

Innovation and Social Learning in Agricultural Systems. Case Study: Murcia, Spain

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Abstract: Agricultural activity is still a key factor for rural development. The high competitiveness of Murcia's agriculture is everyday having to face new problems and challenges. The imbalance between natural resources and their regeneration capacity is due to the high agricultural and industrial holdings that have been instituted in recent decades as well as to southern Spain's own meteorological problems. In addition, social difficulties also add up. Because of the existing problems, and with the aim of finding effective solutions to obtain the highest profitability and first quality products, certain entrepreneurs have adopted competitive strategies based on quality and innovation in the production process, under the conceptual basis of "Working With People" (WWP) and from a social learning perspective that encourages the resilience of the sector. The actual and future trend is that for the managing of agricultural systems, measures where agriculture development and environmental conservation coexist should be taken, allowing the progression towards a sustainable agricultural model. Measures taken in this direction and under the conceptual framework WWP by the Agrarian Transformation Society Camposeven will be looked at and discussed.

Keywords: rural development, intensive agriculture, innovation, product certification, organic farming, Working With People, resilience

Introduction

Agricultural activity is still a key factor for rural development. In the Mediterranean region this aspect presents a deep environmental, social and economic problem derived from the difficult existing conditions for farming in an arid climate with acute water shortage. The drainage basin of the Segura River that supplies the region with water, presents a structural deficit of 460 Hm³. In the area of the study: Murcia, the rainfall hardly reaches 225 liters per m² (Murcia, 2010).

The high competitiveness of Murcia's agriculture is everyday having to face new problems and challenges. The imbalance between natural resources and their regeneration capacity is due to the high agricultural and industrial holdings that have been instituted in recent decades as well as to southern Spain's own meteorological problems. The whole country, and therefore Murcia's need of extending the growing areas in order to obtain more products and higher economical benefits has prompted the abuse of heavy machinery, pesticides and greenhouses; all of this can be translated into biodiversity, soil and vegetation loss, as well as a worrying water shortage (Murcia, 2010). Other harmful practices are excessive land cultivation or clearing, intensive agriculture, urbanization of virgin land, and the misuse of aquifer resources. Adding up to this, we can find the power of intermediaries, the lack of labor and the increasing international competition affecting the profitability of the production. To the economical and environmental problems, social difficulties also add up: agriculture recession due to the farmers ageing (older than 40) and the scarce number of young people willing to substitute them; making extremely necessary a generational takeover. In this process, quality and innovation are key factors, boosting product certification as the distinctive element of the region and encouraging the evolution of organic farming (Murcia, 2010).

Because of the existing problems, and with the aim of finding effective solutions to obtain the highest profitability and first quality products, certain entrepreneurs have adopted competitive strategies based on quality and innovation in the production process, under the conceptual basis of “Working With People” and from a social learning perspective that encourages the resilience of the sector. The actual and future trend is that for the managing of agricultural systems, measures where agriculture development and environmental conservation coexist should be taken, allowing the progression towards a sustainable agricultural model. Therefore, the aim of the study will be to come up with effective possible solutions related to innovation and social learning to obtain high profitability and first quality products respecting and protecting the environment; this will be looked at through 2 different aspects, which are the key to achieve sustainable rural development: resilience and knowledge and learning (innovation and social learning). The study will be performed through a deep analysis of an Agricultural Society of Transformation called Camposeven found in Murcia that has applied strategies from quality and innovation into the production process through the diversification and specialization of the business and the products offered. These strategies have been assumed following a social learning process included into the conceptual model of *Working With People*. Therefore, considering the global challenges that agricultural systems and rural development have to face (Murcia, 2010), this paper shows the beginning of a research work that will carry on until April 2014 that will extract the lessons and experiences from Camposeven; successful experiences that from a knowledge and learning approach make resilience feasible and reachable, in order to bring stability and prosperity to the rural areas.

