

Food Presidia: a sustainable agro-food systems?

Cristiana Peano¹, Paola Migliorini², Francesco Sottile³

¹University of Turin, Via Leonardo da Vinci, 44 Grugliasco (Torino), Italy, cristiana.peano@unito.it

²University of Gastronomic Science, Piazza Vittorio Emanuele, 9 Pollenzo – 12042 Bra (Cuneo), Italy, p.migliorini@unisg.it

³University of Palermo, Department DEMETRA, Viale delle Scienze, 11 – 90128 Palermo, Italy, francesco.sottile@unipa.it

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Abstract

The aim of this study is to develop an indicator-based monitoring tool for sustainability of Slow Food Presidia, taking into account quality and economic, ecological, social, cultural aspects. The SF Presidia project is not simply promoting a "conservative" development model, where the local capital formed by the natural and cultural resources are preserved. It is a model of re-interpretation, redistribution and re-appropriation of use, value and resources inherent in the local area starting from the interactions of the latter with the local and global context, the specific dialogue between endogenous and external stimuli. Methodological steps were considered: (i) translating the major SF principles of Good, Clean and Fair into concrete and relevant themes for sustainability issues; (ii) designing indicators to monitor progress towards sustainability for each of those themes; and (iii) applying the monitoring tool on three SF Presidia, as a first attempt at end-use validation. Stakeholder participation and expert consulting played an important part in each of these methodological steps. Results of the multi objective sustainability evaluation of three SF presidia are shown.

1. Introduction

The World Commission on Environment and Development in 1987 declared that sustainability means the respect of the needs of the present generation without compromising the opportunity of future ones to meet their own needs. On 1992, the Convention for Biological Diversity (CBD) defined the role of each international community in order to develop pathways to the real preservation of the biodiversity. Wilson (1986) evidenced that the best way to preserve biodiversity is by giving it a real economic value and this theorem is particularly shared in case of agro-biodiversity.

In this way, since a couple of decades, a conscious consumer has started to develop a new approach to the food consumption taking mostly into account quality, tradition, relation to the territories. The UE rules have also developed systems in order to valorize the high quality food by adopting specific labels which are today widely diffused in all member Countries testifying a strong relationship among crops, food, local traditions and cultures (CTA, 2005).

Slow Food is an international association based in Italy and operating in many Countries of all continents. It started on 1989 just focusing on food and on whatever is related to it. The first approach was oriented to preserve the old traditions linked to food with the specific aim to preserve the diversity of autochthonous crops and the traditional way to manage them.

The Slow Food's action over the years has been performed by developing several projects: the Slow Food Presidia project started on 1998, Terra Madre on 2004, One-thousand-Gardens-for-Africa on 2010, while many others with a small applicative basis are always diffused in several areas of the world, mainly in the developing Countries. By approaching with these projects, Slow

Food intends to achieve several goals by using a holistic approach. Starting from food as initial focal point, its view became larger involving all the related materials i.e. agricultural goods, production tools, etc.. The holistic vision that characterizes the Slow Food approach is not limited to the three directions of sustainable development (environmental, social and economic) but, taking into account them, tries to define a more complex pathway in order to preserve the world of the knowledge for the future generations (Shiva, 1993).

As regards the SF presidia, the development of a conscious relationship between food and sustainable way of production has been the basis that helped to assess the project. A presidium is related to a specific production (vegetable, fruit trees, races, cheese, other high quality processed product) strongly linked to the tradition, the territory, the culture and agricultural history. The agro-biodiversity preservation is surely a focal point from which all the project's activity develop its actions. In any case, the Presidia project is not intended to act exclusively with a conservative approach; the aim of preserving biodiversity is achieved by setting up a democratic system which involves farmers, consumers, traders, chef, local restaurants, etc. The way of an agro-ecological approach on cultivation techniques is at the basis of a presidium by the adoption of specific production protocols to be followed by all farmers. The democratic participation of all producers in the life and development of the Presidium is of particular importance to its success.

