areas.

Finally, a wider objective of rural policies for rural women should encourage training and education, by enhancing their entrepreneurial skills (Rudmann, 2008) and by encountering also their needs as pointed out by Hosseini and McElwee (2011). Gender mainstreaming is a key objective of the EU rural policies (Shortall, Bock, 2015): thus, more targeted policies are needed to take into account women farmers' specificities and, consequently, secure an articulated set of measures involving each element of their entrepreneurial space of innovation.

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