Working With People conceptual framework as social learning process

Our study will be based upon WWP as main conceptual framework because it opens up the possibility of a “new modernization” research question and new postmodern approaches to enlighten existing questions in rural development project’s theory and in planning as social learning research. At the core of the WWP model, the balance between three dimensions of competences — technical, behavioral and contextual competences— is basic. Also, this model leads to considerable progress by achieving a balanced role of agents and an empowerment in the four areas of a social relationship system: political, public, private and social (Cazorla et al., 2013).

Learning is a key concept for research and production in innovation (Sandberg & Ohman, 2011), as for these to happen, it is necessary that the users get involved in the different management and production processes that apply to each territory (Albuquerque, 2008). Given the social nature of learning and innovation for resilience in a territory, it is imperative to work in close contact with the people; this way, from the model Working With People (WWP), this social learning process becomes easier through the interaction and knowledge transfer. From a WWP perspective, innovation is conceived as an open and interactive process that includes new human relationships, management, administration and negotiation systems; with a strong social dimension that warrants constant adaptation and learning in all knowledge forms (Cazorla et al., 2013). This capacity of adaptation to change is precisely a necessary condition to achieve resilience in a territory.

In Camposeven, people represent a fundamental value; they bet to have the best team in order to obtain the best results. To this end, they have assumed a WWP model (Cazorla et al. 2013) through a social learning process (Friedmann, 1993) in the enforcement of their innovative strategies. The learning process of the society can be distinguished from the existing relationship between its 42 members (distributed in 8 families), who have achieved an important consolidation through trust, mutual respect, and common values; key factors affecting the success of this Agrarian Society.

Methodology

In order to start analyzing information, data from different sources of information was needed. Firstly, data obtained first hand was recorded and studied. Data was obtained from structured

interviews through email exchanges with Camposeven’s Manager, as well as from semi-structured interviews done to various members of Camposeven’s staff during a field trip visit on November 2013. During this visit, 3 interviews were carried out to different staff in charge of: the storehouse, the finance and the technical issues of the company.

Secondary sources of information have been studied so far to extract the problems found in the region of Murcia. For future development of the research, data from official governmental documents will be analyzed, and all the information concerning Agriculture in Murcia will be extracted for further analysis. All this information will be obtained from official sites of the Spanish government, Murcia’s government or local official institutions. More localized general data about the area of Campo de Cartagena where Camposeven is located, will also be acquired. These are the following steps for progressing with the investigation.

