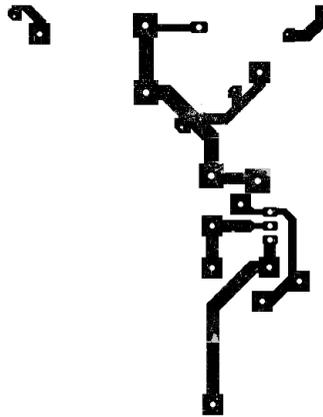


*Collective action and innovation  
in rural areas: an efficient dialogue  
A case study of Greece*



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DOI: 10.4422/ager.2012.06

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Revista de Estudios sobre Despoblación y Desarrollo Rural  
Journal of Depopulation and Rural Development Studies

### ***Collective action and innovation in rural areas: an efficient dialogue. A case study of Greece***

*Abstract* : According to some theories (Putnam 1993; Williams 1998) external risks incentivize small businesses to seek cooperation and synergies with one another in order to cope with those risks and improve their position. It is argued that social capital is a necessary condition for the organisation of collective action (Kazakos, 2006; Bianchi, 2001), and that existing social networks (that are closely linked to social capital) promote this evolution and facilitate these new synergies. However, in the case of Greek agriculture, even where the above conditions are present, no such evolution is observed.

In order to explain the hesitation of Greek farmers to co-operate and to investigate further farmers' attitudes towards entrepreneurship through the creation of collective socio-professional associations, we carried out a research among 110 farmers, in the prefecture of Kilkis in the North of Greece through questionnaires and personal interviews. In parallel, we studied two forms of collective actions where producers of the prefecture are involved in order to answer the question of whether it is the need for innovation that leads producers to collective actions or the other way round. The central conclusion of the field research is that causality can operate in both directions if there is a broker who is strong enough to mobilize the producers.

*Keywords*: Greece, innovation, social capital, collective action

### ***Acción colectiva e innovación en zonas rurales: un diálogo eficaz. Un estudio de caso de Grecia***

*Resumen*: Según algunas teorías (Putnam, 1993; Williams 1998), los riesgos externos incentivan a las pequeñas empresas a buscar la cooperación y las sinergias con otros con el fin de hacer frente a esos riesgos y mejorar su posición. Se argumenta que el capital social es una condición necesaria para la organización de la acción colectiva (Kazakos, 2006; Bianchi, 2001), y que las redes sociales existentes (que están estrechamente vinculadas al capital social) fomentan esta evolución y facilitan estas nuevas sinergias. Sin embargo, en el caso de la agricultura griega, aun cuando las condiciones anteriores están presentes, no se observa dicha evolución.

A fin de explicar las dudas de los agricultores griegos a cooperar e investigar en mayor medida sus actividades hacia el espíritu empresarial a través de asociaciones socio-profesionales colectivas, se realizó una investigación entre 110 agricultores, en el departamento de Kilkis en el norte de Grecia a través de cuestionarios y entrevistas personales. Al mismo tiempo, se estudiaron dos formas de acciones colectivas en que los productores del departamento están involucrados con el fin de responder a la pregunta de si es la necesidad de innovación lo que lleva a los productores a acciones colectivas o al revés. La conclusión central de la investigación de campo es que la causalidad puede operar en ambas direcciones si hay un agente suficientemente fuerte como para movilizar a los productores.

*Palabras clave*: Grecia, innovación, capital social, acción colectiva

Recibido: 14 de noviembre de 2010  
Devuelto para revisión: 1 de marzo de 2011  
Aceptado: 3 de julio de 2012

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## *Introduction*

In agriculture as in other sectors, the rapid rate of technological change, trade liberalization and market globalization have completely transformed the functioning of trade companies' and their market transactions. Adaptation to these new conditions demands innovation, which becomes essential for farms' survival. Innovation may relate to productive processes, transformation, marketing, promotion, training, and/or farmers' information. However, innovation requires capital and/or knowledge and/or time which in most cases are rare or not available.

Putnam (Putnam, 1993) and Williams (Williams, 1998) argue that external risks incite small businesses to collaboration and synergy in order to cope with those risks and improve their position. In fact "synergies can be defined as linkages between two or more entities, whose joint effort produce effects that are quantitatively and qualitatively more far reaching than the effects of similar entities when they operate alone" (Brunori and Rossi, 2000). According to Brunoni and Rossi, a vital point of local development practice is collective actions at the local level and their ability to create links beyond this local level. Today networks are considered as the new models of local development (Loubaresse, 2007).

