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COLLECTIVE ENTREPRENEURSHIP IN AGRICULTURE AND ITS CONTRIBUTION TO SUSTAINABLE RURAL DEVELOPMENT IN GREECE

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Abstract: Agricultural Cooperatives, as member-owned and controlled agribusiness enterprises traditionally play an important role in upgrading the socio-economic status of their members and local Communities. However, in Greece, the majority of Agricultural Cooperatives face severe financial problems, which undermine their existence. In order to surpass this situation, they have sought means of enhancing their business dimension using more competitive forms of collaboration. These include alternative forms of collective entrepreneurship associated with the transformation of "Traditional Cooperatives" into "New Generation Cooperatives", which under appropriate conditions can ensure their development and their members' welfare. The typology developed in the present paper presents distinct patterns of collective entrepreneurship in which the traditional cooperative and the private enterprise are the extreme poles. The typology presented allows the comparison of alternative forms of collective entrepreneurship in the light of a three-dimensional balance between economic development, environmental protection and social equity.

Keywords: Agricultural cooperatives, collective entrepreneurship, competitiveness, new generation cooperatives, sustainable rural development.

Introduction

Greece, a country with a significant agricultural sector, is characterized by the existence of many isolated rural areas with limited development resources and many problems that affect their competitiveness. Agricultural cooperatives, located in rural areas of Greece, are a potentially important source of rural development and thus of sustainable rural development (Figure 1 and Table 1, 2). However, the odds on most indicators of the Lisbon strategy (22nd place in the overall ranking of 25 EU countries), as well as Greece's low ranking among EU countries according to various reports on international competitiveness, creates the need to shift to alternative forms of agriculture and rural

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entrepreneurship (Diakoulaki, 2006; IMD, 2008). The effective agricultural entrepreneurship through competitive business forms is a prerequisite for sustainable development in rural areas. In addition, the multifunctionality of rural areas, where a significant proportion of farmers combine employment in the agricultural sector with employment in secondary and tertiary sectors, such as processing agricultural products and services such as agro-tourism and many other related activities, marks rapid developments that encourage the implementation of new models of collective entrepreneurship.



Figure 1. Biggest agricultural cooperatives in Greece

The aim of this paper is to examine how alternative forms of collective entrepreneurship can transform the Food and Beverage industry in rural areas of Greece to competitive units that could promote, under certain circumstances, sustainable rural development. Moreover, how recent developments in the European Food and Beverage industry affect the same sectors in Greece is examined. The alternative forms of collective entrepreneurship are presented, with the New Generation Cooperatives being the main representative, as in recent years they have managed to adapt the basic organizational characteristics of traditional cooperatives (TC) to those of non-cooperative enterprises (NCE), in order to adapt to the fierce competition launched by international economic developments (e.g., industrialization of agriculture and food sector, globalization

of markets). Along with the “New Generation Cooperatives”, in which the main features are that ownership rights are in the form of tradable and appreciable delivery rights restricted to current member patrons, there is a fixed number of members and the capital coming from the members is in proportion to the amounts that each member procures to the cooperative to process, other types of collective entrepreneurship have also been created.

Table 1. Financial data of UAC in Greece for year 2000

Geographical division	UACs	Turnover (in million €)	% of total sales of all UAC	Employment	1 st degree agricultural cooperatives	Farmers Members
Stereia						
Hellada & Evia	17	83.88	8.9	938	866	135 635
Peloponnese	19	139.08	14.7	1 242	1 066	106 060
Ionian Sea Islands/Hepirus	10	64.89	6.9	662	660	75 303
Thessalia	10	114.87	12.2	1 186	705	85 427
Macedonia	28	208.89	22.1	3 365	1 713	174 774
Thrace	5	91.88	9.7	597	328	30 690
Aegean Sea Islands	11	57.58	6.1	622	302	46 145
Crete	18	152.01	16.1	1 170	710	92 778
Total	118	943.08	100	9 782	6 350	746 812

Source of data: PASEGES, 2000

The main categories are the “Member-investor cooperatives” where returns to members are distributed in proportion to shareholdings in addition to patronage. This is done either with dividend distribution in proportion to shares and/or appraisal of cooperative shares and the “Proportional investment cooperatives” where ownership rights are restricted to members, nontransferable, non-appreciable and redeemable, but members are expected to invest in the cooperative in proportion to patronage. As membership becomes more heterogeneous, the degree of vaguely defined property rights increases, thus moving the proportionally organized cooperative to the traditional cooperative status (Chaddad & Cook, 2004).