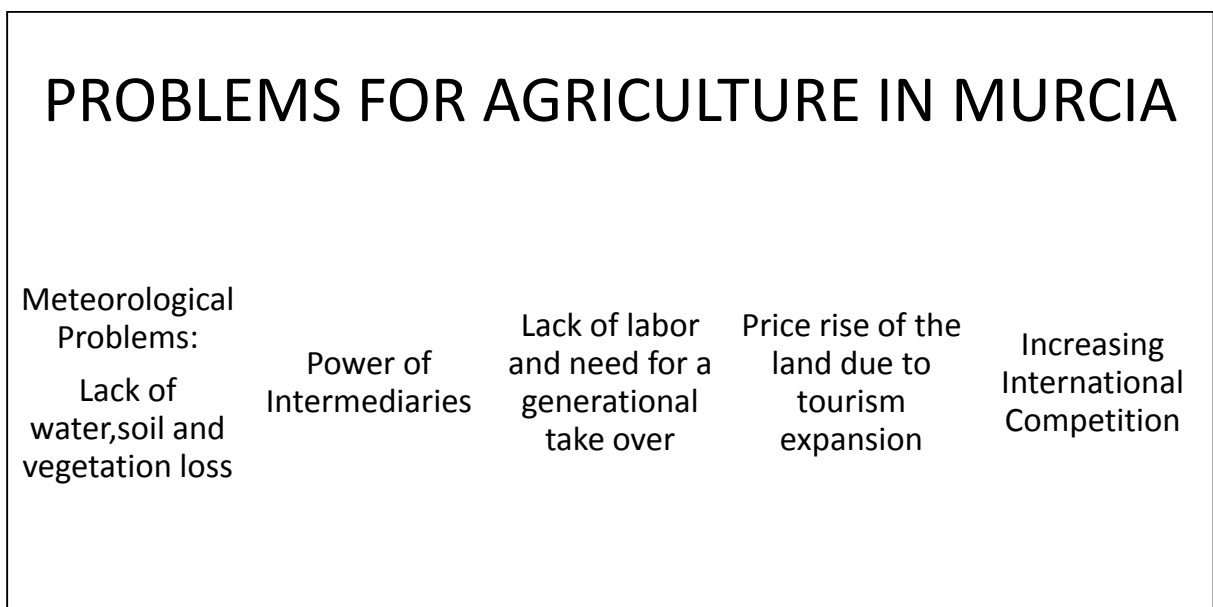
Results

Although nowadays Murcia’s economy is living the momentum of tourism and second home, historically, economy has been moved largely by the agricultural sector, with the food industry being one of its main development engines and one of the main pillars with greatest contribution to GDP and territorial equilibrium. In 2012, 10% of national agrifood exports came from Murcia, and its agriculture and livestock represented 4.58% of regional GDP. Agricultural production represented 3.8% of the sector’s national income; highlighting fruit and vegetables with 39% (24.6% of the country’s total). Vegetables grown in Murcia represent 13% of the Spanish total (Murcia, 2010).

Problems for Agriculture in Murcia

However, the high competitiveness of Murcia’s agriculture is everyday having to face new problems and challenges (see figure 1); the Region has to deal with the power of intermediaries, the lack of labor and the increasing international competition that affect the profitability of the production, meteorological problems, and price rises due to tourism expansion.

Figure 1. Problems, Source: Own elaboration obtained from Murcia’s RDP 2007-2013.



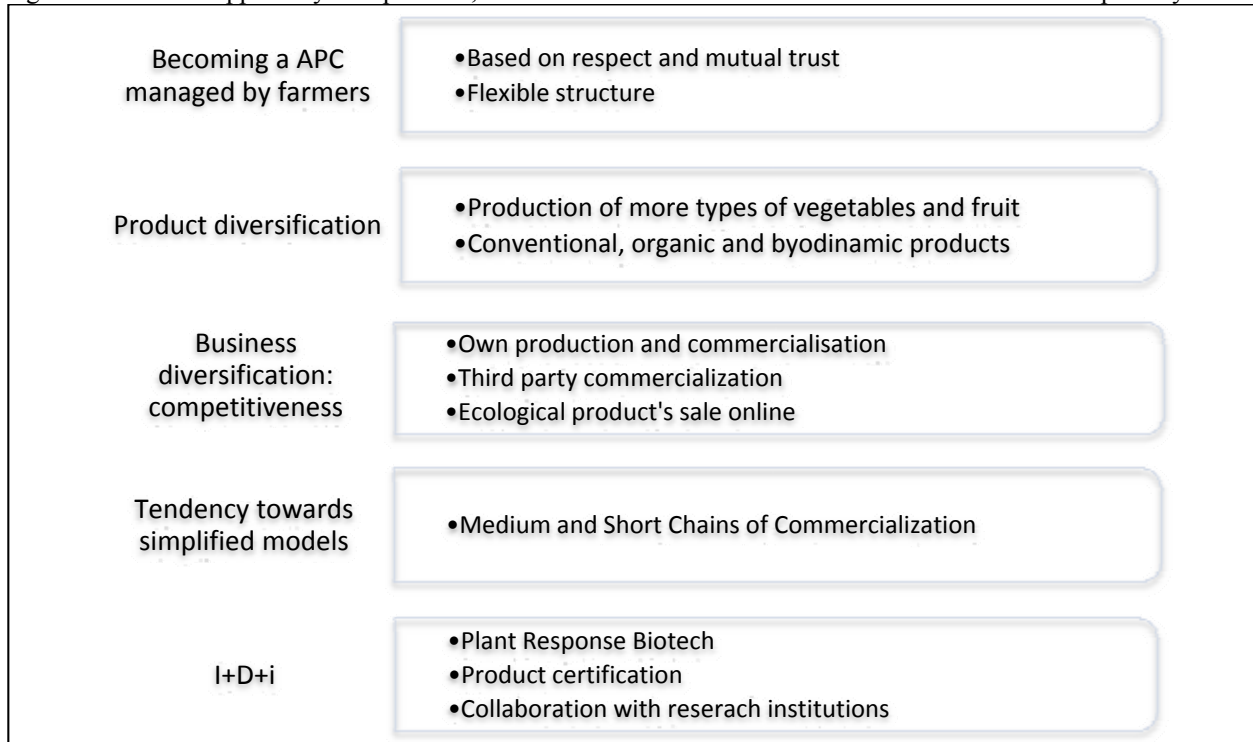
Murcia’s need of extending the growing areas in order to obtain more products and higher economical benefits means they have to rethink their agrarian system to become sustainable and environmentally friendly.

