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Summary

This study focuses on Community-Supported Agriculture (CSA) in Italy. As generally understood, a CSA is a partnership between one or more farmers and a community of subscriber-consumers. This arrangement helps to guarantee the operating budget of a particular agricultural activity, via a subscription to one or more "units" of the harvest season. Subscribers sign an agreement to support financially (and/or in other ways) the agricultural activity during the growing season. They share risks and benefits inherent in farming itself.

A specific CSA initiative in Rome, the *Orti Solidali*, exemplifies degrowth processes and new sustainable agro-environmental approaches to urban areas. It defines a synergy between community basic needs, environmental protection and alternative economic practice. For studying the case, the researchers have been participant-observers, involved in some responsibilities for tasks of the *Orti Solidali*.

The *Orti Solidali* CSA develops *agricoltura sinergica* (synergistic agriculture), an agricultural production technique that is highly sustainable. Synergistic agriculture provides methods for enhancing soil fertility, minimising material inputs, improving the natural and cultivated biodiversity level and substituting knowledge of natural resources for external inputs. This cultivation method addresses the environmental problems of the agricultural sector. This method also provides a potential basis for new knowledge sharing among participants – paid workers and subscribers who pay for food boxes.

The research was conducted on several levels of the *Orti Solidali* in parallel, to study its:

1. Knowledge flows and partnerships
2. Sustainability: environmental, economic and social
3. Comparison with other agro-food initiatives

Knowledge flows and partnerships

In spring 2009 the CSA held several workshops for subscribers who wanted to be volunteers, so that they could gain the necessary knowledge to work in the gardens. The course was dedicated to synergistic agriculture on a theoretical level, to transfer knowledge to the volunteers on a gift and exchange basis. This aimed both to prevent possible damage that they could cause to the gardens if unaware about synergistic techniques and to make them more conscious about the project's values of environmental stewardship.

Poor weather delayed the full start of the gardens, consequently losing participation of a civil society organization (CSO) that had originally made a commitment to provide voluntary labor. Nevertheless in summer/autumn 2009 the initiative yielded the expected agronomic harvest. It also exceeded expectations regarding the commitment of subscribers, who supported the initiative despite the delays and the problems. Furthermore, the workers, refugees from the social cooperative *Il Tetto*, were motivated to work consistently.

After summer 2009, the gardens encountered several logistical problems – no water available for months, no glass houses available, etc. – mainly due to the host landlord, Agricoltura Nuova, who changed its mind regarding the zone classification of the land. This change blocked the agricultural production and delayed the start of the box deliveries. Meanwhile the project tried some 'experimental' deliveries, but subscribers were still waiting for the service to be fully operational. As a result of these difficulties, the initiative found it necessary to move to a new site and build the gardens anew.

Consequently, CSOs did not fully participate as originally expected. Knowledge exchange and mutual social learning occurred only among a few participants – mostly during the initial planning and building of the gardens. The CSA network did not show much knowledge flow between actors, except for communication between the organizers and the subscribers. By contrast, we saw knowledge flows between the researchers and the CSA network, for example while submitting questionnaires and during garden working days. Another opportunity for developing partnerships and spreading knowledge has been our national workshop (see later section).

Sustainability evaluation

The study developed methods to evaluate the social, environmental and economic sustainability of the CSA, as follows.

Economic sustainability: We focused on self-sustainability – the ability of a CSA to sustain itself economically from its own resources and services offered primarily to participants. Costs should be wholly covered by the incoming subscriptions and by other forms of direct or indirect sponsorship.

The data collected are based on the financial accounts supplied by the *Orti* coordinator. We had a dialogue with FRCIVAM, our CREPE partners from WP4, to discuss the most useful approach to the economic evaluation of short-chain initiatives. More help came from the discussion during the

workshop that we organized on the CSA model (November 2009) and in particular from the dialogue with Maria Fonte, an academic expert on the relationships among agriculture, economy and society. At this stage of the investigation, we focused on capacity of the CSA to survive autonomously and to direct its income towards the workers' wages.

Social sustainability: We decided to evaluate the social skills of proposing solutions to some social problems generated by the conventional agricultural system, particularly the relation between producers and consumers. Due to the difficulty of identifying indicators for social sustainability, we decided to evaluate this component through questionnaires to the subscribers, where we formulated questions about their satisfaction and level of involvement in the CSA initiative. Questionnaires were circulated to subscribers right after the November 2009 workshop, drawing as well on main topics that emerged during the discussions. When analyzing the outcomes, we used a selected bibliography on international Local Food Networks and CSAs in order to compare our initiative with other experiences.

Questionnaire responses came from approx. half the subscribers. They expressed a wide range of economic, social, environmental and personal reasons for participation as subscribers. The most important motive was 'ethical'. We interpret this term to mean a commitment to an alternative production-consumption model carrying many features that consumers have chosen for ethical reasons. In relation to the CSA's social sustainability, we collected interesting points as well from the discussion at the end of each thematic section of the workshop we organized, thanks to the contributions from academic guests and the CSA subscribers.

Environmental sustainability: We analysed the environmental sustainability of the initiative in qualitative and quantitative terms. First, we selected few aspects that are more relevant for our case study: energy use efficiency, protection of natural and cultivated biodiversity, management of soil fertility and water resources, climate change.

In qualitative terms, we described the relations among a CSA initiative and the environmental aspects, by looking at industrial agriculture as the reference point or baseline. We analysed how a CSA can give solutions for the most difficult situations.

Afterwards we selected few indicators for each aspect in order to quantify the Orti's environmental performance. We then defined a useful framework that could be applied in the future to calculate the environmental performance of an alternative agriculture initiative.

Urban agriculture in Italy: a comparative workshop

A public workshop on CSA and alternative food networks in urban areas was held in November 2009. Participants attended it from both CSOs currently working on the project, by CSOs from other Italian regions engaged in similar projects, and by several academics.

The workshop investigated the multifunctional sustainability of alternative food networks involving different stakeholders, and focusing on the features of the CSA model. The three main topics discussed have been: agricultural methods, community building, and urban planning.

Agricultural methods: This discussion developed around the synergistic method, and the implementation of Local Food Networks in urban areas. Participants agreed that this would depend on a change from the agro-industrial vision towards the rural-ecological vision. It needs a change from agricultural productivity to quality, from large-scale retail trade to local distribution, from high input of fossil energy towards low external inputs. Together these changes can reduce environmental impacts during production, distribution and consumption of food.

Community building: Participants felt that an urban food system must build a path through which consumers improve their awareness of agro-environmental and food safety issues. They can become consume-actors, thus constituting a food community. This can be the basis for creating a CSA initiative. Several food communities could develop a food network on regional or national or even global scale.

Urban planning: Participants discussed and criticized zoning rules (the functional separation of the different parts of the cities), the centralized planning of space and the disappearance of local connections. Given that most big cities have no space designed for agriculture, the workshop discussed strategies to create spaces for urban agriculture. For example, they can take back 'the empties' – areas that are left empty or abandoned by urban planning. They can rethink the old concept of commons – lands, forests and streams that could be freely used by the peasants in medieval Europe. The original concept could be adapted to today's urban spaces. For example, food and environment can be seen as commons that should be preserved, as well as collective alternative uses for urban commons.

Orti Solidali as a degrowth niche

The case study of the Orti Solidali gives tools to analyse in practical terms the alternatives being widely discussed around degrowth theories. With its critique of the current unsustainable economic system, Degrowth advocates a reduction of economic growth and a transition to a new economic system based on environmental protection and social equity. The Orti Solidali translates this call into

a food production initiative that uses an environmentally sustainable agronomic method, and that creates goods while providing living wages and fair working conditions to the producers.

Moreover, the Orti Solidali has developed alternative organizational models and social relationships for the actors involved. It addresses calls for relocalisation of food, redistribution of wealth, reduction of environmental pollution, restructuring of production-consumption patterns, that is to say, many of the "R" imperatives suggested by the degrowth movement. These priorities, which the Orti turns into practice, highlight ethical concerns that have a big relevance for most of the actors, especially for consumers. Subscribers' ethical beliefs on environment protection and social equity had a central importance for their commitment to the initiative, despite all its problems.

For innovation theory, a niche emerges from a novelty when a network of social actors constitutes a set of ethical values, cognitive frames, relational codes that shape a protective environment. This gives the niche a relative stability, dependent on the commitment and the dedication of the participants, until establishing itself. Otherwise it collapses and disappears from the range of possible alternatives.

Alternative agro-food networks (AAFNs) act as such niches. They play a transformative role in reorganizing priorities, especially co-building knowledge around an alternative food provision. In the *Orti Solidali*, often we made a virtue of necessity in dealing with problems. Both the organizers and subscribers had a strong commitment, which helped to create a niche protected from the market, so that the novel community could establish itself and find solutions to problems.

1 Original Plan for the WP

Objectives

1. To study and engage with a community-supported agriculture (CSA) initiative, in order to identify good practices for CSO participation and cooperation processes through direct involvement in agro-environmental issues in urban areas
2. To evaluate the environmental, social and economic sustainability of the CSA initiative
3. To design and implement cooperative research processes among the CSOs, involving all the engaged actors in the evaluation of the CSA initiative.
4. To identify technical /organizational innovations, as a basis to propose alternative approaches to societal needs in the agro-food area, in a vision of sustainable development.

Rationale:

In the PSx2 project the goal was to identify good practices to improve the participation of civil society organisations (CSOs) in scientific issues. However, the project found a difficulty to implement knowledge sharing and CSO participation in science, especially in a context where institutions structure the opportunities in a top-down mode. As the final report said:

Our original intention was to focus on 'good practice' in participation, but we found that CSOs believe themselves to be operating within a structure that fundamentally denies them opportunities for meaningful participation... [Consequently] It turns out that this is not a handbook of good practices so much as a fundamental shift in perspective in which innovation directed towards wider public benefits is given greater prominence from the very beginning: good practice follows (CDG, 2008: 31, 32).

Within this vision, CSO participation can be more effective within initiatives, which develop production alternatives that have a low environmental impact, societal needs as a driver, a sustainable development vision, and most importantly, a bottom-up design process through a network of different stakeholders for the common good.

Agro-food production happens outside urban areas and this generates a physical and cognitive gap from production sites and consumption sites, which allows little possibility for urban inhabitants to express themselves about agro-environmental issues and their impact on the local territory.

A CSA initiative carried out in an urban context can stimulate:

- Safeguard of urban areas from building speculation
- Control on food quality, the entire agro-food chain and on the environmental preservation
- Environmental education opportunities

The specific CSA initiative is a concrete example of possible degrowth processes and new sustainable agro-environmental approaches to the urban areas, because it defines a synergy between community basic needs, environmental protection and alternative economic practice.

In our specific case, the subscription to a weekly fresh product box service is, on many aspects, in accordance with the guidelines of the degrowth theory:

- Consumers and producers can strengthen their links by coming together in a shared risks-and-benefits partnership that revises the conventional producer-consumer relationship
- Through an annual subscription, an economic partnership with very local growers set up a process of re localizing the economy. In this way a virtuous process should start, giving the grower a sure financial support for its activity, and to the consumer the guarantee to eat fresh and healthy food
- To extremely shorten the agro-food chain gives to food a lower ecological footprint, because there is no need of refrigerating or stocking system; moreover a reduction of the transportation is plausible thanks to a direct organization among the different participants and the producers for delivering the boxes.

In order to investigate and empower this vision, we decided to narrow our study for the CREPE project to how CSOs participate in agro-environmental issues, especially in an urban context, and we changed the original topic of our WP (CSO participation in agbiotech issues). Instead we choose a CSA (community-supported agriculture) initiative as a case study for action research.

In this CSA initiative, based on synergistic agriculture methods, various stakeholders pursue their needs, CSOs and experts link their tacit knowledge, and such cooperation creates new virtuous networks.

As a case study, this study can identify the basis and types of good practice for improving CSO participation in agro-environmental issues. We can study how CSOs set up new informal frameworks

of wider public participation, thus enhancing their opportunities to represent societal needs and priorities for agro-environmental development.

Research questions

- 1) Which opportunities for CSOs participation and cooperation in agro-environmental issues (in urban areas) are offered from the organizational structure of this CSA initiative?
- 2) Which parameters must be considered and developed in order to assess the environmental, social and economic sustainability of this CSA initiative?
- 3) How does a cooperative research approach on this case study, based on the involvement of participants and various experts, help to understand the CSA production-consumption model?
- 4) How can this CSA initiative be considered an example to define and develop new participative practices in the agro-environmental field? How can these practices be evaluated according to degrowth and re-localization theories and considered a first step towards a sustainable-participated development?

A social urban garden: CSA as a case study

CSA can therefore be considered as a tool for change with which to take advantage of the current food climate to encourage more sustainable production with greater accountability to the consumer and fair returns for producers. (Henderson, 1999)

Community-supported agriculture (CSA) is a cooperative model of agriculture and food distribution:

Community Supported Agriculture (CSA) is a relationship of mutual support between a farmer and those who eat the food they produce. It is a partnership between farmers and consumers where the responsibilities and rewards of farming are shared. As well as reconnecting people with the land and their food, it can give farmers and growers a secure income and also helps to create a sense of community (UK Soil Association)

For our case study, the specific CSA is a social urban garden supported by a direct agreement between the local community and local farmers. This is the first CSA initiative in the Rome urban area, thanks to networking among several types of CSOs.

Moreover, it uses *agricoltura sinergica*, thus involving participants in new knowledge.

Synergistic agriculture is a rather new, uncommon method of cultivation, developed few decades ago by a Spanish woman, Emilia Hazelip, who spread the results of her studies especially in Spain, France and Italy. She was inspired by the work of a Japanese farmer, Fukuoka, a forerunner of permaculture. She developed a method that aims mostly at the self-fertility of the soil and on the consequent better health of the whole soil-micro-organism-plants system.