The international scientific literature suggests that the essential element for a consolidated cooperation between companies is social capital, which underpins

trust and a spirit of cooperation between businessmen (Bianchi, 2001). In fact, "the links between cooperation and trust are that cooperation both engenders trust and requires some degree of trust to initiate it" (Gall and Schroder, 2006). Trust can reduce complexity and uncertainty where technical and social change is rapid (Viklund 2003). Khodyakov (2007) finds a correlation between these high trust societies and those that have high levels of social capital. Bourdieu (1980) says, "social capital is the whole of actual or potential resources which are linked to the possession of a durable network of, more or less institutionalized, relationships of inter-knowledge and inter-recognition". Social capital is said to be formed through repeated social interactions between individuals and groups, and the amount of capital built depends on the quality and quantity of interactions (Lee *et al.*, 2005).

Kazakos (2006) says trust is the foundation of social capital, which he constructs as the capacity for people to cooperate. Cooperation involves proactive behavior to achieve mutually beneficial outcomes (Gall and Schroder, 2006). A relation based on trust generated within the framework of a collective action concerns both the co-ordination of participants' behaviours and the scope of possibility for following a common action (Dupuy and Torre, 2004). Trust is inherent to the situated, observable and accountable reciprocity of every micro interaction (Falk and Kilpatrick, 2000). It also constitutes a necessary condition for economic efficiency.

According to Putnam (1993) social capital is formed by "features of social organisations, such as trust, norms and networks, than can improve the efficiency of society". Putnam initially distinguished between trust as the level of organisations and subsequently trust at the level of the individual. Personal trust concerns the way in which individuals relate to individuals. System trust or institutional trust is concerned with how groups such as partnerships and networks relate to each other (Curry 2009). According to Curry, these two levels have been incorporated into Putnam's (2000, cited in Curry 2009) bridging and bonding capitals. In linking concepts of trust to notions of social capital, personal trust can be seen to share common ground with bonding social capital, system trust with bridging social capital (Curry, 2009). Bridging capital is used to describe a more distant, less interpersonal platform for social capital interactions, where external network and other organisational structures come to the fore. When trust doesn't go any further than the family, it means that other social institutions are questionable. Powerful family ties and the related diffuse mistrust against others do not support

the development of wider networks. It can lead to a type of familial society, whose initiatives must be supported by the State (Kazakos, 2006).

Former structures of co-operations promote new ones (Putnam, 1993, Williams 1998), and in general, pre-existing social and economic networks seem to facilitate the emergence of new synergies (Brunori and Rossi, 2000), because they are often built upon existing trust relations. In the USA the pre-existence of agricultural cooperatives facilitated the development of networks in rural areas, because people were more familiar with cooperation and could therefore more easily accept a network organization (Rosenfeld, 2001). Positive prior experiences through a network create a favourable environment for the establishment and maintenance of continuing relationships (Gall and Schroder, 2006), because the familiarity developed through prior alliances has enhanced trust. The importance of existing networks lies in access to information, emotional and tangible support, status and a governance mechanism that facilitates trustworthy and predictable behaviour (Gall and Schroder, 2006).

In the case of Greek agriculture, the conditions for the creation of such synergies among farmers exist: the survival of a big number of small farms is becoming increasingly difficult because of high external risks (mainly because of the highly competitive global market and the reduction of EU protectionism). In addition, some professional organisations (cooperatives) do exist in the Greek countryside. But although these cooperatives played an important role for the modernization of Greek agriculture during the first decades after the Second World War, they seem unable to undertake new roles and help farmers deal with risks today. After the entry of the country in the EU, the support for agricultural income through EU's subsidies has consolidated farmers' beliefs that agricultural incomes are safe and given. This led them to believe that cooperatives were unnecessary for professional progress and therefore unimportant to maintain.

Therefore even if conditions have now changed and the creation of synergies would be of great help to Greek farmers, they seem reluctant to get involved in co-operation. Economic factors can partially explain this attitude, but it also originates in some social factors like trust and social capital.

Field research (Koniordos, 2006; Kazakos, 2006) has shown that Greeks highly trust their families, and their trust in public administration is exceptionally low. The results of this field research concern the whole of Greek society, but we argue that the same finding applies to the attitude of Greek farmers.

Nowadays co-operation between farmers seem more necessary than ever. Participation in collective actions enables farmers to open up to the outside world, which requires developing relations with other farmers and local or large scale institutions in order to reduce the cost of production, and increase the adoption of innovation and the dissemination of knowledge. Innovation in particular seems essential at all levels of farm's functioning (technology, education, information etc.). Authors such as Klerkx and Leeuwis (2009) emphasize the need for coherence of innovation support instruments, both "soft" (awareness raising, demand articulation, networking support, consultancy, training) and "hard" (such as physical infrastructure, funding). Due to the existence of multiple gaps that hinder effective cooperation, the scientific and policy literature points at the need for intermediary organizations to fulfil bridging and brokerage roles (Klerkx and Leeuwis, 2009).