The evaluation of a specific product which is candidate to become a presidium takes into account some specific criteria: first of all the product must be *good* (in terms of taste and its recognisability), must have a specific *history* in the territory and be part of a traditional culture. It must be exposed to a sensitive *risk of disappearing* evidencing a role on preserving agrobiodiversity as well as it must represent an example of *social and environmental sustainability* by approaching to a democratic role and contribution of the farmers and by developing an agro-ecological way of production.

One of the most important aspect which characterizes a presidium is that it defines a new relationship between producers and consumers through the concept of the "narrated quality". This thesis takes into account that the concept of quality can be developed and evidenced by many points of view; in the Slow Food's ideas, the narration plays a fundamental role which could also overlap the analytical aspects of quality. Behind a product, behind a group of producers, behind a traditional production system, there is always a specific story which has to be narrated by the farmers to the consumers in order to let them to participate to the real life of the product and of the producers themselves.

The paper wants firstly to describe the SF movements approach to food and then it wants to assess if the Presidia project manage to create a sustainable agro-food system. In order to do it, methodological steps were considered: (i) translating the major SF principles of Good, Clean and Fair into a five-dimension framework (quality, economic, social, environment and cultural) of pragmatic and relevant themes for sustainability issues; (ii) designing indicators to monitor progress towards sustainability for each of those themes; and (iii) applying the monitoring tool on three SF Presidia, as a first attempt at end-use validation. Stakeholder participation and expert consulting played an important part in each of these methodological steps

2. Materials and Methods

The growing awareness of SF movement has allowed to launch its slogan 'Good, Clean and Fair' campaign (Petrini, 2005) extending its original concern mainly in terms of taste and organoleptic quality, introducing such issues as the conservation of natural resources and socio-cultural and economic aspects or, in a word, to be a sustainable agro-food systems (SFS). There is no single definition of SFS in scientific literature nor which are the criteria to judge a food system in order to assess if it is sustainable or not. A sustainable food system is "one that provides healthy food to

meet current food needs while maintaining healthy ecosystems that can also provide food for generations to come with minimal negative impact to the environment. A sustainable food system also encourages local production and distribution infrastructures and makes nutritious food available, accessible, and affordable to all. Further, it is humane and just, protecting farmers and other workers, consumers, and communities” (American Public Health Association, 2007).

As general concept SFS has to produce quality product as well as to be economic viable, ecological feasible, social just, cultural acceptable. Table 1 provide an overview of evaluation of SFS aspects grouped in the five-dimensional framework, elaborating issues of impact assessment (CEC, 2005), sustainable farming systems, land management and landscape, natural resources management (Pacini et al. 2009; Van der Werf and Petit, 2002; Van Mansvelt and Van der Lubbe, 1999; Lopez-Ridaura et al. 2002), local food systems (Schonhart et al., 2008), organic agriculture principles (IFOAM, 2005) and food policy and ethic (Lang at al., 2009).

Table 1.List of quality, environmental, social, economic and cultural impact issues to assess sustainability of agro-food systems in reference to Slow Food dimensions of good, clean and fair

| Sustainability Dimension | Issue | Slow Food Dimension |
|---------------------------------|---|----------------------------|
| Quality | Fresh; Local; Seasonal; Health, safety and security; Nutritional; Taste | Good |
| Environment | Soil quality and resources; Water quality and resources; Air quality, air pollution reduction; Biodiversity enhancement (gene, spices and ecosystem level); Landscape conservation; Climate change mitigation; Land use; Renewable or non-renewable resources; Waste production/generation/recycling; Energy consumption and efficiency; Plant health and animal welfare | Clean |
| Economic | Cost and access to food; consumers and household; income of farmers and food manufacturers; Trade and markets; Operating and administrative costs of business; regional added value; Innovation and research; Macroeconomic environment; | |
| Social | Employment and labour markets; Standards and right related to job quality and work condition; Social inclusion and protection of particular group; Increasing community power and personal relationship; Social role of producers and reinforce their willingness to organize themselves; Communication network; Equity and Non discrimination; Access to education, health, justice, media; Landscape identity; Security; Governance and participation | Fair |
| Cultural | Cultural heritage; Material and immaterial knowledge; Etnodiversity;Conserving traditional production techniques; embeddedness; cultural and territorial identity; tourism; historical buildings | |

3.1. Methodology and indicator criteria

In order to assess the quality and sustainability of the Presidia a methodology with indicators are presented. In literature different and extensive definition of indicators to measure sustainability can be found (Meadows, 1998; Flanders, 1999; Belle and Morse, 1999, Commission of European Communities,2005).