Beyond its environmental benefits, this urban garden involves joint responsibilities and rewards of many kinds. In all these ways, it links forms of social, environmental and scientific innovation.

The CSA initiative itself has some elements of participatory research, as well as of cooperative research, i.e. researchers and non-researchers co-building new knowledge. The CREPE project will both investigate and extend that process. The case also offers opportunities to study good practices for CSO participation in local empowerment processes in agro-environmental issues in urban areas.

According to a book on CSA projects:

“There appear to be three main reasons behind the development of community supported agriculture in the industrialised world:

- First and foremost CSA is a response from consumers to a society in which they are increasingly divorced from the land and concerned about the methods used to produce their food.
- Secondly, CSA is a direct local marketing opportunity pioneered by producers struggling to compete with global economies of scale.
- Thirdly, CSA can be a strategy for national food security.

CSA is not a trend or a model spreading across the globe through imitation. It is a concept, adapted by consumers and producers in places where the prevailing system no longer addresses their needs. It has occurred in countries where a section of the public concerned about food quality and production methods have had enough conviction to make lifestyle changes that benefit them and their food producers....

What begins as a consumer initiative is soon seen by farmers as a marketing opportunity. As the model matures, farms form networks to further satisfy consumer demand for a variety of food.

Food co-operatives emerge, instigated by consumers, farmers and entrepreneurs. All tend to provide similar services with emphasis on known farmers sustainably producing local food.

Each CSA initiative is unique. However what they have in common is an attempt to create a mutual arrangement between consumers and producers. To this end a degree of consumer participation is essential, though the level varies.

However, it is clear that increased participation brings a greater commitment and sense of responsibility with a greater likelihood of success and sustainability. There may be lessons to learn from the participatory approach to development work in the creation of new local food systems that promote local culture and distinctiveness.

Participation makes projects more effective and sustainable in a variety of ways. It helps to identify the social and economic requirements of local communities, reduces potential for conflict, promotes a transfer in knowledge and technology, and, most importantly, it encourages a culture of self help and a commitment among the people to the development of their own communities” (Henderson, 1999)

CSO networks

The CSA garden initiative is provisionally entitled *orti solidali* (solidarity gardens) *Divino Amore*, named after the district in Rome where the garden is located. This initiative arose from networking between CSOs working in different fields (e.g. social inclusion, scientific research), a farm co-operative which works in the Rome area, and the Fondazione dei Diritti Genetici (FDG).

Here we show how the CSO network was designed at the beginning of the project (Figure 1):

Associazione IL Tetto ONLUS, a social co-operative, coordinates development of the partnership, provides the labour for the garden and organises the short supply chain with consumers. They are organised through a subscription system. (*ONLUS* = *organizzazione non lucrativa di utilità sociale*, i.e. a socially useful non-profit organisation).

Two trainee/interns come from the *Multifunctional Agriculture* (MFA) training course organized by the FDG jointly with Tor Vergata University Scientific Pole. They study environmental aspects, considering the entire agro-food chain of the project. They will also monitor the social aspects – e.g., creation of tools for networking of the actors, monitoring of the consumers’ feedback, testing for the reproducibility of the project, etc.

The *FDG* developed good practices for participation of society in agro-environmental issues -- firstly by organizing the training course, and then by promoting the internship/training that allows the two trainees to develop and work on this CSA initiative.

The *MEC* (*Movimento di Emancipazione Contadina*), a voluntary association, originally proposed the CSA initiative.

Agricoltura Nuova, the farm co-operative within the city area, will supply the initiative with the land, the infrastructure (such as the tools, the straw, etc.) and the process for giving organic certification to the final products

University Tor Vergata provides the trainees, in so far as it took part in the organization of the MFA course which trained them. Most scientific expertise in the MFA course came from Tor Vergata teachers.

University of Bologna (*Dr G. Burgio, Agro-environmental Science and Technologies Department*) will monitor the biodiversity of the garden (in particular through biological control methods).

Centro di Ricerca per lo Studio delle Relazioni tra Pianta e Suolo del CRA, CRA_RPS (*Research Centre for the Study of the Relationships between Plants and Soil of the CRA, Center for Agricultural Research in Rome*) will take care of the soil analysis of the garden.

On the next page is a diagram which shows roles of the involved actors and possible knowledge flows among them:

Research methods and tasks

As a main aim, the study will survey good practices as identified in the MFA course and compare with practices in this specific case study. It will use these methods:

- Survey literature for concepts to analyse scientific, social and environmental goals of the CSA initiative.

- Monitoring development of the initiative across all those aspects.

- Analyse partnerships, knowledge flows and social learning among CSO partners of the initiative.

- Interviews, surveys and small-group discussions with participants (other CSO staff and volunteers) that will work in this initiative.

- Action and participatory research together with the different actors

- Cooperation with research trainees studying environmental aspects.

- Workshops with the participating CSOs and external ones

2 Research Activities

2.1 Cooperation with research trainees studying environmental aspects

As gathered from previous studies and projects carried out by the FDG (see PSX2), a difficulty was found in implementing the sharing of knowledge and the participation of CSOs in building strategies for a sustainable agro-environmental development.

In the search for good practices to overcome these constraints, a formation course was instituted together with Tor Vergata University Scientific Pole in order to train graduates students to the potentialities of Multifunctional Agriculture.

Why multifunctional agriculture as a good agro-environmental practice? From the MFA Course research plan:

“The concept of “multifunctionality” came up in the political economy debate and is entering the national and EU law since developed countries were forced to progressively reduce protectionist measures and orient rural politics towards a less distorted economic and market presence.

The idea comes from the need of recognizing diverse functions to public policies that go beyond the production of raw material to turn into agro-food goods, and enacted by diverse subjects in rural territories *in order to satisfy specific needs of society*.

A new consumer sensitivity for food quality and security and for environmental problems, together with a deeper need for the citizen to bring themselves close again to farmers [...] shows the emergence of a new rural scenario.

The change is due to the new role that society asks from rural areas.

The valorization of multifunctionality in agriculture and of the new functions and services commissioned to agriculture is becoming an inevitable step that intercepts explicit societal needs regarding environmental sustainability, pollution reduction, and food security”¹

This course was set up mostly to cope with issues that are usually not well tackled in Italian agro-environmental institutional contexts (university, training bodies, agro-environmental agencies, etc...) such as urban horticulture, social agriculture, sustainable energies, biological control methods, rural sustainable development, sustainable tourism, etc, that can help to investigate these good practices we are looking for.

Two trainees from this course, together with FDG researchers and full professors from the MFA course, got together in a cooperative research process for the monitoring of this CSA initiative, as a case study of multifunctional, virtuous and sustainable alternative production model.

From the beginning of the project, the trainees have been collecting data for their scientific monitoring and they have as well contributed to the design of the cooperative research plan together with FDG researchers.

The specific situation that developed and the obstacles that were encountered in these first months of gardening created a situation of “switching and mixing” roles for the trainees and the researchers.

As we originally planned for the sociological study of the CSA, the role of participant-as-observer would be the best to monitor such an initiative. But our role soon turned into something that we could call an “observing /researching worker”: trainees and researchers have been playing more or less

¹“Il concetto di “multifunzionalità” si è affermato nel dibattito di politica economica e sta entrando nella legislazione comunitaria e nazionale da quando i Paesi sviluppati si sono visti costretti a ridurre progressivamente le misure protezionistiche e ad orientare la politica agricola verso interventi meno distorsivi del mercato e del commercio. L’ idea prende corpo dall’esigenza di riconoscere nelle politiche pubbliche una molteplicità di funzioni, che vanno oltre la produzione di materie prime da trasformare in beni alimentari, svolte sia dagli agricoltori che da una pluralità di soggetti operanti nei territori rurali al fine di soddisfare specifiche esigenze della società. La nuova sensibilità dei consumatori per la sicurezza e la qualità alimentare e per le problematiche ambientali, accanto ad un bisogno più profondo dei cittadini di riavvicinarsi agli agricoltori, ad una cultura non ridotta a folklore, ma viva e funzionale, alla qualità della vita che può essere goduta in una campagna dinamica, segnala l’emergere di un nuovo scenario di ruralità. Il cambiamento è dovuto al nuovo ruolo che la società richiede di svolgere alle aree rurali.

La valorizzazione del ruolo multifunzionale dell’azienda agricola e quindi dei nuovi servizi e funzioni delegate o delegabili all’agricoltura è diventato un percorso obbligato che intercetta bisogni espliciti in termini di sostenibilità ambientale, di riduzione dell’inquinamento, di sicurezza alimentare e più recentemente di attenzione alle fonti energetiche rinnovabili ed allo stesso cambiamento climatico.”

every role that was designed in the CSO network of the initiative -- from media covering of the initiative, to data recording and physical working of the gardens.

Though very intense and not economically sustainable, such a necessity gave us a very special insider view of what happens when setting up a CSA with a network of diverse subjects.

In the beginning (early 2009) during the preparation of the project (meetings, courses) it has been easy to distinguish the two roles of participant and observer.

We considered our role as participants in the same way as the volunteers did, meaning that we didn't feel really involved in the organizational part of the project. But when the practical building of the gardens started, we realized that there was a strong need of volunteers and that we had to help in the implementation of the project. This role evolution probably happened for at least three reasons:

- i) The goal of our training, according to the MFA course, was not only the observation of a project but also the organization and even the implementation of it.
- ii) We are emotionally and "ideologically" involved in the project, and we feel not only that it can work, but also that it can represent a good practice to spread.
- iii) Lack of volunteers and technical problems were threatening the realization of the project. Without an implementation, no observation was possible. So the urgency pushed us suddenly to a more participatory role.

We plan to investigate deeper this issue in our research (see section 3).

For a while we concentrated our effort in the building of the gardens, the organizing of the volunteers, the work in the gardens, helping in the fund-raising and so on.

Now that we can see the first concrete results, and some gardens are already productive, we can fully move our attention to the observer role.

The main difficulty that we found in this double role is the balance between the participant and the observer, because this status doesn't depend completely on our willingness but mostly on events that we can't control completely: e.g. weather and climate conditions, volunteer availability, nature rhythms, work deadlines.

2.2 Analyse partnerships and knowledge flows among the CSA network

When we started the research activities, we designed a preliminary diagram that showed the ongoing social learning process and the knowledge flows among the partners (Figure 1); we expected an enhancement of its complexity through new connections and knowledge exchanges that would arise from the development of the initiative. Instead, we had to face a substantial change of the activities plan, due to the changing of the participants involved and their roles (Figure 2).

This means that the activities related to knowledge exchange and mutual social learning only occurred among some participants and not all of them as we expected in the beginning. They happened mostly during the planning and the building of the gardens; organizing the network of the CSA subscribers; creating strategies to solve technical problems related to garden building, through the mailing list and the blog of the initiative.

The delay of the beginning of the project is the first cause of the stagnation of the related social network. After the initial enthusiasm for the project, the stakeholders are waiting for the first results of the initiative: when the delivery of the vegetable boxes will start, we expect the subscribers group to start constitute itself in a steering committee for the CSA, to organize themselves around collective needs, to produce more knowledge flows and exchange opinions and feedback about agro-environmental issues and related subjects.

Another cause of the stagnation is that this project wasn't really cooperative from the beginning. Rather, it started and developed from the idea of a single person, who is looking after all the aspects of the initiative. If this approach is often the best to implement a small project, nevertheless it represents its main limit, because it was difficult and it took a long time to create a real team that would work on the project. A participatory way to implement a project needs a different and broader approach.

Another reason why the project got such a big delay is probably that there is not a common and explicit goal among the different participants. There are several goals existing together, even as many as the persons involved. Even if these goals are incompatible, it means that this initiative involves different priorities, methods and schedules.

The delay is conditioning knowledge flows among the members of the network. The testing of new aspects (above all the synergic practice and the CSA scheme) isn't supported by big amounts of formalized and shared knowledge. Because an initiative such as this one is a rather uncommon

mixture (a CSA based on a synergic urban garden) there are very few, often informal, similar examples to study and compare spread all over the world.

For this reason, the network members are, in the best-case scenario, impatient to see first results, but also some of them show some skepticism. The knowledge flow is being blocked by the absence of results. We are in this situation, because we feel that the project can work, but for the moment is more a hope than a certainty.

As regards agro-environmental knowledge, we can see a stabilized unidirectional flow from the Associazione Il Tetto Casal Fattoria, coming in particular from the project organizer, to the researcher trainees and some volunteers, the occasional visitors and the academic world.



Fig. 2 Agro-environmental knowledge flow

Since summer 2009, a lot changed in the structure of the CSA initiative, due to external problems that the CSA organizer is slowly trying to solve to help the project to go on and honour the commitment with the subscribers.

The first part of the CSA initiative developed in a green belt area in Rome called Castel di Leva, in a field managed by the farm cooperative "Agricoltura Nuova". The experiment has yielded the expected agronomic results and exceeded expectations regarding the subscribers who are involved by the ethical aspects of the project, and therefore have been waiting faithfully for the boxes delivery to eventually start, some of them even contributing with active volunteering in the gardens. The workers, the refugee guys from the social cooperative ILTetto, were motivated to work consistently and their results were better than the expectations, with a success rate of 50% — in a field where the main problem is the continual work². However, this experimentation has encountered several logistical problems during these months, mainly because the farm cooperative "Agricoltura Nuova" has not fulfilled its prior agreements with the *orti solidali*.

These problems blocked the production in the gardens (no water available for months, no glass houses available, etc.) and delayed the start of the box deliveries, that is still vacant: by now, the subscribers tried just some 'experimental' deliveries and are still waiting for this service to be fully operative.

The situation with Agricoltura Nuova was impossible to solve. Therefore the project will soon move to another piece of land nearby, owned by an association that has the same social goals of this CSA social gardens project – unlike Agricoltura Nuova, which is a farm. This time the gardens will be built in a land granted in usufruct to the association "Piccoli Passi" ONLUS, sited nearby the Il Tetto social cooperative and the previous *orti* site. The project will keep its gardens in the first site anyway, until the new gardens are set and fruit bearing.