In the Greek context, the question is who can play the broker's role in order to enhance innovation by farmers. A majority of agricultural cooperatives do not seem to play such a role. On the other hand, the official extension services, even if they played an important role in the diffusion of innovation in the past, have lost this role after the entrance of the country to the European Union (Alexopoulos *et al.*, 2009). Because of this lack of institutions that might play the role of brokers, farmers are very often called to get mobilized on their own. Even if farmers remain inactive and reluctant in their majority, some exceptions do exist and a small number of them do cooperate and create synergies in order to adopt innovations, based or not on former existing structures and networks.

The question is whether it is the need for innovation that leads to a collective action or the other way round. Moreover, it is interesting to know the factors that lead some farmers to get organized for collective action and not others. The present paper deals with these questions. The present study is based on semi-open questionnaires with 110 farmers in the prefecture of Kilkis (in the North of Greece) and on personal interviews of the presidents of two cooperatives in the prefecture.

## *Greek agriculture*

Greek agriculture is characterised by a high number of farms (860 150 in 2007). The average farm size is 4,7ha placing the country in the last four within

the European Union (of 27 members). The majority of these farms (76,2%) have less than 5 ha, are fragmented and are run by relatively old farmers (one out of two Greek farmers is over 55, Eurostat, 2010).

Nowadays, cooperatives remain the most common farmers' collective organization. Almost all Greek farmers are members of the agricultural cooperative of their village (1st organisational level); as a consequence 6376 Agricultural Cooperatives of this level exist, which is the second highest number in the EU, after Italy (Papageorgiou 2004). The total number of their members is nearly 714,000 producers. At prefecture level, these agricultural cooperatives are grouped in "Unions of Agricultural Cooperatives" (2nd organisational level) and currently there are 110 across the whole country (Paseges, 2010)<sup>1</sup>.

The reasons for the creation of such a high number of agricultural cooperatives are historical, and date back to the decades of 1920 and 1930. Since then, these Cooperatives have become instruments for the application of the national agricultural policy. After the Second World War, they played an important role in the modernization of Greek agriculture; producers traded then almost exclusively with them. But after the entry of the country into the EU (1981) agricultural cooperatives have been gradually transformed into mere instruments of the Common Agricultural Policy (CAP) and managers of EU funds.

The legal framework combined with several misplaced key policy decisions, the entry of private dealers in the agricultural sector and the weakness of organizations to adapt to the changing global market, led the majority of cooperatives (in both the 1st and 2nd organizational level) to an economic impasse. The reorganization of co-operatives was never accomplished and consequently their structural and functional problems (dependence on the State, confusion between their economic and social role, limited activities in the primary sector) were not solved (Louloudis & Maraveyas, 1999). Despite the large number of cooperatives, their turnover remained around 85 Mecu\$, which was the lowest value in the EU in 2000 (Secretaria General Técnica, 2000). The high number of cooperatives compared to their weak turnovers reveals the fact that these cooperatives have not affected the structural character of the agricultural sector and that their existence served rather broader and less well-defined goals than the establishment of efficient marketing networks.

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1• PASEGES, the Pan-Hellenic Confederation of Agricultural Cooperatives, is in the top of cooperatives' hierarchy.

Another quite common form of farmers' collective action is trade unions, which have the same hierarchical structure as cooperatives (corresponding to two territorial levels, a local and a larger one). These trade unions were created after the entry of the country to the EU, given the necessity of farmers' lobbying representation to EU institutions. The fact that this was the result of a top-down action combined with the clientelist organization and functioning of the country's administrative structures, has created a strong dependence of trade associations on political parties. Greek farmers' Unions depend on the State, institutionally and economically (State corporatism) and often depend ideologically, politically and financially, on the political party which is in power (Tsioubos, 1992). So, when these associations are left-wing, they are closer to the GESASE (General Confederation of Farmers' Unions of Greece); and when they are right-wing, they are closer to the SIDASE (Confederation of Democratic Farmers' Unions). This division of the farmers' syndicalist movement has reduced its efficiency and this, according to Louloudis (2008), is due to the lack of farmers' socio-professional conscience.