According to Segnestam et al. (2000) indicators are “pieces of information that summarize the characteristics of systems or highlight what is happening in a system. Simplify the complex phenomena and to measure the state of a system. Make it easier to talk about sustainable development, translating the concept of sustainability in terms of numbers, in the descriptive measures and strategies and directions”.

We have selected a list of indicators for each aspects referring, in the majority of case to existing methodologies and indicators, especially for environmental and economic aspects. When solid

and scientific information was not available, e.i. in the case of social and cultural aspects, we consulted stakeholder (expert and producers involved in Presidium project) to select and design relevant indicator. This approach has already been used by van Calker et al (2005) and Meul et al.(2008). The methodological list of indicators is a new approach combining quality and sustainability issues.

The data set were based on semi structural interviews to the producers and comparing the situation before the establishment of the SF Presidia and after the institution of the trademark logo of Presidia.

For each indicators we defined a min, medium and max qualitative score, expressing a judgment on the value of indicator, enabling us to rescale score into number (0-5-10) and standardize the procedure. When the indicator allow only presence or absence (yes or no) only the extreme value of the scale are applied: minimum (0) and maximum (10).

The definition of the benchmark was done through different approach.

In order to aggregate the several indicators of the 5 aspects individual indicators must be weigh. This procedure depends on several factors, including subjective. So we have decide to approach it in two way: i) assuming that the fifth aspects are equally important and assigning to each indicator an equal weight proportionally distributed according to their number inside the single aspects; ii) assuming that different stakeholder related to the Presidia project (Presidia producers, agro-ecological system expert, and consumers) have different idea regarding the 5 aspects. So a questionnaire was set up and then compiled by each stakeholder category asking them to weight the main criteria of the 5 aspects at level 1 and 2.

Table 2. List of indicators for the quality and environmental, social, economic and cultural aspect of sustainability used to assess Presidia, their score and value