Primary Information

Camposeven is found in the South East part of Spain (Murcia). Camposeven is an Agrarian Transformation Company formed by a group of 8 farmers/partners that decided to collaborate to strengthen their position in the Region. It was created in 2007, and they count with 823has of agricultural land, out of which 62has are greenhouses.

In order to overcome this problems Camposeven as a whole has decided to bet for differentiation and specialization. More specifically, figure 2 shows the concrete actions they have taken based on quality and innovation to achieve this aim.

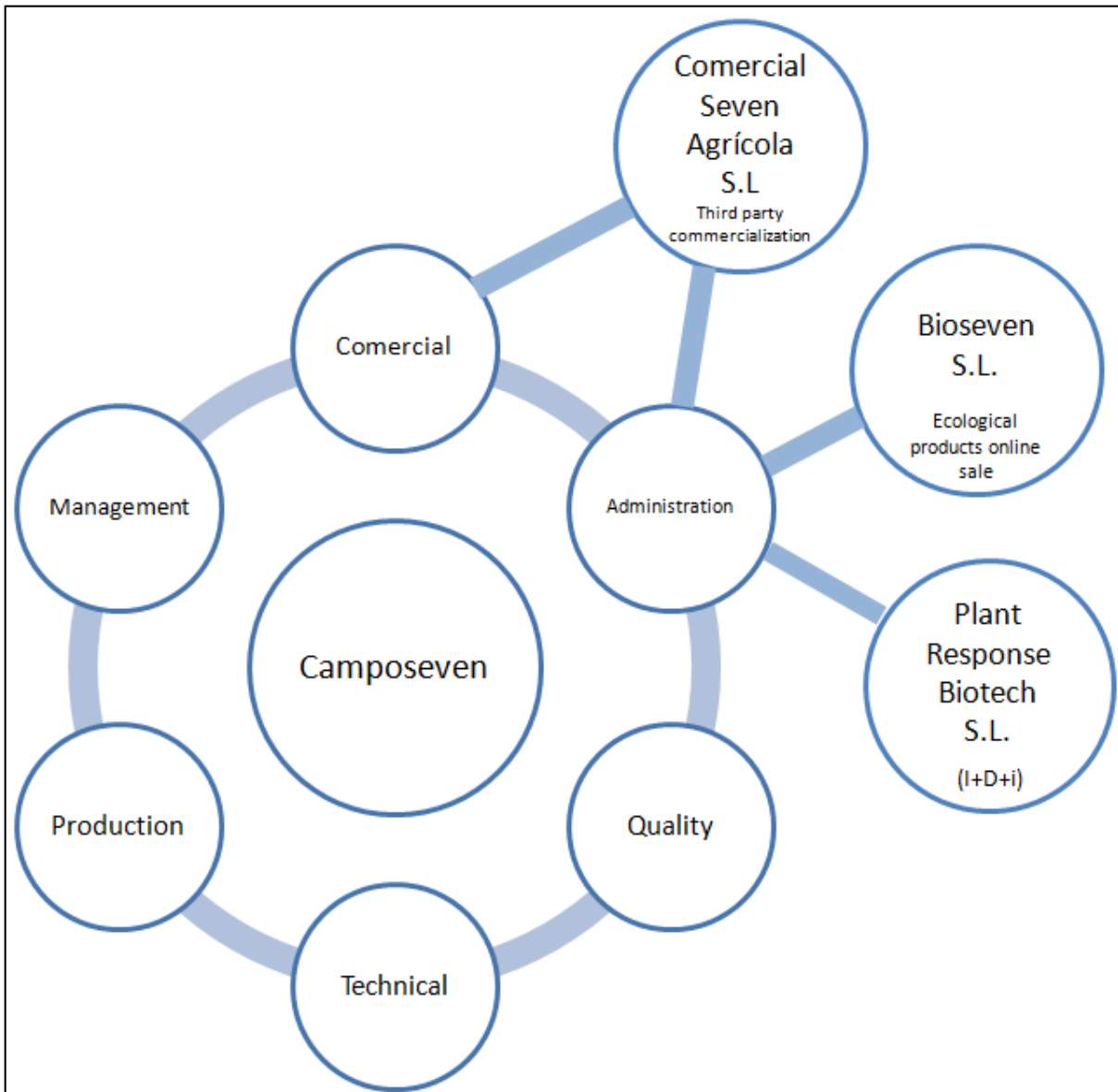
Figure 2. Solutions applied by Camposeven, Source: Own elaboration with information obtained from primary data