The weakness of cooperatives in helping farmers' to solve their financial problems and the lack of effectiveness of trade unions concerning institutional problems led to a general depreciation by them of these collective actions. Apart from the adverse consequences for farmers in economic terms, adverse effects are even more significant in social terms, because of the erosion of their trust (that is an important part of the social capital) to them. As a consequence, farmers are currently too sceptical about any form of cooperation, especially when such cooperation aims at economic purposes.

### *Diffusion of innovations*

Historically, the role of diffusing innovations in Greek agriculture has been held by the Agricultural Extension Services of the Ministry of Agriculture, which was established in 1951 in order to modernize the post-war Greek agriculture. During the next two decades that could be described as the «golden age» of the Service (Alexopoulos *et al.*, 2009), an increase of national agricultural production was achieved that led it to be highly appreciated by the rural world.

The frequent problems that these services had to tackle, despite being severe, were relatively easily solved through existing technical knowledge and the introduction of new/improved inputs. As a result, Greece attained self-sufficiency in some strategic food crops by the end of the 1950s. In addition, the first Agricultural Training Centres were established all over the country in the early 1960s and agronomists were efficiently carrying out educational duties (Alexopoulos *et al.*, 2009). From the 1970's, the changing external environment has imposed adjustment to their objectives because these were no longer limited to the increase of agricultural production, but in shaping policies and adapting to competitive market conditions. However, the Agricultural Extension Services were not prepared to assume such roles and have thus been limited to bureaucratic formalities.

After the country's entry in the EU (1981) the Agricultural Extension Services have not been reorganized. On the contrary, they were charged with more bureaucratic administrative responsibilities. Agronomists kept to their offices and were gradually transformed into simple bureaucrats. Gradually, the service was cut off from the agricultural reality, and became unable to give advice to farmers, and to introduce and promote innovation in rural areas. This role was fulfilled partly by the private sector, which has provided agriculture with products and services, while making high profits.

Overall, during the last three decades, Agricultural Extension Services, as well as agricultural cooperatives failed to become vectors of innovation in rural areas. Consequently, farmers have been deprived of public advisory bodies that could have helped them to adapt to significant actual changes. At the same time, farmers have lost their trust in these public bodies, and also in collective actions in general (Gidarakou *et al.*, 2006; Koutsouris, 1999).

## *Field research*

In order to analyse farmers' hesitation and limited participation to Unions, professional and other collective associations, other than cooperatives and to investigate their attitudes towards entrepreneurship and new forms of collective organization, we carried out a field research in the prefecture of Kilkis in the north of Greece (in the region of Central Macedonia). Even though it is a rural area

located near the big agglomeration of Thessaloniki (1 000 000 people approximately), the primary sector still plays an important part in the local economy (its total agricultural area is 116,5ha (Eurostat, 2009)). In different zones of the prefecture, different agricultural productive systems are in use: intensive irrigated crops (tobacco, cotton, and arboriculture), extensive non-irrigated ones (mostly cereals) and livestock-farming according to the relief and the special characteristics of each zone.

Nine villages were selected according to their demographic size, –between 400 and 1 000 people (census of 2001)–, in order to correspond to the average demographic size of villages in the prefecture of Kilikis. Our aim was to choose villages covering the broad range of agricultural production systems of the prefecture.

Field research in this area was conducted during August – December 2009. The quantitative data were drawn from the two "Unions of Agricultural Co-operatives of Kilikis (UAC)" which keeps records of all holdings within the region. We were able to use the most recent records for the year 2008, in which 1,295 holdings were registered in our study area, representing 10 per cent of the total farm holdings in Kilikis.

The average size of farms in the nine villages was 7,36 ha. 59,7% are men and 40,3% women. Half of them cultivate less than 5 ha, 27,8% 5-10 ha and 21,5% over 10 ha. The majority (92,4%) are agricultural and only 7,6% have mixed productive orientation (husbandry and vegetal production). The age composition is the following: 38,3% are older than 65 years, 22,9% 50-65 years, 20,6% 40-49 years and 18,3% under 40 years. Among farmers that are under 65 and practice agriculture as an exclusive or main activity, we chose randomly 110 among them who were less than 40 years old (considering that young farmers were the most dynamic part of the ensemble) for carrying out an in depth research. Our aim was to have a large appreciation of farmers' attitudes and points of view about collaboration and collective commitments.

Gender, farm size and productive direction of study's new farmers is significantly diversified compared to the whole farmers of the nine communities. Almost all of the target group farmers are men (105 out of 110). The average size of their farm is approximately 20ha (19,7 ha). Just 15,5% possess less than 5ha, 19,1% owns 5-10ha, while the majority has over than 10 ha. Finally, 61% of them are cultivators and 39% are also breeders (mainly shepherds). The data project that new farmers concentrate the agricultural land and the animal capital of their communities.