| Level 1 | Level 2 | Level 3 | u.m. | Score | Value |
|------------------------------|-----------------------------|--|-------------|---|----------------|
| Quality | | Rules of Production | - | NO/SI | 0; 10 |
| | | Taste | - | NO/SI | 0; 10 |
| | | Nutritional content | - | NO/SI | 0; 10 |
| | | Health, safety, security | - | NO/SI | 0; 10 |
| | | Local and seasonal | - | NO/SI | 0; 10 |
| Cultural sustainability | Community | Cultural identity | - | NO/SI | 0; 10 |
| | | Transmitting knowledge | - | NO/SI | 0; 10 |
| | Product | Traditional processing | - | NO/SI | 0; 10 |
| | | Traditional conservation technique | - | NO/SI | 0; 10 |
| | | Traditional gastronomy | - | NO/SI | 0; 10 |
| Social sustainability | Extern relationship | Educational meeting | n/year | 0; 5; >5 | 0; 5; 10 |
| | | SF internal control | - | NO/SI | 0; 10 |
| | | Relationship with local institution | - | NO/SI | 0; 10 |
| | Internal relationship | Organizational formalization of the Presidium | - | NO/SI | 0; 10 |
| | | Democratic nature of the group | | NO/SI | 0; 10 |
| | | Social inclusion | | NO/SI | 0; 10 |
| | | Community power | | NO/SI | 0; 10 |
| | | Meeting between producers (n/year) | | 0; 5; 10 | 0; 5; 10 |
| | Meeting with SF head office | n/year | 0; 5; 10 | 0; 5; 10 | |
| | Educational activity | n/year | 0; 5; 10 | 0; 5; 10 | |
| | Social role | Pride and social gratification | - | NO/SI | 0/10 |
| Increase of producers | | % | 0; 50; >100 | 0; 5; 10 | |
| Environmental sustainability | Biodiversity | Hedges, rows, dry stone structures | meter | <100; 100-300; > 300 | 0;5;10 |
| | | Species: cultivated | n | <6; 6-20; >20 | 0; 5; 10 |
| | | Genetic: seed | type | asexual; self-reproducing; exchange | 10;10;10 |
| | | Specie: Autochthon | n | NO/SI | 0/10 |
| | | Alternative source: recycling, rainwater utilisation | % | < 30; 30-50; > 50 | 0;5;10 |
| | Water and Air | Quality: pesticide pollution | kg a.i./ha | 0; 0-10; >10 | 0; 5; 10 |
| | | Quantity | litre | 0%; 0-15%; >15% | 0; 5; 10 |
| | | Type of irrigation | - | Flow; sprinkler; localized; emergency; rainfed | 0; 4; 6; 8; 10 |
| | | Emission N2O: chemical nitrogen input | kg N/ha | >250; 100-250; <100; | 0; 5; 10 |
| | | Input of organic fertilizer | q/ha | <100; 300-100; >300 | 0; 5; 10 |
| | Soil | Erosion: soil cover index | - | <50%; 50-80; >80% | 0; 5; 10 |
| | | Erosion:green manure | ?? | NO/SI | 0; 10 |
| | | Crop rotation | year | <2; 2-4; >4 | 0; 5; 10 |
| | | Renewable source | % | 0; 0-50; >50 | 0; 5; 10 |
| | Energy | Packaging reduction | % | 0; 0-20; >20 | 0;5;10 |
| | | Packaging: material | - | recyclable; recy. and biodegradable; recy., biodeg. and compostable | 0; 5; 10 |
| | | Supply chain: diversification | n | 1 typology; 2 typology; 3 typology | 0; 5; 10 |
| Economic sustainability | | Deviation from the reference price | % | 0; 0-50; >50 | 0;5;10 |
| | | Forms of bundling | | NO/SI | 0; 10 |
| | | Increase of production area | % | 0 0-50 >50 | 0;5;10 |

3.1 Case studies

3.1.1 *Capers of Salina (Sicily, Italy)*

The caper is a perennial shrub widely diffused in the Mediterranean Basin where it is part of the landscape particularly in South Italy and in the main Islands. Among the minor Sicilian islands, the Eolian archipelagoes is the most representative for the species where it grows spontaneous on stony substrates. In this area, the island of Salina has become the center of Italian quality capers production.

The bud-break appears on March by a rapid growth of weeping green shoots. Harvesting takes place from the end of May until the end of August. The edible part is represented mainly by floral buds which appear in the terminal part of the shoot. They are harvested every 8-10 days before they bloom. When they are left, floral buds develop to a single white-purple flower and then to a deep-green fruit. The harvested capers are left to dry, separated by caliper, then salted and stored in old wooden containers. During the following four or five days, capers must be mixed by changing the container to prevent the combined action of salt and heat, i.e. fermentation. After about one month, they are ready for consumption. Since the 80's, the island's capers production has significantly decreased. Competition from lower quality and cheaper capers coming from Middle East and North African Countries, the impossibility of using machines for the cultivation practices, have represented some of the most effective causes of reduction for growing area and production with a high risk of disappearing of the tradition related to caper production and consumption. Salina capers are known for their firmness, fragrance and uniformity. They are also cultivated in an agroecological way without using insecticides or chemical fertilizers. Harvest, pruning and soil management are the most cost-sensitive technical practices because there is no opportunity of mechanization for them.

Capers are representative of many traditional dishes in Sicily and South Italy. It is used as an ingredient to dress salads, main course dishes and many sauces. The extraordinary land, with its culture, traditions and landscapes, usually finds capers as specific keynote. In this way, all efforts to sustain producers, to promote the production in order to preserve the biodiversity are particularly important.

3.1.2 *Lentil of Santo Stefano di Sessanio (Abruzzo, Italy)*

This lentil appears really small with a diameter of few millimetres, globular and dark, brown-purple coloured. It grows in the National Park of Gran Sasso, from 1.100 to 1.600 metres a.s.l., where the lentils do not need to be soaked before. They are recognized for an exceptional taste mainly if simply consumed by a soup dressed with extra virgin olive oil.