Further down, we compare two main representatives of “Alternative Collective Enterprises” (ACE), the “New Generation Cooperatives” (NGC) and the “Traditional Cooperatives” (TC) for specific characteristics that affect their level of competitiveness. Finally, collective forms of entrepreneurship are compared in terms of their dimensional balance between economic development,

environmental protection and social equity, the three pillars of sustainable rural development. This work is the first, as far as we know, that attempts to analyze the ACE in this light.

Table 2. Data relating to the biggest Agricultural Cooperatives in Greece (2003*)

N	Name of Cooperative	Sector/Activity	Turnover (billion €)	Farmers Members (in 000)	Salaried Workers (in 000)
	"PINDOS"				
1	Agricultural Poultry Cooperative of Ioannina	Poultry	0.107	0.57	0.75
2	UAC of Larissa-Tirnavos-Agia (1)	Cotton, feeding stuffs, olives trade	0.077	20.10	0.25
3	SEKE S.A	Tobacco	0.058	–	0.11
4	UAC of Iraklio (1)	Wine, Olive Oil, trade	0.044	21.00	0.14
5	Agricultural Poultry Cooperative of Arta	Poultry	0.040	0.15	0.25
6	UAC of Peza	Wine, olive oil, trade	0.033	3.00	0.11
7	UAC of Rodopi	Cotton, dairy, cereals, trade	0.031	8.00	0.15
8	UAC of Orestiada	Feeding stuffs, seeds, trade	0.026	5.10	0.08
9	UAC of Trikala	Cotton, feeding stuffs, vinegar, trade	0.025	14.00	0.09
10	Synetairistiki Insurance Company	Insurance and reinsurance	0.024	13.80	0.01
11	UAC of Lesvos	Olive oil, trade	0.024	13.80	0.01
12	UAC of Kavala	Cotton, feeding stuffs, olive oil	0.022	6.40	0.09
13	UAC of Preveza "VENUS",	Trade, Olive Oil	0.021	6.50	0.11
14	Agricultural Cooperative of Veria "AL.M.ME", Union	Fresh and Canned fruit	0.021	0.54	0.05
15	of Agricultural Cooperatives	Canned fruit	0.020	2.20	0.03
16	UAC of Lamia	Cotton, dairy, trade	0.020	16.00	0.13

Source of data: COGECA, 2005, * unless otherwise stated, (1) data from 2002, – Data not available

Characteristics of the Food and Beverage Industry in Greece

The Food and Beverage sector has a very important role in the Greek economy, especially in rural areas, and the Greek manufacturing industry as well. The Food industry accounts for 2.3% of GDP and the Beverage industry for 1.6% of GDP. It includes 20% of all businesses in manufacturing, employing 67 000

people, or more than 24% of workers in manufacturing (and 1.5% of workers in Greece). Most of these industries (both Private and Companies as well as Agricultural Cooperatives) are located in rural areas, thus providing an important source of rural employment (Table 2). Finally, the sector of agricultural products is the sector with the highest contribution to Greek exports holding a share of 17.9% (FEIR, 2008; Mattas, 2009; Thomaidis, 2007).

However, the Food and Beverage sector in Greece is also facing many problems, thus hindering rural development. It is characterized by low and worsening degrees of extroversion and import penetration. It has low labor productivity (Greece is in penultimate position of the EU-15 – 57% of EU average) and very small average firm size (2 workers, last place in the EU), weakness in the exploitation of economies of scale and investment in Research and Development (R&D). The latter is largely explained by the fact that the profitability of the industry in recent years is not sufficient for the expansion of investment activity and a shift towards finding technological solutions and implementation of innovative processes in the production of brand values. Additionally, the industry is characterized by the lack of entrepreneurship spirit, a problem that is inflated due to the weak structure of public administration.

Despite these problems, the Greek Food and Beverage sector is forced to find solutions in order to tackle issues that reduce its international competitiveness and to adapt to new market trends. Because the majority of cooperatives in Greece adapt slowly to new market trends, they face an even greater problem of sustainability. However, their existence is important for both producers and consumers and for rural development. We proceed by describing how the existence of cooperatives contributes to the development of the agro-food sector and the rural development.