## *Farmers participation to cooperatives and unions*

The first agricultural cooperatives in the prefecture were set up during the '20s and '30s mainly from Minor Asia refugee populations, who arrived in this area during the '20's. The hard conditions of this period forced them to cooperate closely in order to survive. Some of them brought and disseminated innovations concerning crops' techniques (tobacco, vine); some of these innovations required close cooperation with other farmers at various stages of crops' cycle. They created agricultural cooperatives which contributed to the modernization of agriculture. The local Agricultural Extension Service also took part in this process; so, both gained at this moment farmers' high appreciation and trust.

While the role of these cooperatives in the prefecture, as in the rest of the country, was essential to farms' modernization and extension services some decades ago (supplies purchase, marketing of agricultural products, loans...), it seems minor today. As a consequence, most of the functions of cooperatives are not, or only partly, fulfilled.

Nevertheless, today, in the prefecture of Kilikis, there are 109 agricultural cooperatives (1<sup>st</sup> level organisation), i.e. almost one in every village. They are still the most common collective commitment of farmers in the prefecture, as in the rest of the country. These 109 cooperatives are gathered within two "Unions of Agricultural Cooperatives" (2<sup>nd</sup> level organisation) in the prefecture.

In our field area, the majority of the interviewed farmers (87.37%) are members of the cooperative of their village and two of them are even their presidents. According to farmers, their participation in the cooperatives is due to the fact that when they took the family farm in charge, this included the co-operative quota share. However, most of the farmers (about 80%) do not make any commercial transaction through the agricultural cooperative: they neither buy their supplies, nor deliver their agricultural products to them. They only take advantage of the services provided in relation to bureaucracy. In fact, the main activity of cooperatives was limited to facilitating bureaucratic processes, and mainly farmers' access to CAP subsidies, without playing any role either in the productive process, or in the transformation or marketing of agricultural products.

As farmers rarely buy supplies or sell their products through cooperatives (or Unions of Cooperatives) the latter are in a very bad financial situation. This evolution is due to laws relative to cooperatives, which do not force their members to sell and buy exclusively through their cooperatives. But it is mostly due, as has been said, to the way the previous rural policy was applied, to bad management and the organisational weakness of Cooperatives (and their Unions of Cooperatives) and to the fact that cooperatives are not yet adapted to the new requirements of the global market (Papageorgiou, 2004).

Thus nowadays, the bulk of Greek farmers are not really represented through any socio-professional organization or Union in spite of some initiatives aiming at changing this situation, such as the national law 2732/99 which promotes the institution of socio-professional organizations and farmers' Unions. This lack of representation is explained partly by the fact that farmers don't trust farmers' Unions, which are often controlled by the State or by the political parties and therefore subject to political pressures (Tsioubos, 1992). In addition, "cooperatives became clientelist centres, functioning like mediators between the party and the farmers at all levels of the agricultural policy" (Louloudis and Maraveyas, 1997).

So, in Greece, even though these old socio-professional structures (Cooperatives and farmers' Unions) exist, farmers do not seem willing to use them or to get involved in other collective actions in order to respond to the high external risks. This fact has also been confirmed in other contexts. For example Brunori and Rossi (2000) argue that in Italy "centralized state intervention, agricultural cooperatives and national farmers' organizations have lost their capacity to regulate the agro-food system and to respond to the emerging problems of farmers, consumers and citizens".

However, farmers' expectations from collective organisations were higher than their level of participation to them. Even if a great majority of farmers declared that they were not satisfied at all with the cooperatives and the Unions they belong to, and that cooperatives did not play an essential role in the local economy and that they don't fully trust them, only 10,90% of the farmers proposed their suppression, while 69,10% proposed their restructuration. Responsibilities were attributed to cooperatives' and Unions' administrations, but no responsibility was ever attributed to the farmers/members themselves. In the context of questioned existing structures, farmers stated that one of the main reasons for the failure of agricultural cooperatives was the fact that they were too numerous and heterogeneous and that their members did not have common goals. From their point of view, these disadvantages were not balanced by the

scale economies that their large structure could create. The majority (67,27%) of interviewed farmers thought that small and homogenised farmers' groups, were more efficient forms of collective action than agricultural cooperatives, with their numerous members. 16,36% of the farmers believed that cooperatives with their existing structure were more efficient; 9,09% of farmers did not express any opinion and 5,45% of them claimed that collaborations in general were not efficient.