The history of the Santo Stefano di Sessanio lentils is really long and there are several records attesting the role that it played in the tradition and in the culture of the place. In this area the lentil has found an ideal environment, made of long and severe winters. After a late sowing (end of March) they reach the harvest time between the end of July and the end of August. The altitude is particularly effective on enlarging the harvest time. The cultural techniques are really similar to those applied several decades ago; the difficulties evidenced in the landscape, due to hilly and mountainous growing areas, make impossible the use of mechanization and all practical actions are managed in a traditional way.

The producers are mainly elderly people; the production is addressed to the self-consumption for the most part while in the last year many producers are trying to implement the surface and

produce more quantity. By the presidium approach, all producers merged to an association and tried to commercialize the product with a unique label.

3.1.3 Wild Chequer of Wiesenwienerwald (Austria)

The *Schöpfl* hill in the Vienna area defines a specific environment with an open and gentle landscape, with meadows, farmland and isolated old fruit trees (apple, pear and chequer). That is why it also has the name Wiesenwienerwald (Viennese Forest Meadowland).

The wild chequer tree is found throughout Europe, but only here there is the tradition of eating its fruit (fresh or dried) and transforming it into distillates and other products. The very old trees produce delicious fruits harvested in October by a real difficult operation, by climbing the high trees. The fruit are small oval pomes with a dark red color. Inside are three or four small brown seeds with an intense bitter flavor. After picking, the fruits are dry kept for a couple of weeks until they are completely ripe. This communal activity is called *oröwen* in local dialect.

Producers have recently developed the production of an aperitif or digestive liquor destined to give new added value to the fruit production. So that, the most important transformed product is the distillate by a fermentation in water and yeast. By a following distillation, the product is balanced and mellow, with a pleasant marzipan note.

4. Results and discussion

4.1 The weight of indicators

The different weight of the 5 dimension of quality and sustainability from different stakeholder is presented in tab. 3. In the first column the equal weight score is reported. The results show that the consumers give much more importance to the quality aspect (44%) than the sustainability aspects. The agro-ecological system experts consider more important economic sustainability (28%) and quality (24%) more than cultural (19%), environmental (16%) and social sustainability (13%). Presidia producers consider of high value the quality (26%), economic (23%) and environmental sustainability (22%) more than social (18%) and cultural sustainability (11%). As regards level 2, looking at the specific aspect of quality it is evident that the consumers are more interested in health, safety and security (33%) and in taste (30%), while producers highly consider the taste but also the rule of production (28%). Experts consider the quality aspects almost of equal weight except for the nutritional content that is not so important (13%). Regarding the cultural sustainability the experts have almost an equal approach as well as producers (between 24 and 15), while consumers pay more attention to the traditional way gastronomy (29%) than the cultural identity (10%). Regarding the social aspects all the stakeholders evidenced that the social role of producers is very important (experts 51%, producers 36%, consumers 56%), more than external and intern relationship. The biodiversity and landscape is recognized to be the most important aspect of environmental sustainability among all stakeholders (experts 38%, producers 65%, consumers 34%). It is relevant to note that consumers weighed the main aspects of climatical sustainability at the same value as agro-ecological system experts did. Nothing new, for the consumer the price is the most important aspect of economic sustainability (43%) but it is evident that also the diversification of the supply chain are relevant for them (37%). Also for the producers the price is important (30%); indeed, all the other aspects are almost at the same level. The experts consider the diversification of the supply chain highly important (31%) while the price assumes the lowest relevance (19%).