This big event changed the trend of the CSA networking substantially: one of the main partners disappeared, its role being substituted entirely by a new one, and the networking between the actors of the CSA yet never happened in the ways it was expected: the boxes delivery doesn't work yet on a full regime. This means that the only contacts that the subscribers had between themselves or with the other actors during this period have been mostly due to *communication* reasons (from and with the organizer through emails, blog or telephone) or *research* reasons (the FDG team that involved them in the November workshop or with the submission of questionnaires).

This trend is opposite to the expectations: the CSA network doesn't show many connection or knowledge flows between actors, except for the communication channel between the organizers and the subscribers. On the contrary, we see several flows of knowledge occurring between the research/academics area and the actors from the CSA network.

²Data taken from a presentation of the Orti Solidali project by the CSA organizer

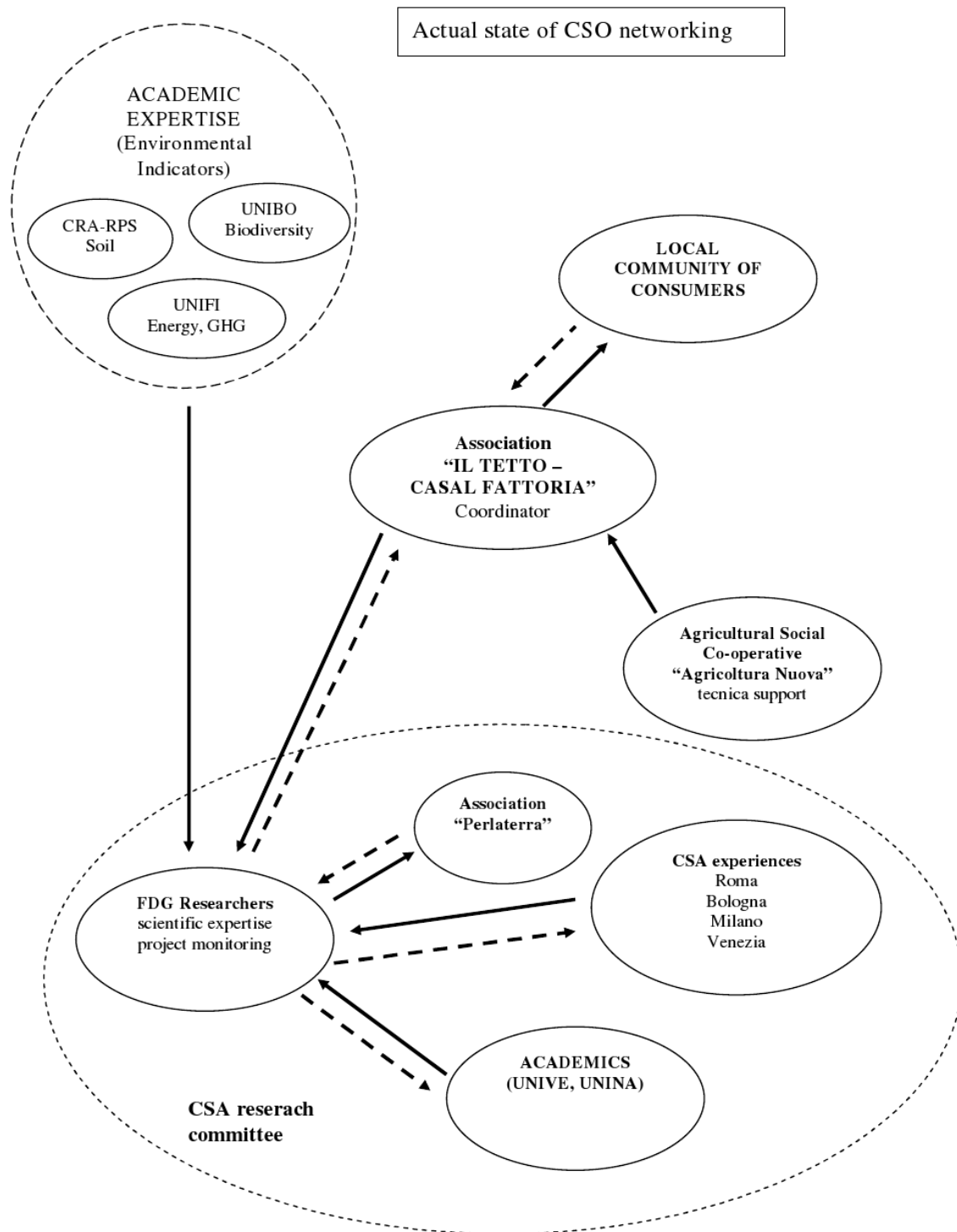


Fig. 3 Current state of CSO networking (early 2010)

2.3 Interviews, surveys and research activities with participants

In spring 2009 some of these activities have been performed: a series of conferences describing the structure and aims of the initiative have been held in different public spaces (e.g. institutional organizations, social centers, voluntary associations) in order to involve and gather the most possibly diverse social subjects.

The conferences/meetings were organized with the main aim of promoting the project and collecting subscribers. Moreover they became an opportunity for us to get to know better the synergistic agriculture techniques and the whole project, to meet future volunteers and subscribers and to understand the consciousness and the knowledge level of local population on the problems that the project wants to face. Participants in the meetings didn't represent the average local population: they are mostly people more interested and sensitive on food and agriculture questions.

After the meetings there have been two days dedicated to the volunteers, in the form of workshops, to transfer them the required knowledge to come and volunteer in the gardens. The only request to the volunteers was the participation in at least one of these two training days.

The course was dedicated to synergistic agriculture on a theoretical approach: the aim was to transfer knowledge to the volunteers in a gift and exchange logic in order to prevent possible damages that they could cause to the gardens when not conscious about synergistic techniques.

This was a good opportunity to get to know the volunteers. During these days we met the enthusiasm and the availability of the volunteers that later decreased, due to the project delay and also to the hard work needed in the beginning to build the gardens.

Probably during the meetings and the course, the self-discipline to deliver on a commitment of the volunteers it has been overestimated. The fact that a formal commitment was not required from them didn't work very well in the end. From the researchers' diary:

“The building of the gardens is strongly depending on their work [volunteers work], and this is a problematic point, because their contribution isn't constant and frequent, as expected in the beginning. We put an excessive trust on their self-organization and responsibility. I think we can make two considerations. The first one is that it would have been better if we organized a more precise work timetable to assure a certain number of volunteers presence. The second one regards their motivation, and the need to increase it on the objectives of the project.”

In autumn 2009 the main research activities were the workshop that we held in November 2009 and the submission of questionnaires to the CSA subscribers.

Workshop

Regarding the workshop³, the very specific participant-as-observer point of view that we play in this research allowed us to see that a lot of problems that arose during the development of the project are common to other LFS, especially the ones that are not supported by institutional funds (which means, the majority of them in Italy). This thought influenced us to shape the workshop in a way that could be a source of answers to these open questions (e.g. financial problems for community projects, the question of voluntary work) and an occasion to discuss, together with external experts and civil society organisations (CSOs), the main difficulties that arose during the study and that are common to other local food systems (LFS).

Indeed we selected our guests in order to balance them and to create an empirical two-way flow of information: from the professors willing to present and debate their papers to the CSOs willing to meet other stakeholders and receive informed knowledge, and the other way around (see Fig. 4).

We named this workshop “*CSA as a model of local food system*” and we invited representatives from several knowledge areas: academic experts, national CSOs and local groups involved in LFS initiatives, and the *abbonati* (subscribers) from our CSA. The workshop name came out from the main question – *Is CSA a good model of local food system?* – That we asked participants to answer with their contribution.

In particular, we wrote a document highlighting the problems of the agricultural system, focusing mostly on urban agriculture and peri-urban agriculture in the urban green belts, and selecting three big families of problems that every urban LFS has to face:

- Speaking of agriculture, what kind of agronomic technique for a urban LFS is preferred
- As to community issues, how to create community around agricultural issues and how can a community support agricultural good practices
- The spread of LFS in the cities suggests a change towards a sustainable urban planning: how to make space for agriculture in urban areas

We asked every guest to answer to one of these questions in his/her contribution for the workshop.

As to the questionnaire, we chose it as a cooperative research method to investigate the social sustainability aspects of the CSA model.

In the questionnaire we formulated questions about the satisfaction and level of involvement of the subscribers to investigate the social sustainability of the project⁴.

The questionnaire asks about the motivations and the project features that the subscriber considers relevant and that pushed him/her to participate in such an initiative. Moreover it investigates the level

³ Here we draw on material from the WP2 workshop report

⁴ See Appendix 1

Workshop CSO networking

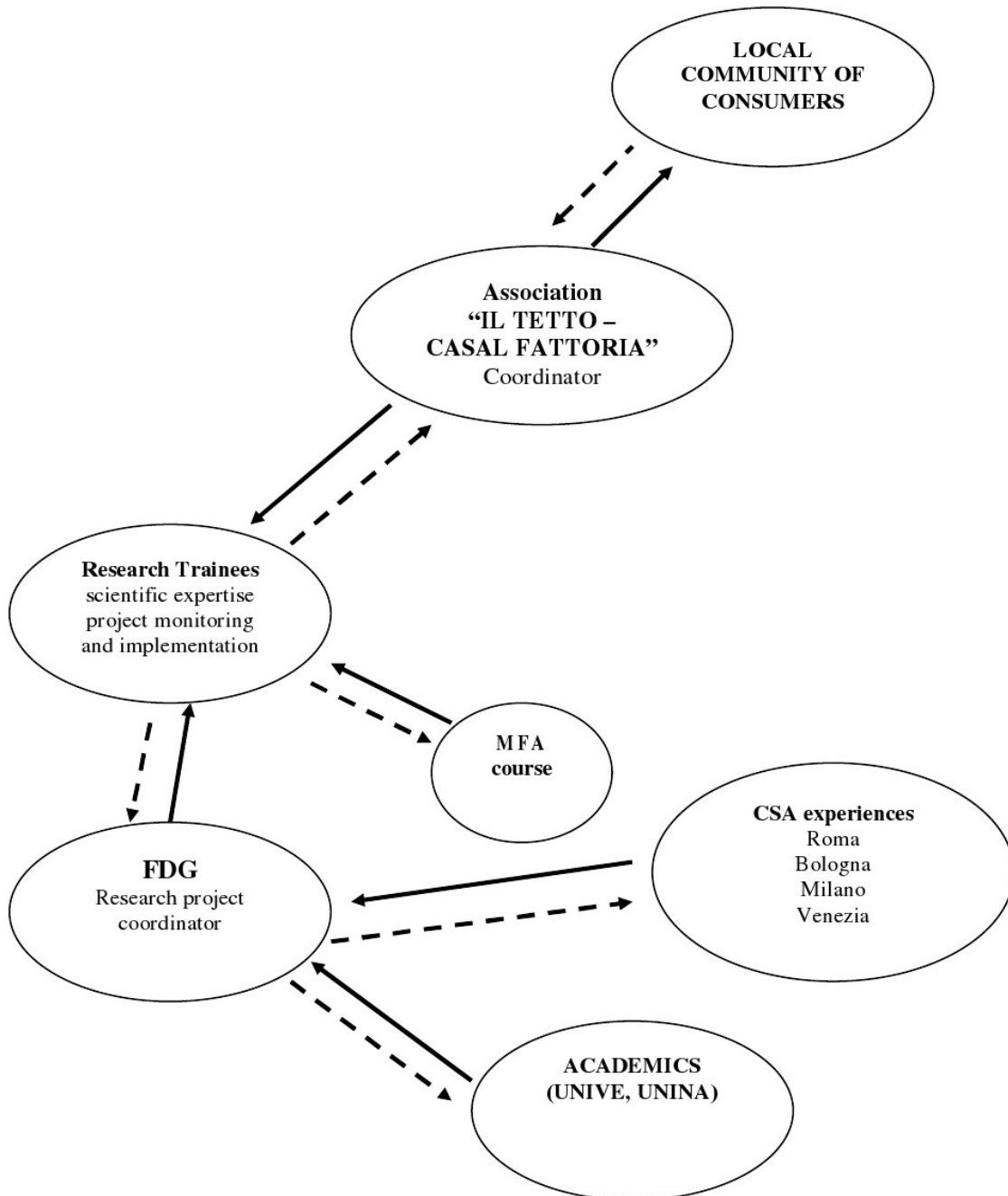


Fig. 4 Workshop CSOs networking

And methods of participation of the subscriber, and asks her opinion about the communication instruments that have been used and the level of satisfaction on the overall project. It also asks suggestions on how to solve the main problems that the CSA initiative is facing.

The questionnaire is anonymous, it includes multiple choice answers and free answers, and it was returned by around a half of the CSA subscribers group.

2.4 Sustainability analysis

The second objective of this research is the identification of the most useful and feasible indicators in order to evaluate the environmental, economic and social sustainability of a small scale CSA initiative.

According with this objective we defined a *six-step strategy*:

1. Bibliographic research, on national and international level, on environmental and economic indicators related with agriculture, in particular on low impact and organic agriculture.
2. First selection of a wide number of potentially useful indicators.
3. Second selection of a restrict number of indicators.
4. Collection of data.
5. Adaptation of the indicators for the specific project.
6. Analysis and comment of the results according with the objectives and the research questions.

