

**COMPOSING RURAL AND URBAN ELEMENTS:
CITY FARMING AS AN OPPORTUNITY TO PROMOTE URBAN VARIETY**

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Abstract

Over the last few years we have witnessed processes of integration between urban and rural elements, which express themselves through the phenomenon of urban agriculture. These processes consist of the increasingly frequent use of enclosed urban land of varied size for different agricultural activities managed with different methods.

First of all there is the phenomenon of urban vegetable gardens or “social gardening” which, despite being amateurish, or perhaps because of this very reason, has also acquired a certain popularity in design culture; this is accompanied by professional agricultural activities such as “urban farms”, which occupy larger areas and are real companies aimed at business; while “agricultural parks” are more hybrid: they are portions of land in which rural activity is protected and offered to the cultural and recreational use by citizens (Ferraresi, Rossi 1993). In all these cases new spaces can be created along with renewed uses of urban space.

This phenomenon is subject to possible difficulties, some of which are economic and logistic, related to land value, to the costs related to activities for the public and to the distance from supporting activities; there are also environmental difficulties, tied to the quality of city air and to the use of pesticides; and lastly there are social difficulties (Donadieu 2013).

In spite of this, many positive effects on urban quality and social life can be observed. Firstly, urban agriculture is a useful tool for countering the phenomenon of land consumption, which by now troubles almost all countries; it can also be an antidote to the practice of the abandonment of farming, which is damaging European economies especially. Secondly it is possible to single out specific potentialities in these processes: the food and environmental benefits related to neighbourhood production and to the direct rapport between urban and natural spaces; the possibility of working on the design of new public spaces, as places of transition between rural-productive and urban-residential environments; the social effects on the life quality of the communities involved, which have new opportunities of cultural and recreational regeneration; and the possibility of activating regeneration and recycling processes of former productive land.

But above all the phenomenon of urban farming is a process which is growing rapidly and which is necessary to understand and manage, as it is becoming one of the characteristic elements which make up the urban variety of our cities.

Keywords: urban farming, food security, sustainable regeneration design, urban variety, land use

INTRODUCTION

Over the last few years we have witnessed in various metropolitan contexts the manifestation of processes of integration between urban and rural elements, which express themselves through the phenomenon of Urban Farming (or Proximity Agriculture). These processes consist of the destination of peri-urban land and of enclosed urban land of varied size for different agricultural activities managed with different methods.

Moreover, it is possible to observe signals of a very widespread sensitivity on behalf of specialists and the public opinion with regard to the issue of urban agriculture and to the implications related to the reuse of productive land *near* or *in* urbanized areas.

This is of great interest due to the critical aspects and to the opportunities determined by the condition of proximity between two very different “natures” of space and of land – the rural and the urban – and by the different degrees and modalities of combining them.

According to UNDP’s definition¹ (Smit et al., 1996), Urban Farming consists, in general terms, of the production, transformation and marketing of food and fuel from urban or peri-urban land, in response to the demand of a settled community (city or metropolis); according to FAO this activity directly involves about eight hundred million people spread in five continents (FAO, 1999).

The size of this phenomenon suggests a careful observation of its reasons for being, which show not only a direct connection with the problems of food supply and of food security, but also highlight a combination of causes which have an impact on various aspects of social life, including the innovative and sustainable use of free time.

The consequences on the spatial structures of cities and more generally on the idea of urbanity, which may be profoundly renewed by the rapport between urban and rural, are no less relevant. The same can be said about the interventions of regeneration and transformation of decommissioned or abandoned areas, which thanks to the introduction of productive or micro-productive agricultural functions may become opportunities to experiment new forms of space related to the integration of different land uses.

Moreover, urban farming is considered as a tool capable of countering the phenomenon of land consumption and to act as antidote to the practice of agricultural abandonments, which has hit in particular the economies of the old continent over the last few years.

In short, the recent and rapid establishment of urban farming appears as a phenomenon capable of articulating in a significant way the variety typical of the composite nature of our cities.

This essay, which intends to delineate a research perspective on this issue, opens with a description of the various forms of UF, followed by a brief enquiry about the origins of the rapport between urban growth and rural space and by a reflection on the difficulties and opportunities of this rapport. The main interest is focused on the spatial consequences on urbanized structures in terms of increase of complexity and of the richness of urban experience.

¹ “An industry that produces, processes and markets food and fuel, largely in response to the daily demand of consumers within a town, city, or metropolis, on land and water dispersed throughout the urban and peri-urban area, applying intensive production methods, using and reusing natural resources and urban wastes to yield a diversity of crops and livestock”. Smit, J., Ratta, A., Nasr, J., *Urban Agriculture: Food, Jobs, and Sustainable Cities*, New York, United Nations Development Programme (UNDP), 1996.

From a methodological standpoint, we wish to propose a hypothesis according to which the original and complex forms of space, which originate from the interaction between urban and rural, may be investigated experimentally through the cognitive and transformative practice of architectural and urban design, which, through the formulation of possible physical-formal configurations for the areas involved, becomes a research tool capable of anticipating unprecedented spatial structures.

The essay ends with a reference to some case studies, which show interesting examples of rapport between agricultural production and urban space.

THE FORMS OF URBAN FARMING

UF can take on typologies with different forms and scales, but they can always be related to the framework of proximity relationships between urban and rural. These relationships offer a terrain of observation and experimentation within which it is possible to identify scenarios of urban transformation capable of producing unprecedented forms of space, both from a functional and typological-spatial standpoint.