Collective Entrepreneurship

A literature review on Entrepreneurship reveals that there are many new directions that explore the idea that entrepreneurship emerges as a function of collective action (Schoonhoven & Romanelli, 2001) and how group dynamics influence collective entrepreneurial action (Burruss & Cook, 2009; Felin & Zenger, 2007; Ruef, Aldrich, & Carter, 2003; West, 2007). These researchers consider the role of multiple actors when analyzing the entrepreneurial function, exploring variables like entrepreneurial opportunities, community dynamics, path dependence, social context and local origins (Burruss & Cook, 2009). Additionally, they provide precious interpretations of the term “collective entrepreneurship”. Burruss and Cook (2009) after examining 240 articles that

explain this term, suggested that researchers describe the term "collective entrepreneurship" according to 5 different types of motives:

According to the first motivation (Table 3), one basic concern to the domain of entrepreneurship is the *advancement of a strong theory from which to base scholarly research* (Low, 2001). A second motivation for research regarding entrepreneurship investigates the view that *collective entrepreneurship is a powerful tool for increasing intra-firm efficiency*. This happens because by reducing collective decision-making costs and agency costs, cooperatives or firms can utilize resources more efficiently. There are three fundamental directions in this category of literature: the first one deals with the challenges of self-management, the second one considers the knowledge management and the third focus on ownership structure. The third motivation explores *the inter-organizational gains*. There are mutual gains that can be achieved through strong cooperation and organizational hybrids in markets (networks, alliances, industrial districts and franchise agreements) (Marshall, 1890). The fourth motivation investigates the notion that *interactive, collective processes may enhance innovation, commercialization and economic development*. Important point is that collective entrepreneurship has critical ramifications for economic growth and local development. Collective entrepreneurship empowers members' profits and regional development by three basic mechanisms: strategic alliances focusing on common marketing plans, access to technological innovations and resources and finally on local development strategies. The last category of motivation refers to initiatives to affect change with respect to regional and local development, public policy and social and cultural norms. In this paper, we are mainly focusing on these two last motivations.

Researchers exploring collective entrepreneurship as a form of socio-political change (5th motive) are referring to entrepreneurial activity that integrates economic, social cultural and political goals (Bataille-Chetodel & Huntzihger, 2004; Chouinard & Forgues, 2002; Connell, 1999). Many of the investigations into collective entrepreneurship focusing on regional and local development stem from initiatives and policies to support the social economy (Graefe, 2006; Laville, 2003; Spear, 2000). Chouinard and Forgues (2002) suggest entrepreneurship may occur on a continuum from "private entrepreneurship that first and foremost satisfies the needs of the owners, to collective entrepreneurship geared towards serving the association of workers and the community's interests". Practical examples of collective entrepreneurship in the social economy literature include non-profit organizations, cooperatives, foundations, voluntary organizations, public interest groups and social movements (Burruss & Cook, 2009; Spaey, 2004).

Table 3. Example Definitions and Descriptions of “Collective Entrepreneurship”

Motivation	Author, Date	Definition/Description
1. Advancement of Theory	(Wilken, 1979, pp. 75, 66)	We have conceptualized entrepreneurship as a role which involved combining factors of production to initiate changes in the production of goods —All phases of the entrepreneurial role may be carried out by one individual, they may be divided among individuals, or they may be carried out by a corporate actor—an organization. The transition from individual to collective entrepreneurship has been a major historical trend...
	(Tardieu, 2003, p. 10)	Collective Entrepreneurship: When both opportunity identification and opportunity development are collective, the collective domain of alertness, deliberate search and testing rely on the communication and sharing of entrepreneurial knowledge.
	(Johannisson, 1998, pp. 11-12)	Collective forms of entrepreneurship may differ with respect to...governance structure..., the strength and/or formalization of ties between units, the fuzziness of the boundaries of the collective, and the importance of physical and social proximity.
2. Intra-Organizational Efficiency	(Gartner, Shaver, Gatewood, & Katz, 1994, p. 6)	The ‘entrepreneur’ in entrepreneurship is more likely to be plural, rather than singular.
	(Trompenaars & Hampden-Turner, 2002, p. 263)	Collective entrepreneurship, which consisted of exchanging opinions, reaching consensus at the management level, and taking risks together.
3. Inter-Organizational Gains	(Yan & Sorenson, 2003, p. 37)	Collective entrepreneurship is the synergism that emerges from a collective and that propels it beyond the current state by seizing opportunities without regard to the resources under its control.
	(Tiessen, 1997, p. 376)	Collective entrepreneurship is innovation from the pooled capacities of individuals.
	(Mourdoukoutas, 1999, p. 90)	Collective entrepreneurship is about structures that afford the opportunity and the incentive to individuals both inside and outside conventional corporations as well as individuals across corporations to share and integrate technical and market information for the discovery and the exploitation of new business.
4. Economic Growth and	Mottiar & Ingle, 2007, p. 669	The industrial district environment can be likened to an inter-organizational network....We are calling this kind of collective entrepreneurship phenomenon interpreneurship.
	(Auerswald & Branscomb, 2003, p.	By “collective entrepreneurship” we do not mean a committee, but rather the complicated process