These solutions have been applied because of the internal structure of Camposeven (Figure 3).

Camposeven is composed of 6 departments to deal with all issues affecting the company every day. 10/10 partners are part of this main company. Responding to the needs of the sector, and in order to diversify and specialize, some of the partners created 3 other smaller companies that share with Camposeven some of the departments departments (see figure 3). Each of these smaller companies was created for a specific reason and with a very clear business strategy. Commercial Seven's main function is to sell third party products and so reduce the commercialization chain. Bioseven is specialized on selling ecological products online in order to reach more people as well as reducing the commercialization chain. Plant Response Biotech specializes on research for agricultural purposes. They have recently created an ecological vaccine that acts as a natural pesticide. This last company collaborates with institutions all over Europe, and especially with the Technical University of Madrid, favoring innovation and social learning, working with people from many different backgrounds with a common objective.

Figure 3. Internal Structure of Camposeven, Source: Own elaboration with information obtained from primary data



Discussion

From an innovational system approach, innovation is conceived as an interactive process in which multiple actors interrelate to construct it (van Mierlo, Leeuwis, Smits, & Klein, 2010) and proposes human activities to be examined as a complex set in which people have different points of view; therefore, the innovation process implies an important social collective dimension that entails a constant adaptation knowledge and learning of technological conditions and a constantly changing market (De los Ríos et al., 2002). According to this view point, innovation processes, as well as research on innovation require a constant interaction between the parts where learning is a key concept (Ellstrom, 2010).

Friedmann (1993) defines social learning as a complex process, where action, strategy, political tactic, reality analysis and values direct actions and projects. For Röling (2002), learning occurs when actors change, more or less simultaneously, their mentality in a way that drives them to a new form of effective action coordination.

Nowadays responsible innovation is booming (Von Shomberg, 2011; Stilgoe, Owen, & Macnaghten, 2013); Shomberg defines it as a “transparent and interactive process through which social actors and innovation producers become considerate based on acceptance, ethics, innovation sustainability, as well as in their products negotiation; with the aim of permitting adequate inclusion of society technological advancements”. For Stilgoe et al. (2013), a more responsible vision of innovation implies “caring for the future through collective management of science and innovation”, and demands for the integration of factors such as anticipation, reflexivity, inclusion and responsibility under the context of governance; where negotiation becomes necessary to deal with conflicts arising from these factors. As Leewis (2004) indicates, “Effective social learning is unlikely to happen if it is not embedded in a well-managed negotiation process. At the same time, effective negotiation is impossible without a properly facilitated social learning process.”

In line with the descriptions above, from a social learning perspective, the way the concept of responsible innovation is being developed shall open a wide path for deliberation aiming at creating sensible policies (Stilgoe et al. (2013).

From technical-entrepreneurial component

To survive in a highly competitive environment, the entrepreneur needs to have in mind strategy renovation in terms of commercialization, and the different goods and services offered (Borchert, 1988). In this sense and from this component, innovation focuses on the continuous search for product differentiation and diversity, based on research.