1ST Step – Bibliographic research

For the first step we considered the following bibliography:

1. EEA, 2005, *Agriculture and environment in EU-15 – the IRENA indicators report*
2. ISPRA, 2008, *Indicatori di Biodiversità per la sostenibilità in Agricoltura* (Biodiversity Indicators for the sustainability in Agriculture)
3. Migliorini, P., Chiorri, M., Moschini, V., Galioto, F., Vazzana, C., 2008, *Orticoltura. Quella biologica è sostenibile?* (Horticulture. Is the organic one sustainable?), Bioagricoltura
4. Trisorio, A., 2004, edited by, *Misurare la sostenibilità. Indicatori per l'agricoltura italiana* (Measuring the sustainability. Indicators for Italian agriculture), INEA
5. Vitali, G., Epifani, R., Vicari, A., 2008, *Indicatori agro-ambientali per l'agricoltura biologica*, (Agro-environmental indicators for the organic agriculture), INEA

We compared the first coarse selection with several experts during a training course organized by the Institute for Environmental Protection and Research (*ISPRA: Istituto superiore per la protezione e la ricerca ambientale*), in May 2009, called “*Biodiversity indicators for the sustainability in agriculture*”.

2ND Step - First selection of indicators

After the bibliographic research, we felt the necessity to compare our choices with expert knowledge, therefore we decided to involve some academic institutions in order to:

- Discuss together on the methods for the sustainability analysis
- Select the most useful indicators, among and in addition to the first selection of indicators, for our research
- Acquire the methodological instruments to describe and calculate the indicators.

The institutions that we fully involved are:

- University of Firenze, Professor Giulio Lazzarini (for energy and GHG issues). We contacted the professor during the training course organized by ISPRA
- University of Bologna, Professor Giovanni Burgio (for biodiversity issues). We contacted the professor during the *Multifunctional Agriculture* (MFA) training course organized by the FDG jointly with Tor Vergata University Scientific Pole.
- CRA-RPS, Professor Anna Benedetti (for soil fertility issues). We contacted the professor during the *Multifunctional Agriculture* (MFA) training course organized by the FDG jointly with Tor Vergata University Scientific Pole.

From the CSA point of view, the objective of these involvements is to give scientifically based information to the subscribers, and in general all the actors involved, about the environmental impact (positive and/or negative) of the project during its monitoring.

As participants and observers, we noticed a lot of interest and expectation from civil society on this project as an answer to the problems of conventional agriculture and long chain food distribution.

During the building of the gardens, we found interest about synergistic agriculture practices not only from the volunteers, but also from occasional visitors: due to the big interest that we noticed from them, we could even consider the category of the occasional visitor as another member of the CSA

network.

The location of the gardens during this first part of the project has been an important help for contacting people who are interested in such projects: in fact, next to the gardens there's an organic food shop, an organic restaurant and another social horticulture project from Agricoltura Nuova, the farm cooperative that provided us in this first months with the land for our initiative.

This initiative is also an opportunity to introduce alternative models of agricultural production and food distribution in the academic world, comparing them with conventional, organic and other agro-food systems.

Together with the environmental monitoring, we also have the aim of linking academic world and the civil society regarding these issues, trying to design the interactions between them so that they can generate new knowledge together.

From an **environmental point of view**, we chose to consider priority themes more related with agriculture like energy, biodiversity, soil fertility, water, Green House Gasses (CO₂ emissions).

From an **economic point of view**, the original plan expected to analyze two criteria or standards:

The first one draws on the definition of "sustainable economy", an alternative paradigm of economic development that refuses the idea of infinite growth of the (neoliberal) global market based economy; this finds a theoretical reference on the degrowth model (Latouche) and the bioeconomy model (Georgescu Roegen).

The second draws on the classical definition of economic sustainability. It will assess the economic auto-sustainability of the initiative itself: costs should be wholly covered by the incoming subscriptions and by other forms of direct or indirect sponsorship.

In order to define quantitative indicators, for time problems we decided to concentrate the attention on the second standard, and eventually introduce the *degrowth* theme in a second stage.

To fulfill this task we had a very useful dialogue with the CIVAM, our CREPE partners from WP4, which demonstrated a lot of interest to discuss with us about the most useful approach to the economic evaluation of these kinds of short chain initiatives.

More help came from the discussion during the Workshop (November 2009) and in particular the dialogue with Maria Fonte, academic expert on the relationships among agriculture, economy and society from the University of Naples "Federico II".

From a **social point of view** we decided to evaluate the skill of this project of proposing solutions to some social problems generated by conventional agricultural system, above all the relation between producers and consumers. Due to the difficulty to individuate indicators for social sustainability, we decided to evaluate this component through the questionnaires.

2.5 Advice on sustainability indicators

As to the academic network that monitors the environmental sustainability aspects of the initiative, the scientific area in the revised network diagram, we saw that it operated beneficially. We still don't have definitive results because of agricultural delays, not problems with CSO networking.

An unexpected help on defining indicators for assessing the sustainability of our CSA initiative came from our CIVAM partners from Work Package 4, on local agro-food networks and their environmental sustainability.

CIVAM's work is very interesting for us and the research on our work package for their overall approach on the subject of sustainable agro-food models and reduction of the production chain; on the other side, our research on a specific CSA initiative is interesting for them and complementary to their field of studies, considering the few sound information that is available on the subject of CSA initiatives.

We definitely find this to be a concrete and interesting example of cooperative research between partners in the CREPE project. With them we are having a very fruitful discussion on the field of economic sustainability of such agro-food short-chain initiatives and in particular on the topics of *autonomy* of such initiatives (the dependence on external purchase), the *dependence (or not) from external grants*, the *financial dependence* (to be measured by the ration amounts of loans to pay / value added), and the *efficiency of the capital* (that can be measured by the ratio value added / capital engaged).

Another unexpected result that we got from CSO networking is the constitution of this advisory committee for the study of the CSA as a good agro-environmental practice from a degrowth point of view.

This knowledge area was not planned in the beginning of the project, and it nearly constituted itself autonomously in the sense that it was born from the interest and commitment to degrowth issues of some CSO members, academics, interested citizens and volunteers.

The committee is yet at an early stage of designing and organizing. But it looks like a very interesting research experiment, especially the CSA workshop for developing results of our work package. Now that we have a group of interested academics, we can think about deeper and more participatory ways to face the degrowth subject in our study. For example we plan to use digital tools to create analysis and discussion on the topic, such as mailing list and forum, and we will probably set up discussion tables to be held during the workshop.

ENVIRONMENTAL INDICATORS	
THEME	INDICATOR NAME
1. ENERGY	Productivity
	Energy balance
	Energy use efficiency
	<i>Energetic</i> balance
	Ecological Footprint
2. CHEMICALS	Chemical fertilizers Quantity
	Chemical pesticides Quantity
3. WATER	Quantity of water
	Water source
	Irrigation Technology
4. GHG (Green House Gasses)	GHG Balance
5. SOIL FERTILITY	Soil covering
	Soil properties
6. BIODIVERSITY	Cultivated diversity
	Entomological analysis
7. LANDSCAPE	Land use change

Fig. 5 Environmental indicators

ECONOMIC INDICATORS	
THEME	INDICATORS NAME
1. RESOURCES	Material resources
	Autonomy
	Costs division
2. PROFITABILITY	Land productivity
	Land profitability
	Work productivity
	Work profitability

Fig. 6 Economic indicators

3RD Step – Second selection of indicators

Once acknowledged that the first list was too wide, we decided to select a restrict number of indicators following four criteria:

Priority. In respect to local, national and international policies and strategies.

As recalled in the beginning, we looked for indicators related with themes considered priority. This criterion implies external suggestions as well, and not only project priorities.

Relevance. In respect to the project features.

This criterion considers internal suggestions, strongly related with the features of the project (dimensions, synergistic agriculture features, geographic position, project objectives, etc.).

Communicability. Towards the people directly and indirectly involved in the project.

This criterion considers the capacity of the indicator, and the related theme, to give useful information to the people involved. We're not talking only among researchers, therefore it's important that the issues (environmental and economic) related with the indicators are known among participants.

Measurability. In respect to the economic and human resources of the project.

The selected indicators list (3rd step) and the beginning of the 4th step constitute the actual results of the research project.

3 Results

3.1 Changes in roles

In order to explain why CSO roles and networking changed during the development of the initiative, which is the big change that we encountered and didn't expect, we need to explain how the original expected structure of the CSO network changed with the time.

Originally the *MEC* was expected to participate in the building of the initiative⁵ by transferring new knowledge to the workers and the volunteers and physically building the gardens. But it didn't take part at all in the project due to time problems.

This happened because of the delay of the project: around mid 2009 when we should have started setting up the gardens the weather was not good enough to start working as we wished, and the farm cooperative that should have provided us with tools and other infrastructure (e.g. the water pump) didn't do it for the predetermined time.

The *MEC*, a CSO that is not established in Rome, couldn't wait any longer than the predetermined period of time that they allocated for participating in this project, therefore they left. Before we even started the gardens.

This unforeseen lack determined a change of the networking between CSO in order to fill the gaps left by the defections: the work that *MEC* should have provided in building the gardens and transferring knowledge has been provided by other participants, such as the social cooperative *Il Tetto*, the trainees from the *MFA Course* and the researchers from *FDG*.

Having this new scenario in mind, we can make some considerations about expected results and ongoing situation.

3.2 Voluntary labour

Let's start from this task flow that caused "non-voluntary" volunteering: one of the reasons that we envisaged is that this is a key point of this specific kind of CSA enterprise, especially as far as members work is concerned:

"Members could be given the opportunity to work in the production of their own food. This could be on a completely voluntary basis or towards the cost of their CSA share. It is not wise to count on members voluntary help for crucial farming operations, consider their efforts as a bonus." (Soil Association, CSA Action Manual)

As we already explained, one mistake was the overestimation of the contribution of voluntary work. But despite the problems that we encountered, we feel that this situation highlighted a special feature of such degrowth initiatives: the creation of new figures of "gift work".

We are using several non-appropriate terms here (non voluntary volunteers, gift work, etc.) to define this figure because we still didn't find a good definition for it. In Italian the term *volontario*, which is the translation for 'volunteer', is strongly associated in Italian mindset with charity activity by wealthy people. So it does not describe time-contributions by CSA subscribers.

In our specific CSA initiative we did not plan the possibility for voluntary work to pay the cost of the CSA share. We see this kind of voluntary work in the light of a new gift economy model, a way to reach collective needs by committing each other's time for a common good: this concept is still on an embryonic stage of research therefore we plan to start this discussion together with the CSA advisory committee that we are setting up, in order to find a new term that better outlines this figure.

⁵See Fig.1

Moreover, this topic is also being candidate to be one of the main issues to discuss during our first CSO workshop that will take place in autumn.

Going on talking about results and our expectations towards them, we found that also in those areas of the networking where something went wrong and there were defections and lacks, in some way we saw new qualities *emerging* from the network, rearranging itself in order to fulfil its needs in other ways.

This is probably a feature of the specific CSA enterprise that we chose as a case study, which is a *shareholder (or consumer-driven) CSA* (Henderson, Van En 1999). In this initiative, consumers work closely with the farmer who produces varieties of food they want to eat, and the degree of consumer involvement varies but is usually higher than in the other 4 kinds of CSA enterprises envisaged.⁶

A higher commitment of the consumers produce a higher level of expectations from them and therefore of responsibilities towards the outcomes of the enterprise.

For example, we saw the CSA having problems in proving its economic self sustainability: we didn't put into account from the beginning a lot of variables that can go wrong in agriculture, designing a B plan for the worst case scenarios; we didn't have some surplus resource (money) to face new problems when arising, and we wrongly counted uniquely on voluntary work to fill potential lacks that could come.

But this situation proved to be double-sided for the development of the initiative: one negative side constituted by the *difficulties* that slowed the development of the project down; but also a positive side, in the sense of knowledge improvement, goal achieving, *and satisfaction* reaching for some CSO participants.

Indeed, for researchers and trainees this situation of emergency that changed their role in the network to a multifunctional participant-as-observer figure also created a special and unique study and formation occasion: having to face common problems side by side and the disappearing of prefixed roles of researcher and researched created a feeling of community and common problem solving strategies that gave strength to the project, despite the difficulties. And this is also influencing and giving feedback to other CSO and the network in its whole.

Some of the pros and cons that we encountered performing this specific researcher role are well summarized in the following excerpt:

“Advantages of the practitioner-researcher role

Insider opportunities

You will have a pre-existing knowledge and experience base about the situation and the people involved.

‘Practitioner’ opportunities

There is likely to be a substantial reduction of implementation problems.

'Practitioner – researcher' synergy

Practitioner insights and role help in the design, carrying out and analysis of useful and appropriate studies.”

Disadvantages of the practitioner-researcher role

Time

Probably the main disadvantage. Trying to do a systematic enquiry on top of normal commitments is very difficult.

Lack of expertise

This obviously depend on the individual [...] A major problem can be 'not knowing what is that you don't know'.

Lack of confidence

Lack of experience in carrying out studies leads to lack of confidence.

'Insider' problems

The insider may have preconceptions about issues and/or solutions. [...]"

(Robson 2002 Box B.1 – Practitioner researchers compared with outside researchers)

⁶The other 3 models are:

- Subscription (or farmer-driven): Organised by the farmer, the degree of consumer involvement in the farm varies between schemes but is generally not very great.
- Farmer co-operative.: A farmer-driven CSA with two or more farms co-operating to supply the consumer members with a greater variety of produce. This model allows individual farms to specialise in the most appropriate farming for that holding, for example, larger farms concentrate on field scale production, smaller farms on specialist crops and upland farms on livestock.
- Farmer-consumer co-operative: as above, but with a greater commitment from the consumers. Consumers and farmers may co-own land and other resources and work together to produce and distribute food (Henderson, 1999)

Also knowledge flows, though reduced due to the little expertise available on the ground, are deeper, more heterogeneous and multifunctional.

3.3 Questionnaire responses

Questionnaires were circulated to the subscribers right after the November workshop, drawing as well on main topics that emerged during the discussions.

We collected them shortly afterwards, getting a feedback beyond our expectations. We had already submitted one questionnaire to the subscribers once, during the first months of the initiative, but we got few responses then.

When analysing the outcomes, we used a selected bibliography on international Local Food Networks and CSAs⁷ in order to compare our CSA initiative in its features with other similar experiences. We chose an international bibliography, though most of the North American and European CSA have a very different structure and organization than ours, because there is almost no literature available on Italian CSA, and also because we thought that it would be interesting to compare the social sustainability of such alternative food network initiatives even when differently organized and structured.