Development	80)	through which inventors engage with managers and together mobilize early-stage funding from investors.
	(Etzkowitz, 2003; Etzkowitz & Klofsten, 2005, pp. 243-244)	This innovation capacity is largely dependent upon the construction and institutionalization of a heterogeneous network of public/private entities that can provide firm-formation expertise, gap funding, seed capital and ‘collective entrepreneurship’.
	(Lundvall, 2007, p. 8)	At the core of the current innovation process is collective entrepreneurship – several agents interacting and working together to introduce change.
	(Connell, 1999, p. 19)	Collective entrepreneurship combines business risk and capital investment with the social values of collective action. It is an event that exists when collective action aims for the economic and social betterment of a locality by means of some transformation of social norms, values, and networks for the production of goods or services by an enterprise.
5. Socio-Political Change	(Roberts, 2006, p. 600)	Collective entrepreneurship draws on multiple people to husband and shape an idea through initiation, design, and implementation into a full-blown innovation.
	(Silva & Rodrigues, 2005, p. 5)	Collective entrepreneurship can be seen as the carrying on of gap filling and input completing activities.... The collective nature is connected to the fact that these actions concern sets or clusters of firms with similar productive interests and also public and semi-public agents.
	(Wilkinson & Quarter, 1996, p. 7)	The primary structure is an interrelated system of co-operative corporations, or what might be labeled as collective entrepreneurship.

Source of data: adopted from Burress and Cook’s Working Paper No AEW 2009-04 “A Primer on Collective Entrepreneurship: a Preliminary Taxonomy”, p.7.

According to Cook et al. (2008), referring to the definition of collective entrepreneurship in order to describe innovative forms of agricultural cooperatives, a collective enterprise “*is the process by which investors, customers or suppliers, plan, finance and establish a business form of collective action, which aims to win profits by more than one chain of production and marketing of food and beverages. This format is a historical trend of previous collective schemes*”. This definition explains Alternative Collective Enterprises (ACE), which emerged through the efforts of people with long experience in organizing traditional agricultural cooperatives.

ACEs are adopted in many countries with developed agriculture (e.g. USA, Canada, Netherlands, Australia, Denmark). In Greece, agricultural cooperatives (AC) followed the model of TC until early 2000. The new legal Act (NHA 2810/2000) that was sanctioned in 2000, granted great flexibility to coops to re-engineer their organizational attributes. This legal Act practically made it possible to the members-owners of a cooperative to define themselves through their cooperative, as well as to define the organization and business direction of the AC. This institutional framework offers great flexibility as well as - without obligation - allows members to adopt almost all the features of ACEs, but also many features of non-cooperative companies. The only features that are mandatory (by law), relate to the compulsory purchase of shares for the admission of members and the retention of surplus for statutory reserve. The main difference of Alternative Cooperative Enterprises (ACE) with TC is the additional property rights of members, aimed at providing investment and other incentives to members-owners of cooperatives (Iliopoulos, 2004).