Table 3.Weights assigned to each aspects of level 1 (a) and to each aspects of level 2 (b)

| Aspects | Equalweights | Consumers | | Agro-ecological system experts | | Presidia producers | |
|------------------------------------|--------------|------------|-------|--------------------------------|------|--------------------|-------|
| | | Average | SD | Average | SD | Average | SD |
| Level 1 | | | | | | | |
| Quality | 20 | 44 | 14,30 | 24 | 9,9 | 26 | 9,40 |
| Cultural sustainability | 20 | 13 | 4,22 | 19 | 8,8 | 11 | 7,18 |
| Social sustainability | 20 | 17 | 4,22 | 13 | 4,5 | 18 | 8,94 |
| Environmental sustainability | 20 | 13 | 4,22 | 16 | 7,9 | 22 | 7,68 |
| Economic sustainability | 20 | 13 | 4,22 | 28 | 15,4 | 23 | 8,01 |
| | 100 | 100 | | 100 | | 100 | |
| Level 2 | | | | | | | |
| Quality: | | | | | | | |
| Rules of Production | 20 | 6 | 5,16 | 19 | 8,0 | 28 | 13,61 |
| Taste | 20 | 30 | 12,02 | 23 | 8,6 | 31 | 11,65 |
| Nutritional content | 20 | 15 | 10,54 | 13 | 8,4 | 12 | 7,68 |
| Health, safety, security | 20 | 33 | 10,33 | 23 | 16,4 | 13 | 9,23 |
| Local and seasonal | 20 | 16 | 10,22 | 22 | 14,7 | 16 | 9,40 |
| | 100 | 100 | | 100 | | 100 | |
| Cultural sustainability: | | | | | | | |
| Cultural identity | 20 | 10 | 9,43 | 20 | 14,5 | 17 | 10,31 |
| Transmitting knowledge | 20 | 17 | 11,35 | 24 | 11,0 | 15 | 8,27 |
| Traditional processing | 20 | 17 | 11,35 | 19 | 7,9 | 24 | 13,92 |
| Traditional conservation technique | 20 | 27 | 13,98 | 15 | 6,6 | 21 | 3,08 |
| Traditional gastronomy | 20 | 29 | 14,30 | 19 | 10,0 | 23 | 4,70 |
| | 100 | 100 | | 100 | | 100 | |
| Social sustainability: | | | | | | | |
| External relationship | 33 | 23 | 13,98 | 24 | 12,2 | 33 | 14,55 |
| Internal relationship | 33 | 21 | 11,74 | 25 | 13,7 | 31 | 13,34 |
| Social role of producers | 33 | 56 | 25,47 | 51 | 20,7 | 36 | 9,40 |
| | 100 | 100 | | 100 | | 100 | |
| Environmental sustainability: | | | | | | | |
| Biodiversity and landscape | 25 | 34 | 10,22 | 38 | 16,0 | 65 | 26,06 |
| Air and water | 25 | 24 | 3,94 | 19 | 7,1 | 11 | 9,68 |
| Soil | 25 | 20 | 5,77 | 20 | 7,1 | 16 | 12,31 |
| Energy | 25 | 22 | 2,58 | 24 | 8,6 | 8 | 7,68 |
| | 100 | 100 | | 100 | | 100 | |
| Economic sustainability: | | | | | | | |
| Supply chain: diversification | 25 | 37 | 15,49 | 31 | 23,4 | 24 | 12,31 |
| Price | 25 | 43 | 9,19 | 19 | 7,4 | 30 | 13,76 |
| Forms of bundling | 25 | 9 | 12,65 | 26 | 12,2 | 23 | 13,02 |
| Increase of production area | 25 | 11 | 11,74 | 24 | 11,4 | 23 | 10,31 |
| | 100 | 100 | | 100 | | 100 | |

4.2 The analysis on the three Presidia

The Figure 1 shows the application of the methodology on the three Presidia for the level 1. Results evidence that the participation at the SF Presidia project has improved all considered aspects. Before the establishment of the project the total score of these aspects ranged between 8 and 11 (maximum $10 \times 5 = 50$). Just after the release of the trademark logo the total score was between 31 and 27. The three Presidia did not differ so much in the total score, both before and after the establishment but they evidenced a great variability regarding each single aspect.