The first question we asked⁸ in the questionnaire was about what motivations pushed oneself to participate in such a CSA initiative, and it came out that the main reasons were, in order: **ethical, environmental and social oriented**.

For this first question multiple choice was available, and this is the first outcome that impressed us because, though the range of answers included 'economic' and 'food safety' choices as well, the majority of respondents highlighted their broad ethical involvement for such a LFN initiative.

This data sheds light, in our opinion, on a main structural feature of these local food initiatives – the rise of what Mariarosa Dalla Costa calls *a new ethics*:

“In the alternative agriculture movement in its broadest sense there is an explosion in the call for alternative relations both from the producer’s and the consumer’s side (among others) precisely because of the new relationship which they are hoping to establish for food production and distribution. As a consequence, new networks have also been established in the field of distribution. In Italy mutual buying groups (Gas, Gruppi di acquisto solidale) have taken hold. The two million people involved have given themselves five basic rules:

Respect for human beings, that is the products that are bought must not be the products of social injustice but must rather contribute to a socially sustainable society;

Respect for the environment, that is the choice of products obtained with a respect for nature which have also been transported as little as possible;

Respect for the health that stems from the choice of organic products;

Solidarity, that is choosing to buy from small producers who would otherwise be crushed by bigger ones;

Respect for taste, since organic food is well known for having a better flavour as well as a higher nutritional value, in the context of getting closer to the natural rhythms of life by eating only foods that are in season.

What is significant is the emerging of new ethics which affects economic, social and environmental factors⁹”

It seems like this new ethics coming from these diverse relations of production/consumption implies, in a way, the three aspects of sustainability, combining them together in a new “consumer's ethics” perspective. This is also confirmed by more following answers, where the respondents had to write and articulate their answers.

As to the relevant features of the project, as recognized by the subscribers, they are, in order of importance: **the social aspect** of the farming project, **the environmental benefits** derived by the chosen agronomic technique, and **the quality and safety** of the products.

The answers to this second question mostly seem to confirm the existence of this new combined consumer ethics that push people to participate in a LFN initiative, especially when declined socially: the main feature of our CSA, what makes it different from other direct market and LFN models is that it is a social urban garden supported by a direct agreement between the local community and local farmers. The focus of the initiative is on its social aspect, and the respondents seem to confirm the importance of this choice with their answers.

When asked about how they participated in the initiative, subscribers answered that they mostly participated through the **payment of their share**, but also attending the introductory **workshop** held in

⁷ See References – Local Food Networks and CSA

⁸ For questions, see Appendix 1

⁹ Dalla Costa 2004

the beginning of the project and by **visiting** often **the blog** of the initiative to be updated on the state of the project.

This is one of the weakest points that we already discussed in our previous report. Though not required by the agreement, bigger subscribers participation was expected, especially in the beginning of the initiative. This lack could derive by a great range of reasons: difficult misunderstanding of the initiative goals, diverging participation reasons, and all those problems that afflict urban agriculture that were also discussed at the workshop, such as the lack of time for participation and the distance from the garden site.

Literature on LFN was not useful to clarify this point because the structure of the majority of these initiatives in North America and Europe is the *subscription*¹⁰ one, which doesn't require subscriber's participation except from the payment of their share. By contrast, the *orti solidali* requested greater participation, though this cannot be formally required.

The feedback about the **communication tools** used in this project (blog and mailing list, synergistic agriculture workshop, and direct contact) was positive: they all worked at a **good / sufficient level**, in particular the digital ones.

As to the general **involvement** in the project, the average answer by the respondents is that it has been **sufficient**. This answer is possibly connected to the one before the last one, on the level of participation in the initiative. The subscribers consider it to be sufficient, probably compared to the stage reached by the initiative: the deliveries didn't start yet, and all the big network of exchange of food and knowledges is in standby waiting for the deliveries to start. In this stage the communication between producers and consumers is maybe perceived as sufficient to feel involved in the initiative, and subscribers are probably expecting a greater involvement in the future. This hypothesis is supported by many free answers given by the respondents when asked to give their ideas on how to solve current CSA problems: many of them suggest to *"wait for the obstacles to go away"* and *"use group strength and resources"* to face problems and go on with the initiative.

Indeed, all the activities suggested by the subscribers to enrich the project are oriented towards **network building, joining knowledges and forces, strengthening of the group and its interrelations**.

Opinions on the project are mostly positive and constructive, in particular they focus on the trust in the innovative project and its promoter. But it also emerges the need to reinforce and stimulate subscribers involvement, despite the occurred problems.

In sum, the questionnaire feedback has been positive and the subscribers expressed a wide range of economic, social, environmental and personal reasons for purchasing local organic food from this initiative.

Despite the beginning of the actual boxes delivery keeps on shifting, what emerges from the answers (especially the free ones) is a strong sense of participation in an alternative production-consumption model based on different values to the mainstream ones, and carrying many peculiarities that consumers seem to have chosen especially for ethical reasons.

This proves that, at least in this very special CSA initiative, ethical and social reasons supplanted the economical and pragmatic ones; a key point, we believe, that makes community building possible around such initiatives.

3.4 Workshop Outcomes

In relation to the CSA sustainability analysis that we are carrying on in our research, we collected interesting points from the discussion at the end of each thematic section of the workshop, thanks to the contributions from academic guests and the CSA subscribers.

We briefly summarize the most interesting parts¹¹:

Agriculture

The discussion on the agronomic questions has been interesting: many participants were interested in discovering more about the agronomic method we chose, and above all, the scientific evidence on this method. Most of them and above all the CSA subscribers are looking for efficient alternatives to conventional food production methods to apply in their territories.

Among the most interesting things that came out of this discussion, speaking about urban agriculture experiences, it's that it is essential to connect two knowledge levels: expert knowledge (academic research) and empirical knowledge (from CSOs and other local active groups). This is because the ecological intelligence, or almost the consciousness, needed to solve the environmental problems related with agriculture comes from the interaction between these two levels.

¹⁰ *Subscription CSA* (farmer-driven). In this approach, the farmer organizes the CSA and makes most of the management decisions. Farm work is not required of subscribers. A permutation is the farmer cooperative, where two or more farmers organize to produce a variety of products for the CSA basket. Subscription CSAs now constitute more than 75 percent of all CSAs

¹¹ Always from the WP2 workshop report

We discussed the implementation of Local Food Networks in urban areas, agreeing that this would depend on a change from the agro-industrial vision towards the rural-ecological vision, i.e.. from a vision which focuses on agricultural productivity rather than quality, on large-scale retail trade rather than local distribution and on the use of a high input of fossil energy toward a vision that would reduce environmental impacts during the process of production distribution and consumption of food.

A Key outcome from the workshop was that for the workshop participants, the answer to the question - what kind of agronomic technique for urban LFS? – has been that in the agricultural field that there is not a perfect technique but there is a preferred approach: the ecological one, which is considered the best approach to be practised by the participants.

Whatever agronomic technique we choose (organic, biodynamic, natural farming, synergistic.): what is important is the overall ecological vision, not the specific agronomic method.

Community

In our CSA initiative we experienced that a CSA network actually sets up a community network, but we saw, during our research, the emergence of a lot of contradictions and difficulties regarding this context and we exposed this problem in the workshop, sharing our experience with the academics and the ones from the other CSO groups.

It came out that for an urban LFS to start and develop it is firstly essential to establish the *practice of community*: e.g. keep the contact between the several areas of CSA the network continuously, stimulate participative processes, building of the community identity. In this section, the wider debate was opened by all the CSOs who brought their urban agriculture experiences in Italian big cities (such as Rome, Milan and Bologna). Some exponents of the academic world spoke as well, contributing with general overviews on urban agriculture and innovative proposals during the debate.

The LFS initiatives that have been presented were very various and coming from different backgrounds (e.g. critical gardening groups, urban solidarity gardens, therapeutic agriculture projects), though many similarities were found, mostly for what regards communitarian aspects, such as the employment of disadvantaged refugee workers, the spontaneous self-organization of citizens for a common good, the involvement of people from diverse backgrounds and age.

We recorded and highlighted some recurring points that kept emerging during the debate between the participants:

When talking about food security and alternatives to the global agro-food system, many participants agreed that choosing local food as a solution could be the wrong choice.

The participants felt that “local” can be an ambiguous or even dangerous term if referred to food production and consumption because it can lead to localisms and protectionism that is not our priority, neither is it a realistic solution to agro-food problems¹². Instead, Local Food Network priorities are related to the integration of environmental, social, ethic and economic problems and therefore could be one solution to the environmental and health problems brought by the current agro-food production system.

Given this priority, it's necessary to build a path through which the nowadays passive consumer (in Italian *consumatore*) can improve his consciousness towards these issues.

The figure of consume-actor (in Italian *consumattore*) implies an active role about the consumer choices, and CSA and other LFS initiatives seem to be a good tool to achieve and exercise this consciousness, especially on an urban area.¹³

The discussion went on considering the concept of food community.

A Food Community¹⁴ is constituted by several consume-actors. It represents the second step of this raise in consumer consciousness. A Food Community can be the basis for the constitution of a CSA initiative. Several Food Communities could develop a network on regional or national or even global scale.

Participants agreed on the fact that to set up and prosper, a CSA and all the other LFS need an *identity*, which can be either economic, environmental, ethical, territorial, historical etc. This identity often represents the reason why people decide to constitute a CSA. And this identity is a *conditio sine qua non* for the building of a CSA initiative, because it strengthens relationships among the people involved and it helps to solve the possible problems.

Urban planning

¹² “Du Puis and Goodman (2005) caution against the unexamined “normative localism” that is often celebrated within the alternative food literature, including studies of CSA. They argue that “the local is not an innocent term” (p. 360) and that “unreflexive” localism does not necessarily create the radical new political processes that are envisaged. CSA can be understood to create spaces within which radical social and environmental agendas can be established and the capacity to realise them can grow. However, these processes are not automatic; CSAs are neither inherently radical nor inherently successful.” Cox Rosie Holloway 2007

¹³ On food communities and related issues, see Dalla Costa M. 2004, Feagan 2007, Seyfang, Gill 2008

¹⁴ Feagan 2007

Though it was not in our research priorities, in the last part of the workshop we also discussed sustainable urban planning issues because it is unavoidable to take it into account when dealing with urban agriculture initiatives. The debate stated that the need for re-appropriation of urban space by citizens and the rethink of public spaces and common goods is essential if we want to set up a urban CSA, or some other model of LFS.

And, in a virtuous circle, the re appropriation of urban green areas and green belt fields by the collective interest of citizens can revisit and increase the value of those fields for purposes other than only building houses and infrastructures.

When we decided to build the workshop structure along the cooperative research guidelines we did not expect such a success.

Being one of the first occasions for us to see a real cooperative research flow in action, we definitely experienced a double flow – from academic to empirical knowledge, and the other way around. This interchange made the workshop a rare occasion of discussion of such themes for both groups of actors: for the academics that usually do not get data on LFS and similar projects, and for the CSO who got a broader and informed overview of what they are, in their little projects, doing for the development of urban agriculture and the change of our cities.

Most of the CSOs who attended the workshop got in contact with each other for the first time and are keeping each other in touch for the possible development of some ideas and proposals that came up during the debates: e.g., the building of *urban horticulture teams of experts* that could inform people on the possibilities of building LFS in their areas/communities and follow them in their first steps, as well as other projects of *urban gardens mapping* such as the one that some subscribers are setting up.¹⁵ We believe this to be a good starting point for an enlargement of our CSO and academic network on our case study.

3.5 List of environmental indicators

The following table shows the relation between the first environmental indicators list and the 4 criteria of choice, in order to restrict the number of indicators:

ENVIRONMENTAL INDICATORS					
INDICATOR NAME	CRITERION OF CHOICE				CHOICE
	Priority	Relevance	Communicab.	Measurability	
Productivity	+ Base indicator for further analysis	+ Important to evaluate the synergistic method	+	- At this time the production isn't going at full speed	YES
Energy balance	+ Problems of energy security	+ Important to evaluate the synergistic method Important to evaluate the LFS	+	- It's necessary the calculation of the productivity	YES
Energy consumption efficiency	+ (see above)	+ (see above)	+	- (see above)	YES
Energetic balance	- It's not a priority analysis	+ Important to evaluate the synergistic method	- It's unknown and difficult to explain	- (see above)	NO
Ecological Footprint	+ It's a common analysis	- The single project hasn't significant dimensions	- (see above)	- (see above)	NO
Mineral fertilisers consumption	+ Related to environmental problems and energy	+ No consumption in the project	+	+ No consumption	YES

¹⁵ <http://mappamondonuovo.org/>

	security				
Pesticides consumption	+ Related to environmental and healthy problems	+ No consumption in the project	+	+ No consumption	YES
Water consumption	+ Problems of water security	+	+	- Actually there's no way to measure the quantity of water used	NO
Water source	+ (see above)	+ Important in the region where the project is implemented	+	+ Qualitative description	YES
Irrigation Technology	+ Indicators important to define the correct management of water use in agriculture	+ Important in the region where the project is implemented	+	+ Qualitative description	YES
GHG balance	+ Climate change	+ Important to evaluate the synergistic method Important to evaluate the LFS	+	- We need information from the energy indicators	YES
Soil covering	- It's not a common analysis	+ Important to evaluate the synergistic method	+	+	YES
Soil properties	- Problems of soil fertility and desertification	+ Important to evaluate the synergistic method	+	- There's no agreement with the institute identified in the beginning about data collection	NO
Cultivated diversity	- Loss of local varieties and in general biodiversity	+ Important to evaluate the synergistic method	+	+	YES
Entomological analysis	- It's not a common analysis	+ Important to evaluate the synergistic method	-	- There's no agreement with the institute identified in the beginning about data collection It's not an economic priority	NO
Land use change	+	+ The single project hasn't significant dimensions	+	- Subjective indicator	NO

Fig. 7 Criteria for environmental indicators

Priority, relevance and communicability criteria are respected for almost all the indicators, also because we used similar criteria during the first selection.