Aiming to find effective solutions to obtain high profitability and first quality products caring for the environment, Camposeven has adopted a variety of innovation, diversification and specialization strategies for their businesses and products (see Fig.2), under strict quality standards; through which they have boosted product certification as a distinctive element of the Region, propitiating the increasing evolution of ecological agriculture.

From ethical-social component

Under this component, resilience’s spotlight is worker’s competence development; considering competences as a demonstrated aptitude to apply knowledge and/or abilities, and when required, personal attributes; where competence certification arises as an important public and formal recognition of a person’s skills (ISO/IEC 17024, 2012). In this context, knowledge and learning needs that innovation creators and users evaluate their social abilities to improve their knowledge generation capacity (Badilescu-Buga, 2013) and as a consequence encourage resilience.

This way, the social relationship system shall be guided by values and ethics (Cazorla et al., 2013), which are necessary competences to successfully overcome moral conflicts related with the involved parts; as well as reaching reliability and trust between the parts (IPMA, 2010).

In Camposeven, which has been created and is being run by farmers, people represent a fundamental value; they bet to have the best team in order to obtain the best results. To this end, they have assumed a WWP model (Cazorla et al., 2013) through a social learning process (Friedmann, 1993) in the enforcement of their innovative strategies. From a participatory and learning logic, the existing relationship between its 42 members (distributed in 8 families) has achieved an important consolidation through trust, mutual respect, and common values; key factors affecting the success of the society.

Moreover, the involvement of the partners can be seen through the interest and ongoing tracing put on the whole investigation process carried out by research institutions; with the aim of contrasting the execution of the request in terms of cost, technology, environment and consumers.

Because of the strategic alliances built with research institutions, two different types of knowledge get together in an environment of appreciation.

In order to drive their crops to a more human dimension, they have started to grow biodynamic products with the aim of soon getting the certification. At the moment, 6 out of 8 families produce ecologic, and it is estimated that in the following 3 to 4 years, no conventional agriculture will be produced in Camposeven.

From political-contextual component

From a political-contextual point of view, resilience searches for the integration of societal needs within its physical, environmental and economic context, which more implicitly means governance (Miller et al., 2010).

Within a difficult global context, companies should take into account, amongst other variables, consumer's demands, integration strategies with the tourism sector and with I+D+i international knowledge networks. Camposeven within a complex context has rethought the agricultural system from a more sustainable approach and with a deeper human dimension. For which it has created links with the UPM, and because of this link they are now part of a European Union research project called RETHINK, which searches to rethink the links between farm modernization, rural development and resilience in a world of increasing demands and finite resources.

Conclusions

Camposeven represents a successful experience on how social learning approaches make the innovation process feasible and reachable, in order to contribute to the sustainable development of a rural territory.

Innovation is crucial for the resilience of a territory, and it emerges from a social learning, and knowledge generating joint process found within complex dynamics based on human aspects and development. Understanding innovation from this view point requires a human side supported on ethics and values that develop competences and ease the process escorting resilience (De los Ríos, Guillén-Torres, & Herrera-Reyes, 2013). Within a dynamic and complex concept that needs constant adaptation to technological conditions and very fast changing market (De los Ríos et al, 2002), new forms of knowledge and learning find their peak meaning when integrated within people's development. A pro-active community influences the development of fresh trajectories and propitiates the creation of an innovative environment (Magis, 2010); it is therefore necessary to improve the competences of the parties, as pro-active leaders, committed teams, common values and solid trust become essential; aiming to encourage tacit knowledge transfer that entails success by achieving common goals.

To reach knowledge and learning as such, social learning processes have to be led by a suitable model built on complex thinking that focuses on a relational understanding through dynamical relationships in the search for joint knowledge production.

In this broad context, Camposeven increases every year its production and commercialization, through sustainable and respectful means based on respect and trust and flexibility. Therefore, they represent a successful experience on how social learning and knowledge approaches make resilience feasible and reachable, in order to contribute to the development of the rural territory.

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