Their perception of farmers' Unions was similar. Despite cattle-breeders' efforts to create a farmers' Union association in 2007<sup>2</sup>, no Union exists at present at the local level. Almost half of the interviewed farmers believed that there was no chance for a farmers' union to be created at a local or regional level and half of them did not express any opinion about this question. The impossibility was due –from their point of view– to a lack of trust and the difficulty of reaching an agreement.

However their beliefs concerning collective organizations unrelated to agricultural organizations are different. 42,72% of the interviewed farmers did participate in local cultural and/or athletic associations and 32,72% of them in a very active way. It must be noted that 61,81% of the total number considered that the role of these associations was very important for the local society.

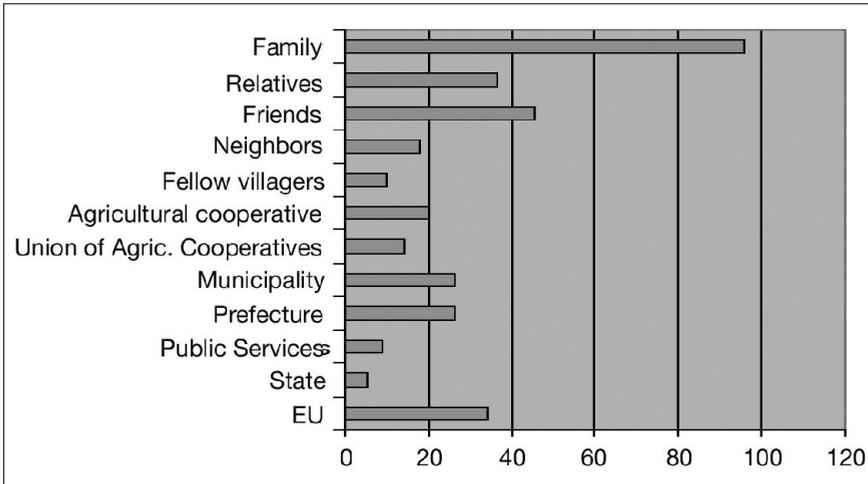
Personal interviews indicated a lack of trust from target group farmers towards both their fellow farmers and the relevant to their profession agencies. This situation is clear via their responses to questions related to degree of trust in different social and official institutions.

Farmers in our field research claimed that they mostly trusted their very close family. Their trust decreased as this environment becomes larger and more impersonal (relatives, friends, neighbours, fellow villagers, cooperatives, municipality, prefecture, State). Nevertheless, they do trust the supranational institution of the European Union<sup>3</sup>.

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- 2• In 2007, breeders tried to negotiate better prices for their milk by blocking out some motorways in the department for some days. But they failed.
  - 3• Given the political events since then, this might no longer be the case.

Figure.

Percentage of interviewed farmers showing trust (much and very much) in different social and official institutions



Source: Data of the field research, Kilkis, 2008

The lack of trust in their fellow villagers partially explains farmers' unwillingness to get involved and set-up new collective actions. Half of the interviewed farmers (50,90%) claimed that they had always been told by their family that "it is always better to work by yourself". When asked what they believe, the percentage is higher (54.5%). However, the percentage of those who believe that it's through cooperation that they can achieve more than on their own, is still significant (45.5%). This large minority is sympathetic towards new collective actions.

### *New collective actions*

Despite the general reluctance of the farmers interviewed to take part in collective actions, some particularly innovative trends emerged thanks to them. New practices, based on alternative techico-economical rules were developed in

our research areas and incorporated the restructuring of local and global relations. In fact, two new, very active cooperatives have emerged in the department. We focused on them in order to study the factors that led to their appearance and to identify their members' characteristics.

### ***The "Cooperative of pomegranate farmers"***

This cooperative is based on one of the nine target group villages, which was created from a former cooperative of ex tobacco producers. So, in this case, as it has also been proved in other contexts, "positive prior experiences through a network create a favourable environment for the establishment and maintenance of continuing relationships (Gall and Schroder, 2006), because the familiarity developed through prior alliances has enhanced trust.

In this village, farmers traditionally cultivated tobacco (eastern varieties). In the middle of the 80s, following the initiative of a leader, they changed the main cultivated varieties (for the American variety of tobacco, Virginia). This change led to several important transformations of the former productive system: new cultivation methods, new investments (mechanical equipments, oast houses) high demands in labour. This also led to a considerable increase in the farmers' incomes. In order to optimize the production and commercialization of tobacco, farmers created the "Tobacco Cooperative of Toumba" in 1987<sup>4</sup> which totaled 180 members. The role of the leader was very important concerning the constitution, the functioning and the evolution of this cooperative. And this because beyond his leading capacities, his political connexions helped achieve important benefits to the cooperative, as regards products' promotion, subsidies' access etc. Thus, he managed to earn the trust of the members and was maintained as president for several years, until today.