Only in three cases, in our opinion, the criterion of communicability is not respected: ecological footprint, energetic analysis and entomological analysis. They are not commonly used even in the agriculture-related research, and therefore they are very difficult to communicate to people involved in the project.

Anyway, it looks like the most discriminating criterion is measurability, because if it isn't respected, it isn't possible to describe and calculate the indicator.

We have to distinguish two different reasons why it isn't possible to measure the indicators:

No information at the moment

Due to the delay of the agricultural activity, it's not possible to calculate the productivity, and consequently the energy balance, energy consumption efficiency, ecological footprint and energetic analysis. If the ecological footprint and energetic analysis can be neglected in this moment or even abandoned, productivity, energy balance and energy consumption efficiency are really important for the objectives of the project, and therefore they will be calculated further on.

For the same reason, at the moment isn't possible to calculate the water consumption.

No agreement on data collection

The information that depends on contribution from external institutes at the moment cannot be collected because the cultivation is still at an initial stage and because of the lack of economical resources.

For this reason the soil and entomofauna analysis have to be neglected at this moment.

3.6 List of economic indicators

The following table shows the relation between the first list of environmental indicators and the four criteria of choice, in order to restrict the number of indicators.

ECONOMIC INDICATORS					
NAME	CRITERION OF CHOICE				CHOICE
	Priority	Relevance	Communica b.	Measura bility	
Material resources	-	+	+	+	YES
Autonomy	+	+	+	+	YES
Costs division	+	+	+	+	YES
Land productivity	+	- The project is not based on production sale but on service supply	+	-	NO
Land profitability	+	+	+	+	YES
Work productivity	+	-	+	- It's not possible to count the work hours	NO
Work profitability	+	-	+	- It's not possible to count the work hours	NO

Fig. 8 Economic indicators

Almost all the indicators respect the priority criterion. Referring to productivity and profitability, they consider the objectives of any economic activity. It's important for the objective of the project to demonstrate that the activity is feasible.

Even the communicability criterion is easily respected.

The discriminating criteria are the relevance and the measurability.

The land productivity isn't immediately measurable because there isn't a real sell production but a service supply, partially independent from the quantitative production and from the surface. Besides, considering that the project isn't running at full speed, at this moment is even difficult to measure the productivity in term of service supply.

About the work productivity and profitability it's impossible to measure work hours because during the first year it has been a huge contribution from volunteers.

For the future we intend to evaluate the productivity and profitability of the activity in terms of service supply.

At this stage, the most useful and feasible indicators regard the analysis on the capacity of the activity to survive autonomously and to concentrate the costs on the incomes for workers.

The data we are collecting are based on the economic balances supplied by the project coordinator.

3.7 Comparison with other CSA initiatives

Other CSA movements: the North American case

In order to compare our case study to other similar initiatives, especially as far as shareholders motivations and choices are concerned, we made a review of other CSA projects in the world. Apart from a few examples in northern Europe, we found most of them in the United States.

CSA initiatives in the United States started to develop by the end of the 1980s and soon covered the entire country. The first U.S. CSA program was at Indian Line Farm, Massachusetts, in 1985.

A recent estimate by the Robyn Van En Center, which lists a database of CSAs, indicates 1300-1500 CSAs in operation across the country in a nine-state area, meaning that the actual number of CSAs may be significantly greater. CSA production has benefited by the increase in the popularity of farmers' markets, growth of the organic fruit and vegetable industry, and greater consumer interest in eating locally grown food.

However, the most common CSA arrangement in the United States is the *farm driven* one (Subscription CSA): the farmer makes the most management decisions, subscribers participate just with their share, farm work is not required of them. Many of these CSA initiatives are just part of the total marketing plan of a farm and rarely the single economic activity for a farmer.

Indeed many farmers find it a good marketing tool, both for ethical and economical reasons, and this model now constitutes more than 75 % of all CSAs in the country. Of further interest is that about 10% of U.S. CSAs are operated by non-profit organizations working in welfare and food security fields.

The latest USDA report on the CSA phenomenon states that "*assuming 50 to 500 subscribers each, CSAs supply more than 270.000 U.S. households during the growing season*" (USDA, 2009). I

Despite this difference in the structure of these initiatives and our case study, by examining other CSA initiatives through surveys to both farmers and subscribers, we found some similarity of drives and motivations.

Comparing subscribers motivations

During our research we submitted a questionnaire to the Orti Solidali subscribers, around November 2009 (see § 3.3). In choosing the topics to investigate, we drew on main discussions around local food systems, urban food planning and consumers motivations that emerged during the workshop on CSA that we held previously.

The questionnaire mostly focused around subscribers satisfaction and motivation to join a CSA initiative, highlighting some interesting data: though the range of answers included 'economic' and 'food safety' choices amongst others, the majority of respondents stated their broad ethical involvement as the main reason to participate in such a short chain initiative. The main reasons were, in order: ethical, environmental and social oriented. Other relevant features recognized by the subscribers have been: the social aspect of the farming project, the environmental benefits derived by the chosen agronomic technique, and the quality and safety of the products.

These results can be compared to a number of recent surveys on U.S. CSA subscribers participation and retention, keeping in mind the big structural differences that exist between these two short chain models. Since 1995 several studies funded by USDA have researched and reported trends and

statistics of the U.S. CSA movement (DeMuth's ^{S 1993, CIAS 2003, Less et al}) regarding market strategies as well as farmers and consumers acceptance and motivations to CSA participation.

Already in 1997 an USDA-funded study on CSAs from the point of view of consumers acceptance found out, amongst other data, that an important drive for consumers to join a CSA was “*political, economic and social factors in choosing seasonally farm produce*” (Kolodinsky et al 1997)

Another study examines CSAs and their impact on community by focusing on CSAs shareholders in Central Illinois and New Hampshire to identify what factors have influenced their engagement in this local food system, and how these motivations are related to values and the formation of social capital: what comes out is that CSA member motivations often concern quality of food as the strongest and connecting motivation:

“The importance of community building and development of social capital are not considered significant motivators for joining a CSA, nor are they perceived to be particularly important benefits of membership. However, the importance of community attachment in enhancing certain motivating factors like a desire to develop a stronger sense of community and a desire to support local growers is significant” (Brehm et al 2008)

We can enumerate a number of examples of single CSA initiatives in the U.S.A. where subscribers have shown this motivational attitude to join such a project for social, ethical and food security/quality reasons.

The example of Sweet Peas, a 27-shareholder CSA in a Midwestern college town, is interesting because of the results of a set of face-to-face interviews with subscribers and farmers about their participation in this CSA. This study (Sharp et al 2002) was primarily focused on the motivations to join a CSA, for consumers and producers. Consumers declared to be mainly attracted by the possibility to support an LFS, and to acquire a quality product, with a consequent increasing awareness of food system. Producers participation proved to be pushed by a commitment to building stronger community and environment through local food production and a desire for a larger market for their products.

Especially for the producers, the CSA experience brought big benefits: not only the new market they found thanks to bypassing the middlemen, but also the increased interactions that occurred between them built a social capital, a type of social resource associated with trust and networks, useful for many purposes also beyond the CSA.

Another survey (Oberholtzer 2004) of 276 CSA shareholders from 4 CSA farms in southeastern Pennsylvania was performed to examine shareholder information and experience, satisfaction, and retention issues. In this case, the desire for fresh, organic, and/or local produce and to support a local farmer or farm rated the highest in terms of importance for these initiatives.

Also interesting was that patterns of consumption, both in terms of variety and amount of produce consumed, are reported by respondents to be affected by participation in a CSA: a majority of shareholders were able to obtain a large percentage of their vegetables during the growing season from their CSA, and a large majority of them reported being able to use most of the share each week; almost three-quarters (74 percent) said they increased the variety of produce consumed due to CSA participation, while 58 percent said they increased the amount of produce consumed.

Most shareholders also reported that the CSA matched (56 percent) or exceeded (20 percent) their expectations and seemed generally satisfied with most aspects of the CSA experience.

Reason	Percentage rating as 'very important'	Number of respondents
Desire for fresh produce	76	270
Desire for locally grown produce	75	274
Desire to support a local farmer or farm	74	273
Desire for organic produce	72	272
General concern for the environment	62	273
Concern for farm preservation	58	270
Knowing where/how your food was grown	53	266
Health/dietary reasons	42	269
Desire for a sense of community	26	266
Desire to try new foods	8	267
Convenience	4	267
Less expensive food	4	254
Opportunity to work on a farm	3	262

Fig. 9 Shareholders motivations to join a CSA (Oberholtzer 2004)

Other CSA key points: risk sharing and volunteering

Another unexpected result that we reported from our case study, which is the shareholders retention and risk acceptance despite the big delay with the start of the box deliveries, is also common to other CSAs case studies.

Always in Oberholtzer 2004 we find an analysis of the acceptance of the risk sharing in the 4 analyzed CSAs: the answers show that shareholders understand and accept the idea of sharing the risk of the season with a farmer.

Respondents overwhelmingly understood the concept of risk; knew it prior to joining the CSA; believed that they accepted some of the risks in the past season; and were comfortable with that amount of risk. These results look even more noteworthy, underlines the author, considering the fact that 2002 has been a difficult season, in terms of drought and possibly the amount of produce provided to shareholders.

When analyzing these surveys, we also put our attention in finding evidences on shareholders personal commitment and volunteer work in CSA projects, to shed light on this yet unresolved concept.

A paper from University of Georgia's Institute of Economy (Kane 1997) reported the perceptions of CSA members at the beginning of the growing season compared to season's end: shareholders were split in regard to community-building aspects of CSA, the 52% of respondents indicated that they didn't have expectations from the project whatsoever, that they did have a sense of commitment to the CSA concept but they didn't have time to dedicate to it, and that most of the people who said before the season began that they wanted to get involved in the farm never actually made it out to the farm.

Oberholtzer (2004) reported the experience of volunteer work in 4 CSAs. Although shareholder's involvement in farm activities (not only farm labor but also other activities such as farm festivals) is traditionally an important part of the CSA concept, almost 50 percent of shareholders did not take part in any form of farm activity other than picking up their share.

Many respondents noted that they are too busy with work or had scheduling conflicts with the farm events.

In this survey in an open-ended question, shareholders were asked why they did not participate in farm activities. Their individual responses were grouped for analysis. The following table lists 11 reasons, each mentioned by at least two shareholders.

Response category	Number of responses (N=132)	Percentage of respondents
Too busy or no time	52	39
Scheduling conflicts or other commitments (often cited for those farms with only one opportunity—a farm festival—to visit the farm)	43	33
Children limit participation	26	20
Farm is too far away	25	19
Work takes up too much time or conflicts with farm visits	19	14
Not interested	13	10
Shareholder did not know about opportunities	8	6
Physical limitations to participating	7	6
Shareholder has own garden or farm and does not feel he/she needs the farm experience	4	3
No car or transportation	2	2
Extreme heat of the season	2	2

Fig. 10 Shareholders motivation for lacking farm work (Oberholtzer 2004)

Issues around time constraints made three of the top five: too busy or had no time, scheduling conflicts, too busy with work. Other key reasons: having children that in some way limited participation, long distance to the farm, simply no interest in participating.

Yet another similar set of motivations for a common problem: in the case of the OrtiSolidali we also reported that many subscribers initially offered to work in the farm, but few did so because of time and distance problems with the Orti gardens.

The above mentioned USDA surveys on the CSA phenomenon, report that as CSA numbers multiplied in the U.S.A, CSA farms tended to move away from expecting subscribers to contribute labor, and that many of them now operate primarily as a subscription service which is one part of their total farm marketing plan.

Furthermore, CSA members today may not even visit the farm where the food is grown.

However, it is reported that CSA operators frequently have special field days or other farm events that will still connect the CSA member to the land where their food is grown. Some farms even have "member- only" days where U-pick and other farm products are offered exclusively to CSA members.

A big difference with our case study, envisaged when analyzing U.S. CSA experiences, is that nowadays these food provision models in the United States mostly focus on the share as a market commitment. Consequently other specific AFN features – addressing equity and environmental concerns – get lost in the way, thus moving away from the original concept and shared goals of a CSA initiative.

Making comparisons with GAS – Gruppi d'Acquisto Solidale

A Gruppo di Acquisto Solidale (hereafter GAS) is formed by a group of people who decide to come together to buy food or other daily produce collectively, and collectively decide to use the concept of solidarity as a guiding criterion in the choice of products.

The GAS, in fact, falls into that category of short chain experiences promoted by consumers who share a strong base of values.

This concept of solidarity, as the basis of group values, extends in three directions:

- To local producers - usually organic or biodynamic – of whom the GAS subscribers have direct knowledge;
- To the producers of the South of the world, through the principles of Fair Trade
- Between consumers themselves, which collectively carry out the activities of the group.

In 1999 (the first GAS appeared in Italy in 1995) a "basic document" was written containing the principles and motivations underlying the choice to activate or to join a GAS provided with guidance reference regarding criteria, operation, method of organization, but leaving the freedom of management in all aspects. From an organizational point of view, the GAS management is generally quite informal, autonomous and self-managed, very different and unique, but usually involving all participants.

According to data on reference national sites¹⁶, surveyed GAS in Italy now exceeds 500 initiatives and there are a dozen local level networks.

Main subscribers' motivation to join a GAS can include:

- The implementation of critical and responsible consumption practices,
- The practice of ethical economy, with attention to social and environmental issues,
- Support for small producers
- Consumption of biological, ecological and ethical products
- Impact on local policies.