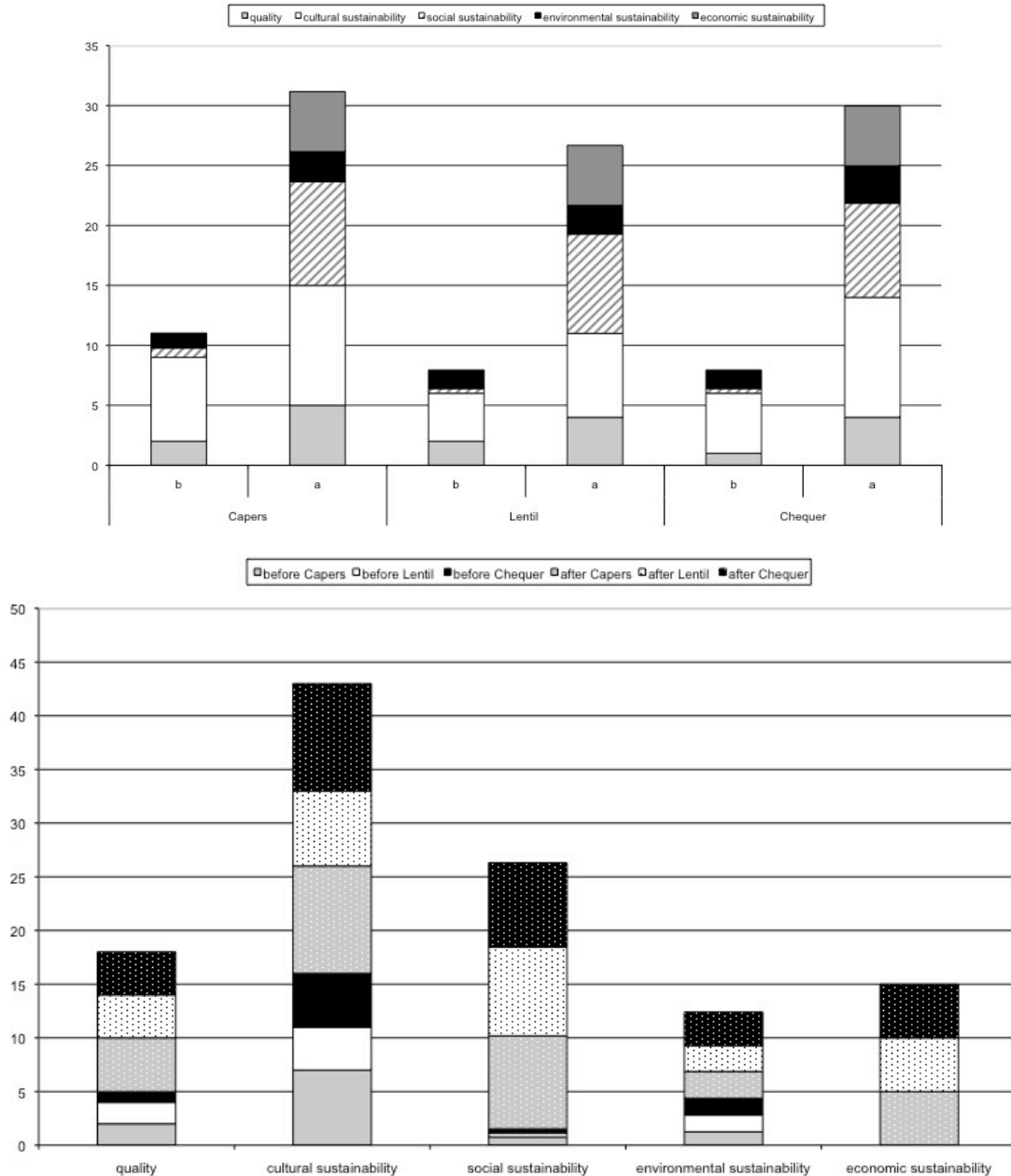


Figure 1. Analysis of level 2 of the three study-cases, before and after the establishment of the SF Presidia project. Data are shown per product (top) and per aspect (bottom)

4.2.1 The effects on food quality

Regarding food quality many aspects can be analyzed and the taste is one of the most important. In order to be a Presidium the product must taste excellent in order to guarantee one of the fundamental aspects of the Slow Food philosophy. In the specific case of the Presidia, the Slow Food Foundation uses internal taste panels to evaluate taste quality while involving experts from various fields. Regarding other quality aspects, Presidia are all local food systems as they are produced and consumed in a specific territory, and they are also seasonal and fresh. Also, the safety and security aspects are particularly evidenced.