For about 20 years the new variety of tobacco and its producers' organization had guaranteed considerable incomes to the farmers of the area. But tobacco production stopped in 2005, as a result of the CAP reform, greatly disturbing the

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4• This cooperative was characterized as "cooperative for special purposes" and operated simultaneously with the "Agricultural Cooperative" of the village. According to Greek Legislation for "Agricultural Cooperative Organizations", it is forbidden to establish a second cooperative in the same village, unless the second is for special purposes.

community of former tobacco producers. The younger farmers in particular started to look for new solutions. Thus, on the initiative of the same leader, approximately 50 former members of the "Tobacco Cooperative" decided to turn to pomegranate cultivation and establish the "Cooperative of Pomegranate Farmers". According to the president of the Cooperative, all of them are quite young, under 50, while the average age is 42. The rest did not participate because of their age and the fact that most of them did not have a successor on their farm. Out of 52 members, ten cultivators were participants in the present study.

In 2006, the first orchards of the co-operative were installed in the region. From the following year members of the co-operative started to develop parallel cooperation with local people for the production of saplings. At the same time, they applied for subsidies in order to realize investments in mechanical equipments. Thus, with the new investments they will proceed to the concentration, standardisation and storage of fruit, the extraction of seeds and their transformation into juice. According to their calculations, these investments will account for the planting of 300 ha of orchards. In 2009, they cultivate around 100 ha and plan to plant another 50 ha in 2010. The aim of the group is to reach 300 ha within the next five years.

They harvested their very first small production in 2008; the following year they reached a production of five tons and they expect to complete full production in 2011. At present and until the realization of all the planned investments they still use the infrastructures of the former "Tobacco Cooperative" (deposits - refrigerators - offices). All the members of this cooperative must deliver their whole production to the cooperative.

They also asked for scientific advice from the Dimokriteio University of Thrace to improve their know-how. In fact, they asked advice from the same group of scientists as they had done before for tobacco culture. Nevertheless, this is not the only cooperation with other institutions and organisations. From 2008, members of this cooperative cultivate sevia, a plant that can be used as a substitute of sugar, in the framework of a pilot experimental program of the Aristotelian University Thessaloniki. If the results are positive, the members of the cooperative affirm they will be ready to adopt this new culture too.

### ***The “Cooperative of shepherds of Chios sheep”***

Shepherds of sheep of the race Chios<sup>5</sup> in central Macedonia were called to participate to a program of the Ministry of Agriculture based on the initiative of the “Institute of Genetic Improvement”, based on Thessaloniki, concerning the genetic improvement of their animal capital and their marketing. 70 sheep-breeders participated and created a cooperative in 1996 aiming at the production and marketing of certified pure-blood lambs.

The necessary know-how for such an effort was provided by the Institute. While using the program funds, the cooperative hired two scientists, secretaries and control staff. The producers are guided, their interventions are followed systematically and all the data are collected in a central data base in order to locate the best genetic material and to distribute it to the other members.

Enrolling in the cooperative requires a different way of running the husbandry farm, that is to say full recording and follow-up of all changes in the livestock (dates of couplings, births, labelling, etc). We can consider that trust in this case is based also upon these kind of formal arrangements, more than upon personal relations. But, this means higher labour demands and also using an electronic follow-up of farm, which discouraged certain members of the cooperative and incited them to withdraw their membership.

The current number of Cooperative members is 56 and three of them participate in the present study. According to the president of the Cooperative, the majority of farms concerned are middle size, with about 250-300 sheep each, and modern installation. As a consequence of the particularly demanding terms of participation to the cooperative the members are quite young (45 years as an average) and particularly active.

The success of this cooperative led to the development of new objectives. The production and marketing of pure-blood lambs have become a secondary objective and the main one is increasing the productivity of the livestock (in milk and in lambs) through genetic improvement. Lambs produced on the farms of the cooperative have a quality label and a pedigree. At the same time producers must

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- 5• Sheep of Chios race are particularly productive in milk and lambs and they can be exclusively bred as stable sheep. The cost of an establishment with the specific race is extremely high due to the animal capital and the equipment.

supply this improved genetic material to the other members of the cooperative. According to the president of the Cooperative, thanks to the genetic improvement, the production of milk has increased by 20%.

Since 2006 the cooperative has become a vehicle of genetic improvement meaning that it could henceforth officially undertake the genetic improvement of other farms thanks to its know-how. Until then, the only institution that could undertake this action was the "Institute of Genetic Improvement".