The group according to some shared principles chooses the producers, including:

- Direct knowledge by some consumers or other producers,
- Size of the farm: these are generally small and very small producers
- Distance from the farm, which should preferably be in the surrounding areas,
- The availability of the farmer to provide information and transfer knowledge on production processes and hence on product characteristics (transparency, availability / communication skills).
- Respect for the environment, use organic or biodynamic methods

¹⁶ <http://www.retegas.org/>

- The sustainability of the farm, including from a social point of view
- The sustainability of the farm from an energetic point of view
- The price of products that meets the principles of fairness for both parties.

GAS and CSA are very similar short chain food provision models, as they come from similar ethical concerns and community needs.

But as far as our study is concerned, it is difficult to compare these two initiatives because of some differences in their structures:

The first reason is that a GAS is an organized group that buys collectively from a farmer; while a CSA is a partnership between the farmer and a group of subscribers who pay in advance and share risks and benefits. In the GAS the commercial relationship, though declined in terms of solidarity and ethics, is not put into discussion and changed.

The organizational structure is also different: though CSAs vary on their organization, it's usually the farmer that deals with organizing the agricultural initiative, sometimes helped by some volunteer subscribers. On the contrary, a GAS constitutes itself as an organizative group, where people shift duties and roles, that decide collectively what to buy and then from which farmer.

The Veggie box deliveries is also different in these two AFNs: the CSA usually involves home delivery, while a GAS, being an organized group and often also a social-political collective, meet in a place where the boxes are brought by the farmers and then recollected by each GAS subscriber.

These divergence points can be slight differences when looking at them, for example, from the innovation, ethical, food security and quality perspective. But these 2 models entail different visions and roles, as regards consumers' choices and motivations.

3.8 CSA: a theoretical framework

The goals of our research on the CSA model – to assess its triple environmental social and economic sustainability and its viability as a degrowth tool – were not completely achievable just through direct observation of the case study and comparison with similar and relevant initiatives.

This is due to the big founding difference in the organizational structure of these short chain models, that are all born from similar ethical “roots” but address different aims and answer different local needs: and big changes in the way they are funded, that the labor force is remunerated, that the food is produced and delivered make it impossible to compare indicators for values, or for environmental data.

This evidence led the study towards a topic literature analysis to frame the CSA model on a theoretical basis.

Looking at it from a broader and more holistic approach, the CSA model can be evaluated according to its contribution to the definition of a possible alternative-to-growth agro-food system. In order to do this we examined CSA (as a model of AFN) from the degrowth perspective and in the light of the innovation theory applied to agro-food systems.

Reinterpreting sustainability: the proposal of degrowth

Talking about sustainable development is tricky, as the term is often used with several meanings: a broad and comprehensive definition describes it as an ethical and political principle, which implies that the economic and social dynamics of modern economies should become the most compatible with the improvement of living conditions and the ability of natural resources to replicate themselves indefinitely, under an environmental balance, in a way that *“meets the needs of the present without compromising the ability of future generations to meet their own needs”* as stated in the well known report from the Brundtland Commission¹⁷

Indeed over the past two decades this concept has been criticized by several authors coming from diverse backgrounds (ecological economy, social ecology, economic anthropology) and movements inspiring themselves to the degrowth theory (Latouche 2010, [Martínez-Alier et al 2010](#))

From their perspective it is impossible that an economic development based on continuing increases in production of goods is also consistent with the preservation of the environment. In particular, they warn the behavior of Western companies that, following the perspective of sustainable development, face the paradoxical problem of having to consume more than necessary in order not to stop the growth of market economy, causing many environmental problems: over-exploitation of natural resources, increased waste, commodification of goods. In this sense, a term like sustainable

¹⁷ In 1987 the WCED, World Commission on Environment and Development developed the report *Our Common Future* where the definition of sustainable development was coined.

development becomes an oxymoron, because growth as in the capitalist economic model cannot be environmentally sustainable.

Degrowth theory, recently appeared in public debates after decades of underground activity, is not easily definable in a one way meaning: the watchword degrowth is a political slogan that aims to push towards the abandonment of the growth for its own sake, shading light on the oxymoron of sustainable growth in a world of finite resources (Malthus, Georgescu-Roegen): supporters of degrowth claim to be “atheists of growth”, pointing out the way growth is often regarded as a religion in western society, something that can not be questioned.

Degrowth theory developed both from ecological concerns and bio economy studies, as well as from post development critiques of the globalized world and theorize the setting of a new society of degrowth which is not a anti-growth solution but the proposal of a democratic and ecologically autonomous society, truly fulfilling the 3 pillars of sustainability: economic, environmental, social (Schneider et al 2010).

To build a non-growth society, or reaching an economical steady-state is not a straight road, degrowth supporters don't give ready-to-use answers but highlight some good practices, for example they push for the abandonment of the GDP to get rid of the negative externalities of growth (for example the pollution caused by the ecological footprints of products) and calls for the constitution of virtuous circles of growth that support values of well being instead of quantitative growth.

To say it in short with a slogan, to decrease well having to improve well-being.

This program is synthesized in the “8 R manifesto” (Latouche 2008):

Revalue, Re-conceptualize, Restructure, Relocate, Redistribute, Reduce, Reuse, Recycle

These 8 rough imperatives suggest ways in which current society could move to a non-growth-economical steady state:

- Revalue: First of all there's a need to revalue the current founding values of our society, rebuilding the value basis of all human activities, trying to go beyond our imagery, that is as well shaped by the environment we live in.
- Re conceptualizes: we also need to modify the emotional and conceptual context of situations, not to take for granted assumed notions. One example for all, the scarcity-abundance paradox: the current economical model, in fact, transforms the natural abundance in scarcity, artificially creating shortages and needs, through the appropriation of nature and its commercialization.
- Restructure: a reshape of the economic structures of production, of consumption patterns, social relationships and lifestyles must be performed on the basis of this re-evaluation of our founding values so as to guide society towards a path of degrowth. The more this restructuring will be radical, the more systemic nature of the dominant values will be uprooted.
- Relocate: to consume mainly local products produced by companies that support local economy. Therefore, any decision of economic nature must be taken locally, for local needs.
- Redistribute: Make sure that all human beings have access to natural resources and an equitable distribution of wealth, ensuring a satisfactory job and decent living conditions for all.
- Reduce: to reduce both the impact on the biosphere of production and consumption activities, as well as people's working schedules. The resource consumption rate must be cut down to the ecological footprint of a planet.
- Reuse: to repair equipments and goods instead of getting rid of them when broken or old.
- Recycle: to recycle all waste that is not decomposable arising from our activities.

CSA as a degrowth tool

Drawing on these long-term goals, we can see how the CSA model and AFN in general illustrate the basic principles and aspirations of degrowth.

The CSA model was initially designed thanks to a reshaping of values, new priorities arising around food as a multifunctional good. The very first reason over the past decades for a boom of food movements and communities is the rethinking of the food as a qualitative value that looks beyond dietary improvements.

AFN in general and the CSA model with its radical proposal of going beyond the market by avoiding food chains are the best examples of how to reshape an economic model on the basis of the emergence of new values.

CSA is one of the short chain models that best fit the need for relocalisation of food production

With its partnership tool and its focus on ethics, not only on food production but also on working conditions and community needs, CSA performs an highly redistribution of local wealth.

Short chain distribution and natural farming methods ensure that a CSA initiative strongly reduce its ecological footprint.

CSA model entails many good practices suggested by degrowth supporters, e.g. it is a model that reduces energy waste and gas emissions and stays within ecological limits while improving quality of life. Moreover, it pushes for a community reorganization concerning food provision, a process that requires a bottom up and participatory approach to decision-making and a flow of knowledge sharing between the actors constituting the CSA network.

Transition pathways in the agro-food system

In this chapter we analyze Alternative Food Networks from the viewpoint of the conceptual framework of transition theories applied to the agro-food system.

In 1998 the *socio-technological system* concept was introduced, meaning a “grammar, a set of rules that embodies a relatively stable configuration of institutions, techniques and artifacts, as well as practices and networks that determine the normal development and use of technologies” (Rip and Kemp, 1998).

The figure below shows how new elements, forces, innovations in a socio-technological field can develop and establish themselves all the way from an embryonic stage – a novelty - to possibly reconfigure and change the codified and shared nature of an established socio-technological landscape.

According to transition doctrines, a *socio-technological landscape* is that area where shared rules, cognitive frames, relationships between social actors take a stable and fixed form, that will only change slowly if stronger forces will intervene in reshaping its inner structure. This is the case of macro systems such as economics, politics, deep cultural factors that are reluctant to change as they form the basis for a shared understanding and management of the world.

The landscape is governed by set of rules and norms called *regimes*, that explain the ways in which a specific sector of society produces technologies, rules, material artifacts and social relations, problem definitions, and embeds all of them in institutions and infrastructures.

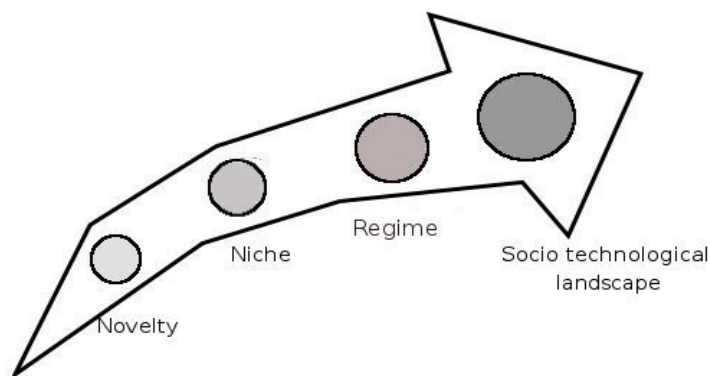


Fig. 11 Socio-technological transition dynamics

These definitions recognize the importance of the role of actors in innovation processes, expanding the concept of technological paradigm with the inclusion of the social context of reference that includes both production practices and consumption models.

In particular, Geels (2002) showed the existence of a network of actors within the system that influence trajectories of development dynamically: not just engineers, but also public authorities, societal groups, suppliers, academics, as well as producers and consumers.

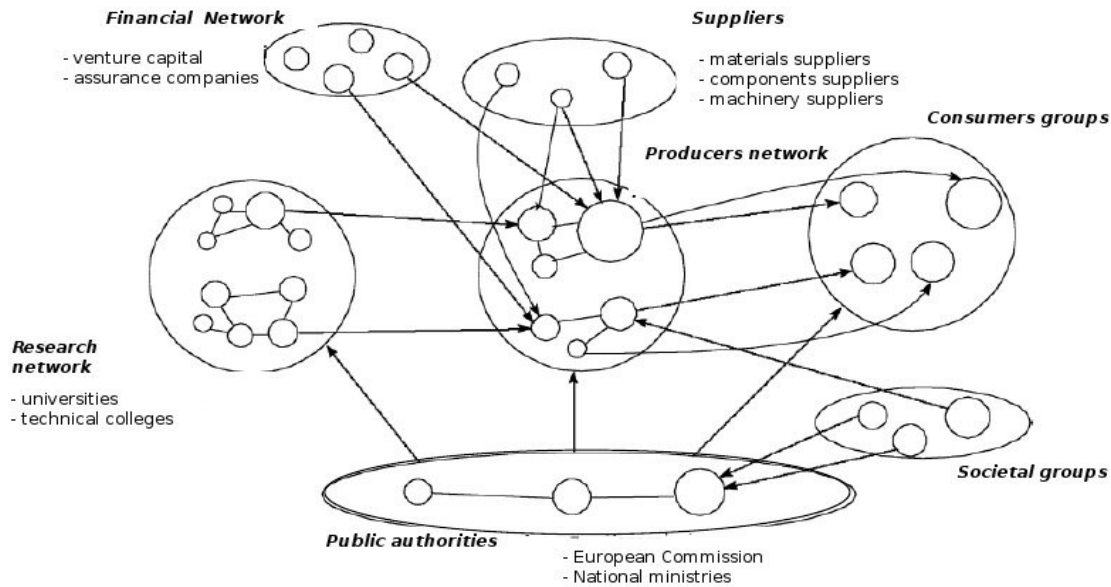


Fig. 12 the multi actor network involved in socio-technological systems (Geels 2002)

When a socio-technological system is in crises and solutions don't come from the established paths of innovation, then is likely that new paths of innovation called *niches* will emerge.

Socio-technological niches are areas in which new social practices and techniques can develop in opposition to the dominant socio-technological system, experimenting new actor networks, cognitive frames, value bases, relational patterns.

Niches determine innovation paths that allow looking at the established system from a different complex perspective, and finding new solutions to established problems in the system.

To tell it with epistemological words, niches can perform that *paradigmatic shift* in the way a problem is seen and faced that allow the system to reconfigure itself in a new coherent form (Kuhn 1962).

This is the area where novelties can grow, as they are "unstable sociotechnical configurations with low performance" (Geels 2007) that find in the niche a protecting environment against the ruling mainstream system.

The study of these interactions between different socio-technological levels, these processes that develop from an initial stage all through a change in the upper system is matter of study of the multilevel and multidimensional approach to transition theories.

Several studies have sought to understand the dynamics through which these transitions happen, and how niches can grow stronger and possibly create a new ruling regime. (Van de Poel, Wiskerke, Geels).

The literature on the subject mostly deals with technological innovation niches, developed within the market: transitions here often start at the periphery of the ruling regime inside *niches*, which are economic areas protected within the market, and which develop alternative innovation pathways to the ones established in the ruling regime.

Changes taking place within the niches can gradually move to the ruling regime, transforming it.

This concept was then gradually extended to sociology through the 'grassroots innovations' model to describe initiatives for local sustainability, which respond to local problems, developing solutions, practical and innovative devices and new technologies, alternative and progressive expressions of common or emerging principles in society.

Some authors applied it as well to the agro-food system, and looked at it from the viewpoint of a co-evolutive system that can better develop and fix its bugs when supported by bottom-up niche management studies.

Transformative role of AFN

In the agro-food context the concept of food niche is identified with that protected area, as defined by Kemp et al (1998), in which radical innovations occur.