In this analysis the difference before and after the Presidia related to quality are mainly due to the application of the Rules of Production, that didn't exist before. Some Authors consider that this aspect favors the standardization of the product (Lotti, 2009), and a reduction of diversity as a consequence, both in terms of number of producers and agro-biodiversity. In our analysis this is not true, as the number of producers increased in almost all three Presidia (see social effects) and the area of the cultivation is enlarged (see economic effects).

4.2.2 The effects on the cultural system

The concept of localized food production and products is not only based on the local as a place, but on the cultural dimension as well as the know-how aspect (Berard and Marchenay, 2004). They are linked to the ability of the Presidium to promote publications dedicated to the territory, the creation of activities connected with local tourism and culture, the recuperation of historical buildings, just to mention few positive results.

4.2.3 The effects on the social system

The social effect of a Presidium is less easy to quantify. For the Italian Presidia these aspects are less evident and social objectives can be considered as a way to improve the social role of producers and reinforce their willingness to organize themselves. It can be measured by assessing if the Presidium has created either an association or any other form of alliance and this aspect is already measured and described in the economic aspects; on the other hand, whether the producers have been able to communicate with both public and private institutions and if they have increase their visibility, recorded by different media sources.

In this analysis we have considered many aspects divided into three categories (level 2). Within the Presidium the producers increased their relationship with the 'external world' and had the possibilities to meet and share experience between themselves and other Presidia producers.

4.2.4 The effects on the environment

Many research suggests that local traditional foods are now seen as potentially greener than organic (Tregear, 2001). Environmental goals are vital for each Presidium, since they are essential to preserve biodiversity and improve sustainable food production. Each Presidia production protocol requires the producers to either avoid or reduce the use of chemical treatments, to take into account animal welfare adopting extensive farming, and to protect local breeds and vegetables varieties, whenever it is possible. The use of varieties and breeds adapted to the local environment can permit to eliminate or reduce the use of chemicals and water consumption. The adoption of sustainable agriculture and livestock principles like resource conservation and enhancement (biodiversity, soil fertility, water, air, and landscape) are the base for a sustainable local food production chain (for both producers and consumers). The overall judgment is positive, even though there is still a lot to do: the packaging of some products is

sometimes neither minimal nor biodegradable and very few producers decided to invest on clean energy. An accurate examination has in somehow revealed encouraging results.

4.2.4 The economic effects

The economic objectives can be measured with numbers which refer to the producers' remuneration, leading to local growth and additional employment: they include changes in prices, quantities and number of workers. The analysis carried out in this study shows that the price of the final product is increased (not for Wild Chequer study-cases). This is a critical aspect of the systems as the goal of the project is to reach the right price not only for the producers but also for the consumers. Also the area of the cultivation increased evidencing a direct effect on the development of agro-biodiversity. Moreover there was the establishment of a form of alliance among presidium producers with the aim to gain more powerful on the market.

5. Conclusion

The Slow Food Presidia agro-food systems analyzed here are local projects focused on a specific territory that go well beyond the development of a reactive 'defensive localism' (Winter, 2003). Despite the significant differences among the described study-cases, with regard to their specific food sector, in all examples sustainability objectives are focused as ex-ante activity. This paper firstly shows that SFS comes from a dynamic process of a territorial identity as a socio-cultural construction. In fact maintaining the boundaries of the network may be difficult: on one hand producers are under pressure to increase their output, if they want to raise the profile and profitability of their product but on the other hand they fight against the disembedding of their territory. Secondly the ex-post assessment of sustainability of food systems shows that for the socio-economic aspect results are exceeding the expectations. In fact, as the analysis has shown, Presidia project provide a strategy for farmers to remain on the land and for producers to regain some power and control over their productive relations thus also the social and cultural aspects are reached. Moreover, in such a model the environmental objectives are reached through formation and technical assistance that must continue to be an element of research, innovation and development. Finally the cultural aspect are respected and enhanced. Presidia products can contribute to reinforce the base on which it is possible to create dynamics in rural activities, which include economic satisfaction, environmental concerns, social and cultural background, through collective processes aiming at promoting a region as a whole.

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