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## *Conclusion*

By the early 20th century, a strong cooperative movement was formed in rural Greece, which played an important role in modernising the country's agriculture. In parallel, a very active extension service contributed towards the same direction. With the entry of the country in the European Union in 1981, new roles have been assigned to the extension service that has removed it from its initial role. At the same time, the security provided to farmers by EU subsidies, led farmers to believe that their incomes depend more on these subsidies and less on other factors, such as cooperation. Furthermore, cooperatives' weakness to adapt to fast changing conditions has intensified this view. On the other hand, the existing powerful family ties contributed to the configuration of the family-EU scheme in rural areas that excluded any other intermediary structure. As a result, trust towards persons as well as systems has been eroded in a few decades; a fact that can be described as an "erosion of social capital" in rural communities (an expression that is referred to also by Svendsen G. and Svendsen G., 2000), that was articulated during the time of many decades.

In the frame of our research field, the former collective structures discouraged the majority of farmers to be committed to collective actions. Farmers put into question and often scorned the existing forms of collective action, without however scorning cooperation in general. Even if the global environment is particularly difficult and hostile, the majority of farmers do not develop new local synergies, even if they admitted that such actions could bring a solution to some of their problems.

Generally, when there is a shortage of trust, farmers expect very obvious and concrete positive results from cooperation in order to get involved in it. Farmers refuse or hesitate to get involved in new synergies and cooperations because the latter are very risky for them. They believe that the risk they take for trusting the others is greater than the one taking for not trusting the others. However, some small minorities of farmers, mostly young ones, manage to overcome this belief, to circumvent the official body of extension services and to create new collective actions (different from the traditional ones) that allow them to find and adopt innovations.

As we have seen in our research field, two characteristic forms of collective action and horizontal networking exist in the rural area of the prefecture of Kilkis in Northern Greece, that enable farmers to adopt important innovations.

In both cases the producers who chose to participate in the cooperatives are medium size farmers (according to national and regional sizes), who look for ways to consolidate their position on a globalised and highly competitive market. Small farmers do not seem as willing, either because they are often orientated towards other economical sectors or because they feel too marginalized and weak to react. Big farmers either consider that they are capable of surviving and running their businesses by themselves (trusting their personal abilities and their farms' infrastructures).

In the case of the cooperative of pomegranate producers, the organization is local and the initiative is based on a bottom up, endogenous approach. It is based on personal relations between members who know each other and have previous successful experiences in collective actions. Moreover the broker was a farmer. So, in this case the social capital is a bonding one. On the contrary, in the case of the cooperative of shepherds the organisation is supra-local and the initiative is based on a top down, exogenous approach. It is based on system trust. The members do not know each other and the broker was an institution. The social capital in this case is a bridging one.

The contributing factors for creating collective action were different in these two cases. In the case of the pomegranate farmers' group, the former structure (tobacco cooperative) helped to create the new one, which means that it was the prior collective structure that enabled the innovation. So, in this case, as it has also been said in other contexts, positive prior experiences create a favourable environment for the establishment and maintenance of continuing relationships, because the familiarity developed through prior alliances has enhanced trust. On

the contrary, in the case of sheep-breeders, it was the need for innovation that led them to create a collective action. Given this need for producers to innovate, an active institution achieved to mobilize them and to create a collective action.

The question that we tried to answer through the study of the above cases was whether collective action created innovation or innovation led to collective action. In our field area it seems that both hypotheses came true. The analysis shows that collective action creates innovation which creates another innovation and this is the way a cycle of consecutive innovations can be created.

In our field area, it was found that even if the social capital was limited, new collective actions, which lead to innovations, has been created. The necessary condition for this was the existence of a broker who may be an individual or an institution. We also noted that medium size farmers are keener on creating collective action than small or big size farmers. Moreover, these collective actions are more frequently based upon homogeneous groups of farmers, according to their characteristics and expectations.

So, it seems that small and uniform shapes are more efficient and flexible, in present circumstances. Thus the role of institutions (and not only necessarily of the extension services) is to help identify homogeneous groups both at local and supra-local level and to mobilize them. This finding allows us to say that Greek farmers need an impetus in order to act. This means that the necessary substrate, which can lead farmers to such transformations and development through collective action, does exist but in "standby mode".

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## *Acknowledgements*

We would like to thank the Reviewers for their comments which helped us provide a better vision of our paper and we hope to make a contribution to the Journal.

This research was co-funded by the Technological Institute of Thessaloniki, Greece.

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