Alternative forms of cooperative or collective entrepreneurship are separated into two major categories depending on the source of capital. Where capital comes only from the members, we have, in addition to traditional cooperatives (TC), New Generation Cooperatives (NGC). Other types of cooperatives where the capital comes only from members are co-investments with members (membership as a raw material supplier or purchaser of the product of a cooperative is less important) and cooperatives in which the investment of each member is proportional to the amount of transactions they execute with the cooperative. Where capital comes from members and interested parties, we have cooperative societies, cooperatives, preferred shares and finally, limited companies. (Chaddad & Cook, 2004). Further down we present the main representatives of ACE: The Traditional Cooperative and the New Generation Cooperative.

The Traditional Cooperative

In Greece, TCs followed the traditional Mediterranean model of partnership, whose main features are:

- Members-producers control the cooperative as well as own the property.
- Free participation.
- "One member - one vote" principle.
- Payment of a minimum capital by cooperative members.

- The main volume of capital emanates from retained earnings².
- Joint ownership.
- Non-transferable shares.

This form of collective entrepreneurship has significant shortcomings related primarily to the organization, size, financial status, infrastructure, their relationships with the administration and general attitude of the members, the low extroversion, the lack of cooperation with the retail sector as well as the low index of innovative behavior (Sergaki, 2010; Sergaki & Semos, 2006). These problems have a direct impact not only on competitiveness, but also on rural development, reducing the economic viability of these areas.

To address these problems producers may be directed to alternative forms of collective entrepreneurship such as the New Generation Cooperatives.

New Generation Cooperative

NGCs are vertically integrated joint ventures of farmers involved in producing food and beverages and not just agricultural products. The main feature of New Generation Cooperatives (NGC) that separates them from Traditional Cooperatives is the link between the capital contribution of the producer and delivery rights for their products. Additionally, the New Generation Cooperatives' shares are marketable and transferable and there is infinite number of members.

The most important benefits that can accrue from the creation of NGCs is the greater bargaining power, economies of scale associated mainly to reduced costs and increased returns to capital, improving both the quality of agricultural products and services offered and the increased intra-corporate efficiency associated with access to new markets. Regarding the economic benefits, beyond those related to economies of scale and bargaining power, there is a greater flexibility in financing investment and greater mobility of money in the local community in which they operate. Finally, in areas where they already operate, there is an increased vertical integration and investments made in high value added products as well as restriction of opportunism.

² In many cases the unwillingness or weakness of members to contribute capital, leads to over-borrowings from banks (in cases where the cooperative allocates capital assets as pledge)

Opportunism is particularly evident in cooperatives that are required to accept all as their members, as typically happens in TCs. In many cases, members have no incentive to control the quality of their products, as no individual producer bears the full responsibility of this behavior. Moreover, as competition from private firms in processing increases, some members may view the cooperative as purchaser of their products (clearinghouse) only during periods of low prices and low quality, but may use alternative marketing channels when prices and/or the production quality is high. Such behavior reduces the ability of the cooperative to control the quantity and quality of the product that it sells, making it difficult to find buyers and meet market demand.

Cooperatives have the potential to limit such opportunism of their members by using delivery rights contracts. For producers, delivery contracts offer a guaranteed market for their products and allow them to better plan production. As with any contract, it includes clauses that take into account extreme situations, such as destruction of crops, to protect both the cooperative and farmers from losses in case of a breach of contract by factors outside their influence.

The NGC can be regarded as an institution in which members have rights to the production of the cooperative, and are less likely to act opportunistically and reduce the profits arising from the operation. Less opportunistic behavior ensures the quality and nature of inputs used in the production process.

Main differences between TC and NGC

The primary aim of all cooperatives is the welfare of their members by improving the economic, social and cultural position. In addition, the following sub-purposes are achieved:

- Maximizing benefits, particularly through the achievement of higher prices and larger volumes selling agricultural products of members.
- Minimizing production costs but also offering services to their members.
- Offering more and better services to their members, such as the procurement of supplies and the processing and distribution of agricultural products, etc.

The main mechanism for achieving these objectives is to strengthen the bargaining power of the partnership and to achieve economies of scale. The TCs endeavor to achieve these goals by maximizing the volume of products that they

manage and NGCs are mainly interested in gathering the necessary volume of production to process their products at a profit.

Moreover, there are several main differences associated with the following issues:

Members

TCs accept as members all producers who wish to become members, in order to collect the greatest possible quantity of products. In contrast, in NGCs a limited number of members is accepted. In TCs, members can temporarily stop dealing with the cooperative and return later as active members at no cost. However, in the NGC this is not feasible, as the obligations of the members are directly linked to the level of capital investment, which is usually significant.