Through the multi-dimensional analysis of the innovation processes that are developing under the agro-food system, this approach allows to give answers to the growing problem of transition to sustainable production and consumption models.

AFN in general and the CSA model represent, in this case, areas of experimentation of new rules of production, consumption, social organization and research that empowers a sustainable agro-food system and a participatory food governance.

Brunori and Rossi (2007) speak about the transformative role of AFN, seen as niches, relational spaces where both producers and consumers co-participate in the construction of an alternative socio-technical system by re-adjusting relationships, organizational models, value frames, economical exchanges between them.

The collective construction of meanings and organizational means that envision a new system happens thanks to the social learning activities between the network of actors that constitute the AFN initiative and the co production of knowledge within the broader social networks to which they belong.

This reorganization of the consumption as well as the production model around new collective participatory paths determines a protective environment that better fits to the local, to the needs and requests of the involved actors, that better involves them with a sense of belonging and commitment to an initiative that goes out of the realm of the pure economic exchange to enter the social and communitarian one.

This collective production and sharing of new (or rediscovered) values around food, this change of perspective and collective consciousness raising allows AFN niches to be protected at their early stages of development from the large scale retailing market, that would kill all those initiatives that are not economical convenient from the beginning and that don't follow all the rules of the global market.

In this sense, AFN can be seen as drivers for system innovation, because the innovative solutions to agricultural problems, the co-production of values and meanings around food and the different *weltanschauung* of the food system that they bring can be a pushing force for a reconfiguration for the current agro-food system.

Though they can contribute to the reshape of the ruling regime, Brunori warn us that agro-food niches in order to make a broader transition to a sustainable agro-food system still need changes and reshaping at higher level in the socio-technical power pyramid "*including general food culture, knowledge and technological systems, farming patterns and agriculture support mechanisms, regulatory and institutional frameworks, land management. This is inherent in the nature of food, at the centre of intermingling terrains and scales of action, which condition both everyday life and more complex social dynamics at local and global level*" (ibidem)

Sustaining innovation pathways require a participatory and transparent institutional environment that empowers a strategic niche management in order to nourish good practices in potential novelties, and this would constitute the basis for a an inclusive food governance that involves all networks of actors and push towards food democracy.

Reflections and advices

In the past, innovations that have enabled agricultural development took place in the chemical, transport, and technology industrial sectors (e.g. irrigation, use of chemical fertilizers, techniques for genetic improvement and the obtaining of hybrids, the mechanization and, last in time, the introduction of Genetically Modified Organisms).

This kind of innovations didn't bring benefits in terms of sustainability but, on the contrary, destroyed ecological integrity of entire territories.

The challenge that we now face then is related to the need for transition from an intensive scale

agriculture, specialized and mono-cultural, oriented towards productivity and exports, to a more sustainable agricultural system, based on better use of available natural and social resources.

Two paradigms are currently coexisting within the agro-food system, the multifunctional agriculture and the conventional agriculture ones: the context of our study, short chain models in particular the CSA one, is clearly configured as a niche, an innovation able to determine a transition to the first paradigm.

Moreover, these issues are linked to models of food governance able to ensure the effective implementation of food democracy: a further, necessary step that must still be made at the institutional level in Italy.

Creating an institutional space for discussion and negotiation, which provides adequate visibility for citizen-consumers that participate in AFN initiatives, to allow a real involvement of these social actors

In decision making processes concerning production and consumption of food, it now seems necessary, given the great development that these practices are having on the national territory.

Drawing on the outputs of another EU funded project on local food systems (FAAN project – www.faanweb.eu) we agree with the FAAN consortium on some policy recommendations that they formulated while researching on several AFN case studies:

Considering their broad development and ability to deliver solutions at local levels, AFN should be recognized as good governance tools for many policy areas – including health, environment, rural development, agriculture, urban development, environmental education, food security.

Local projects carried out in innovative ways by communities should get more funding, and the constitution of local producers-consumers partnerships should be encouraged and sustained.

For the EU commission and Parliament, FAAN consortium also advocates the creation of an inter-DG task force for Local Food Systems that can facilitate a European information exchange network, and be a valid support for research on supply chains and how to shorten them.

In general, and we join this call, LFS growth should be facilitated in Europe both on local, national and European level with funding, research and policies that will eventually design a favorable environment for these initiatives to settle down locally and perform their good environmental economic and social practices.

Orti as degrowth

The Orti are a living experiment of degrowth, which puts its proposals to the test by showing many economical paradoxes: consumers that share economic risks and accept massive delays, organizers that overload tasks, on the basis of a shared trust not built on delivery guarantees but on communitarian and food security reasons.

The strong commitment of both organizers and subscribers to the social aims of the initiative made it possible for the initiative to go on, thus offering an area protected from the market for the niche to establish itself and find solutions to problems. The paradox of the “waiting consumer” is partially explained when we look at how much issues around the relocalisation of food have risen in importance in the last years.

The change of perspective and the collective appropriation of new cognitive frames and set of shared rules and values, in this case the “falling in love” of many subscribers with the project and their will to support socially disadvantaged actors with economic solidarity, together with the request for food “with the farmer's face on it”, as to say the need to know and trust the food and the person that produces it, the personal commitment of the organizers that embrace values of sustainability, solidarity, equity and want to challenge them in practice, all these factors refer to an achieved degree of social sustainability and cooperated into the preservation of the niche Orti Solidali.

Despite the great commitment from the actors network, wider support for the initiative in order to grow and establish as a stronger niche would be helpful: especially on the sides of support from local authorities, both technical and economical and, on a broader level, more research on related issues and the setting up of a governance system for local food would surely help AFN niches and also the Orti to establish and flourish. In the case of the Orti, we made a virtue of necessity: and, as many other similar initiatives, the experiment found its own way to go on and be sustainable in many little ways but most of all getting its greatest strength from the social commitment of the subscribers and the organizers.

But this commitment didn't come from all the actors that originally constituted the network: for some of them other priorities prevailed during the development that meant they drew back from the original commitment and caused many obstacles. In particular, this was the case of the farm that at some point did not find it convenient any more to host such a project.

Therefore some advices that we can get from this peculiar niche experiment is that a different attention from the institutions, a participatory process of local food governance, an allocation of funds for such virtuous initiatives and also a regulation for allocating farming allotments in urban areas, in short, a

more favourable environment for local short food chain initiatives such as the Orti would surely help, supporting them in their early niche stage, to develop and eventually establish.

4 Relevance to Overall Project

4.1 Capabilities + CR methods

As gathered from previous studies and projects carried out by the FDG (see PSX2), a difficulty was found in implementing the sharing of knowledge and the participation of CSOs in building strategies for a sustainable agro-environmental development. In the search for good practices to overcome these constraints, a formation course was instituted together with Tor Vergata University Scientific Pole in order to train graduates students to the potentialities of Multifunctional Agriculture. This course was set up mostly to cope with issues that are usually not well tackled in Italian agro-environmental institutional contexts. Such issues include urban horticulture, social agriculture, sustainable energies, biological control methods, rural sustainable development, sustainable tourism, etc. Such training can help us to investigate the good practices that we seek.

Two trainees from this course, together with FDG researchers and full professors from the MFA course, got together in a cooperative research process to monitor a Community-Supported Agriculture (CSA) initiative. This is designed as a case study of multifunctional, virtuous and sustainable alternative production model. The CSA develops *agricoltura sinergica*, an agricultural production technique, which provides a potential basis for new knowledge sharing among participants – paid workers and subscribers who pay for food boxes.

From the beginning of the study, the trainees have been collecting data for their scientific monitoring. They have also contributed to the design of the cooperative research plan together with FDG researchers. The researchers benefit from this 'insider view' to engage with different knowledges and problem-solving strategies. The cooperation between the *orti* organisers with academic experts in sustainability, as well as external advisors with academic expertise, is generating new knowledge and participation in defining agro-environmental issues and alternative food models in urban areas.

But few subscribers have contributed labour to the *orti solidali*. The CSO network development has been affected by low participation. The specific situation that developed and the obstacles that were encountered in these first months of gardening created a situation of “switching and mixing” roles for the trainees and the researchers. As we originally planned for the sociological study of the CSA, the role of participant-as-observer would be the best to monitor such an initiative. But our role soon turned into something that we could call an “observing /researching worker”: trainees and researchers have been playing more or less every role that was designed in the CSO network of the initiative – from media covering of the initiative, to data recording and physical working of the gardens. Though very intense and not economically sustainable, such a necessity gave us a very special insider view of what happens when setting up a CSA with a network of diverse subjects. This difficulty has been turned into an extra research question about socio-economic sustainability.

Another unexpected result that we got from CSO networking is the constitution of an advisory committee for the study of the CSA as a good agro-environmental practice from a degrowth point of view. This knowledge area was not planned in the beginning of the project, and it nearly constituted itself autonomously in the sense that it was born from the interest and commitment to degrowth issues of some CSO members, academics, interested citizens and volunteers.

Inside the CREPE consortium, we also have useful dialogue with FRCIVAM, our partners from WP4, about how to design the economic and environmental evaluation of our study. They gave advice on methodological difficulties in comparing alternative agricultures with conventional agriculture in sustainability terms (see next section for details). We find this to be a concrete, interesting example of cooperative research between partners in the CREPE project.

The 7th November workshop became a larger opportunity to exchange experiences with other CSA initiatives in Italy and with academic perspectives on them. These exchanges stimulated further ideas about how to study the *orti*, as well as how to build its cooperative aims.

4.2 Agro-environmental sustainability issues

As our case study for participant-observation, the *orti solidali* uses an agronomic method called *agricoltura sinergica* for enhancing soil fertility, minimising material inputs, improving the natural and cultivated biodiversity level and substituting knowledge of natural resources. This method clashes with the conventional agricultural practice but copes with the environmental issues related with the agricultural sector. As a Community-Supported Agriculture (CSA) initiative, directly supplying subscribers, the *orti* also minimises environmental effects of food distribution. The study develops methods for evaluating at the same time the three aspects of sustainability – environmental, economic and social – to clarify how these are linked in the CSA. Before the *orti* began, we already had a detailed monitoring plan, which was reconsidered later.

Partly in response that tentative plan, FRCIVAM gave us advice on methods for monitoring economic and environmental sustainability of agri-food short-chain initiatives. Such issues included: their autonomy (dependence on external purchases), dependence (or not) from external grants, financial dependence (to be measured by the ration amounts of loans to pay / value added), and efficiency of capital investment (that can be measured by the ratio value added / capital engaged). We are now deciding how to deal with their suggestions and to select the most feasible, meaningful indicators.

4.3 Priority Setting

Studies of sustainability generally look for efficiency measures, which can reconcile economic growth with lower environmental burdens/harms, thus inherently limiting such improvement and even legitimising economic growth as sustainable.

By contrast, degrowth theory looks for way to satisfy societal needs by reducing economic activity as stereotypically measured. As an alternative, degrowth attempts to fulfil human needs outside of a rationally calculable economy, with a minimal use of natural resources (Fournier, 2008).

Our study on a CSA challenges a new sustainable agro-environmental approach to urban areas that reconnect people to agro-food production and allows them to express themselves on these issues.

This suggests broader societal knowledges and research priority for solutions.

4.4 Solutions

Dominant policies and research agendas make assumptions about economic growth as the essential basis for societal progress. The “growth paradigm” clashes with the necessity to reduce the material flows, including the irreversible depletion of natural resources and, according with the environmental carrying capacity. By contrast, our CSA initiative illustrates the different pathway of degrowth processes. It defines a synergy between community basic needs, environmental protection and alternative economic practice. The subscription to a weekly fresh product box service accords with degrowth theory.

The CSA will be evaluated for its contribution to degrowth and wider lessons for the theory. Such alternatives gain greater relevance in the double context of economic contraction and pressures to reduce GHG emissions. To reach these objectives it turned out that a comparison and mediation is necessary between producers and consumers needs that, at present, can't communicate directly.

Appendices

1 Submitted questionnaire form and answers

Questionnaires to the subscribers
Progetto Orti Solidali

MOTIVATIONS

(Multiple choice allowed: 3 points given to 1st choice, 2 to the 2nd choice, 1 to the 3rd)

1. Environmental	26
2. Social	21
3. Economic	5
4. Ethical	28
5. Political	5
6. Food safety	7

RELEVANT FEATURES OF THE PROJECT

(Multiple choice allowed: 3 points given to 1st choice, 2 to the 2nd choice, 1 to the 3rd)

1. Positive environmental/agronomic impacts of synergistic agriculture	23
2. The involvement of disadvantaged young refugees in a social farming project	26
3. Partnership between producers and consumers	10
4. Direct payment method	4
5. Active involvement in the care of the gardens (<i>Consumer-actor role</i>)	9
6. Food quality and safety	20

PARTICIPATION

1. Payment/subscription	9
2. Building of the gardens	1
3. Synergistic agriculture Introductory workshop	4
4. Visits to the gardens	
5. Workshop (7 th November 2009)	3
6. Phone/email contact with the project promoter	4
7. Phone/email contact with other subscribers	1
8. Frequent visits to the blog of the project	4
9. Donations	2

COMUNICATION INSTRUMENTS

1. Blog	Good
2. E-mail/mailling list	Good/Sufficient
3. Direct contact (with organizers)	Sufficient/Good
4. Synergistic Agriculture ws	Sufficient

LEVEL OF INVOLVEMENT

Sufficient

FURTHER ACTIVITIES

Parties for food distribution and conviviality
Collective harvest and practical work
more informations on project progresses
Parties and self-financing activities
Conviviality moments
Meetings

OPINIONS ON THE PROJECT

Validity of the project
Confidence in the project promoter
Insufficient involvement of subscribers
Innovative project
Unpredictable problems trust in the work of the promoters
Need of deeper involvement of the subscribers

INDIVIDUAL SKILLS

Good communication skills
Availability to help in the gardens
Computer skills
Organizational and administrative skills
Scientific – food safety skills
I don't know

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