Cooperative shares

An important difference between NGCs and TCs is that the NGC principle does not provide one share to each cooperative member, but each member of the cooperative can buy the number of shares that would ensure the product delivery rights. That is, the number of NGC cooperative shares varies depending on the amount of product each member has committed to deliver annually to the cooperative. Instead, in the TC shares represent a small nominal amount.

In NGCs, regardless of the number of shares purchased by each member of the cooperative, the principle of one vote per member remains in effect during the election of the Board and other important decisions. Therefore, the NGC have incorporated tradable delivery rights in the ownership structure, leaving intact important features of cooperatives such as its control and use only by members. Participation in NGCs ensures producers control the volume of production, share profits and capital gains according to their shares in the cooperative.

Another feature of the NGC is the issue of preferred shares. The preferred shares allow the local community and other stakeholders to participate in the accumulation of capital by the cooperative, but holders of preferred shares have no voting rights and receive a limited return on their investment. This allows stakeholders of the local community to participate in creating investment in the region, contributing indirectly to rural development in the region, while receiving a return on their investment.

Transfer of cooperative shares

In the TC the cooperative share and the capital accumulated through retained surpluses can only be redeemed by selling the share back to the cooperative at present value.

In the NGC, cooperative shares are tradable and transferable. The cooperative shares, combined with the delivery rights to the cooperative can be resold to other producers who can use the services of the cooperative. The transfer may be made at any price agreed upon by the parties.

Product Delivery

The TC usually receives either (a) any quantity of products they choose to supply their members or (b) require members to produce or deliver everything produced in a given agricultural area. Under any of these scenarios, the cooperative receives an uncertain and variable amount of product each year that will be "allocated" to the market before the next harvest.

In NGCs, each member has the right and obligation to deliver a fixed quantity of each product per year with specific quality characteristics. This applies regardless of whether the member produced more of this product in a given year. Satisfying a deficit of production or the disposal of surplus production is the responsibility of the producer-member, not the cooperative.

We proceed by discussing the relation between the alternative forms of collective entrepreneurship and sustainable development in the region in which they operate.

Cooperatives and Rural Development

Agricultural Cooperatives in the EU are an important socio-economic element in the economy and society. Emanating from the "concern for the local community" cooperative principle, they are important rural development operators: Over 50% of share in the supply of agricultural inputs; over 60% of share in collection, processing and marketing of agricultural products (COGECA, 2010). As organizations based on their members, they have their roots in the countryside and are an excellent example of a partnership form that can serve simultaneously social, business and environmental objectives in a synergistic way. In Greece, despite their weak financial situation, they still represent the interests of an important portion of Greek producers (Table 1).

The social contribution of cooperatives to sustainable rural development emanates from their support of the social fabric, the containment of growing population at home, and to the preservation and promotion of cultural heritage. Users of the services of a cooperative, whether as producers, consumers or workers, tend to be geographically stable. These strong local roots can be an effective incentive for the development of rural areas, particularly in mountainous, insular and less favored regions, helping to reduce the adverse impact of global and national financial pressures, such as the recent Greek financial crisis, in these areas. They are therefore an important source of direct and indirect employment and of economical growth, thus enabling Greece to attain the goals of the EU 2020 Strategy.

The economic contribution of cooperatives to sustainable rural development lies in the maintenance of local posts, in the benefit of local services as well as in the exploitation of local resources. Cooperatives enable farmers to concentrate their efforts to the purpose of supplying inputs and material and afterwards they work on the collection, processing, and marketing of their members' produce. In this way, they play a vital role in the adjustment of the production of their members to the requirements of consumers and in the improvement of their positioning in the marketplace. Consequently, they help to the increase of competition to the benefit of Greek consumers and producers. According to the neoclassic economic theory of perfect competition, in which the economic foundation of cooperatives is based, the cooperative contributes with the help of their business activities to approximate perfect competition in markets where they operate (Thordarson, 1991). This is especially important for sustainable rural development in Greece, where the lack of perfect competition in the marketplace is evident by producers and consumers alike.

The positive effect of increased market share of cooperatives in the competition has been already demonstrated in other countries (Rogers & Petraglia, 1990). According to survey results for the U.S.A., the greater the share of cooperatives in the Food industry, the lower is both prices of food products and monopoly profits. In addition, prices for branded cooperatives' products were less than those for corresponding products of private firms that had similar advertising expenses and market shares. Finally, it is remarkable that cooperatives with high market shares did not behave as monopolies, by increasing their product prices.

Finally, agricultural cooperatives promote sustainable rural development by actively contributing to guarantee environmental friendly quality products while ensuring producers' incomes (Papadopoulou et al., 2008). The majority of the Greek agricultural cooperatives (61% of all agricultural cooperatives) have

obtained the certification of Integrated Management System (Total Quality Management System), thus protecting the fragile natural environment of rural Greece. Additionally, the principles of sustainable development, with the simultaneous economic development, the environmental protection as well as the social equality are creating new opportunities for growth and empowerment of agricultural cooperatives, turning them into actors promoting sustainable rural development.

However, the viability of cooperatives is difficult, mainly because they have to adapt quickly to a globalized environment, which is constantly evolving. Main targets of cooperatives' efforts are access to local markets, in order to promote their products, transformation into business organizations, strategic coalitions (mergers and acquisitions), strong brand names as well as search for resources (tangible and intangible). These characteristics were the impetus for the transformation of traditional cooperatives in other forms of collective entrepreneurship, more flexible and capable of approaching the new markets.

Agricultural cooperatives, beyond the goal of economic well-being of their members, have the objective of achieving sustainable development. It is therefore necessary to compare the ACEs based on the three pillars of sustainable development: economic development, environmental protection and social equity. Table 4 summarizes the main characteristics of the four main alternative forms of collective entrepreneurship, TCs, NGCs, cooperative companies and private companies. Under the pillar of economic growth, the TC does not provide scope for raising capital by offering other forms of collective entrepreneurship and can not take advantage of economic efficiencies in production and processing, since the members have to be the ultimate beneficiaries of any quantity of product choice.

Under the pillar of environmental protection, the broad participation of the rural population in both the NGC and the TC through the participation of both farmers and possibly local communities creates an important prerequisite, but not a sufficient guarantee to protect the local environment.

Finally, under the pillar of social equity, the basic democratic principle of "one member one vote" applies to the operation of both the TC and the NGC, as opposed to other ACEs.

Table 4. Alternative forms of collective entrepreneurship and Pillars of Sustainable Development

	Traditional Cooperatives	New Generation Cooperatives	Cooperative Companies	Private Companies
Economic Development	+	++	++	++
	- Reduced capital investment	- Possibility of raising capital - Economic efficiency in production and processing	- Possibility of raising capital - Economic efficiency in production and processing	- Possibility of raising capital - Economic efficiency in production and processing of
Environmental Protection	+	++	++	+
	- Externalities	- Indirectly internalize externalities by involving the local community	- Indirectly internalize externalities by involving the local community	- Externalities
Social Equality	++	++	+	+
	- One member one vote principle	- One member one vote principle	- Votes depending on the equity	- Votes depending on the equity

Note: +: positive correlation, ++: strong positive correlation

Conclusions

Greece is characterized by low competitiveness indicators for agricultural production and processing, despite significant comparative advantages due to environmental and climatic characteristics. The traditional cooperatives are facing new challenges, because of the recent global financial crisis, the industrialization of agricultural production and globalization. The new challenges require new organizational forms of cooperatives, similar to those developed in other countries.

To this end, New Generation Cooperatives (NGC), a form of Alternative Cooperative Enterprises (ACE), are considered as alternative forms of collective entrepreneurship that can combine the positive attributes of traditional cooperatives and private enterprises. The main focus here is on the NGC, which both economic theory and international practice have shown that they are currently one of the most widely instituted ACE, both in purely financial terms, but, as demonstrated by the work presented, also in sustainable rural development criteria.

An important prerequisite, for any collective form of collective entrepreneurship, is the ability to achieve sustainable development, since the Greek countryside is facing severe problems of economic development, environmental protection and

social equity. As analyzed in the paper, NGCs meet all the requirements to provide the pillars for sustainable rural development. Moreover, they appear to combine the most important elements of all forms of collective enterprises in a balanced way that can promote sustainable rural development.

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