Firstly, it is necessary to cite the phenomenon of “**urban orchards**”, or “social gardening”, which, although often amateurish, for this very reason has acquired a certain popularity among citizens and in design culture. Its spread, although differentiated according to the scale and to the land property of the areas involved, shows recent tried and effective cases of spatial and social interaction between the collective dimension and the micro-productive function, with interesting results in which the terms of the rapport are harmonized. Social gardening, unlike the other forms of UF, exhibits extremely rich and heterogeneous reasons and expectations. Indeed, it is at the same time an effective tool for the struggle against food shortage and a vector for the renewal of community life and for the innovation of the ways of spending free time and of the education of the new generations, although it essentially lacks the critical issues which regard other forms of UF.

In addition to urban orchards there is the case of professional farming activities located in the city, the so-called “**urban farms**”, which occupy larger areas and are true enterprises with business objectives. These farms usually occupy areas on the edge and on the boundary between urban and rural, but it is often possible to find cases of active farming companies which are absorbed by urban sprawl. Also in these cases it is possible to observe a co-existence of economic, social and environmental aspects: on one hand the business aspects, tied to agri-food production, and commercial aspects, as in the case of agri-tourism; on the other hand the environmental and socio-educative role taken on by *didactic farms*. The scale and business nature of these cases begin to show some of the critical issues typical of UF (economic, technical-logistical, environmental, socio-political issues), which will be analysed further on.

“**Agricultural parks**”, large portions of land safeguarded in order to integrate the environmental, economical and agricultural-food aspects and the cultural and social aspects, have to the contrary a more hybrid and articulated nature (Ferraresi, Rossi, 1993; Magnaghi, Fanfani, 2009; Magnaghi et. al., 2005). Here, the rural activity is preserved and it prevails – in size – on the social activities, but it is available to the cultural and recreational use of the citizens. The territorial extension of agricultural parks makes the specific urban situations (urban agricultural parks) and the situations of contact or of proximity between farmed land and built space especially interesting.

Each of these cases has specific aspects tied to the size and to the land ownership of the areas: medium scale productive spaces are often private and related to a company, while urban orchards, generally small scale, are often collective parts of shared property or publicly owned areas allotted to citizens; the included open spaces may be mixed property, while the agricultural parks, for reasons of scale, concern larger and more heterogeneous extensions of land. Also from the standpoint of the times of use of the land there are some relevant differences tied to the different typologies of productive exploitation of the areas, each with specific cycles for the crops.

What is interesting for us in this context is understanding the spatial consequences on our cities in terms of increase of complexity and richness of urban experience. Moreover, it is useful to consider the numerous opportunities of design of innovative spaces – both from a typological and functional standpoint – which are produced on the architectural scale, thanks to the rapport of proximity and hybridation between farmland and built areas (Bovati, 2014c).

THE ORIGINS OF THE PHENOMENON

The opportunities for design show up in an even more evident way when one intervenes in special situations characterised by the coexistence of different spatial, political and social factors. We refer from this standpoint to interventions of urban regeneration in decommissioned or abandoned areas, and in areas on the edge of the city or in which construction is precarious, and when the attention of design is centred on the collective dimension of space. Between this and the issue of urban farming there are indeed various and interesting relationship potentialities, which determine numerous opportunities for giving the urban-rural rapport a solution in architectural-spatial terms.

However this can be shared only if one agrees on the interpretation of open urban space, on one hand, and productive land, on the other, as “common goods” and as such related to collective type interests and expectations (Mattei, 2011), whose destinies are inevitably tied to public action and to the management policies of the city and of land. This is also true when such policies concern the private components of urban space – because it is part of the common space of the city anyhow – and the management of the rapports between the different parts of the city; this happens because the city itself and the landscape are collective-type entities, in which each domain – public or private – contributes to the construction of a common space. In this framework, the hypothesis of establishing a dialogue between open urban space and farming activity stimulates communitarian-type interests.

The terms of the debate about the rapport between city and farming, just as the elaboration of hypotheses on urban farming as coexistence of living functions and agri-food production, have been present for some decades in the architectural debate. This can be related to the contribution of some authors and designers who have anticipated some scenarios rich in intuitions and previsions.

The roots of the reflection on the rapport between urban growth and rural land can be found in **Patrick Geddes**'s bio-regionalist theory (Geddes, 1915). The concept of *bioregionalism* refers to a type of urbanization which follows the logic of natural factors and is expressed by the “proper distribution of people to resources in a comprehensive geography that could be considered an ecosystem” (Ingersoll, 2006, p. 148). These theories are a general anticipation of the research work on *urban ecosystems* and on *urban ecology*.

An important contribution, which re-elaborates Geddes's theories, is the research work **Alberto Magnaghi** has been doing for various decades on the role of farming in the framework of what the Florentine town planner has called "Il progetto locale" (Magnaghi, 2000) or *self-sustainable local development*. According to this idea, the return to the direct rapport with the rural dimension is tied to the policies for the re-balancing of food supplies and for the reduction of the geographical distance between producer and consumer; in other words, to a series of qualities which directly concern what is today commonly called *resilience* of the communities. This concept is based on a new idea of local and supportive community living, capable of dealing in a cohesive and controlled way also with the structural crises of the economical system.

More recently **Pierre Donadieu** has put forth the idea of the *agri-urban landscape*, by imagining a "realistic utopia" called *Agripolia*, based on principles of liberty, equality, solidarity and especially food autonomy (Donadieu, 1998, 2012). This goal seems to be attainable through proximity farming, based on the coexistence of rural land and portions of city, from a viewpoint which implies the abandonment of the opposition between two types of public interest, often in conflict: the city on one hand, which fulfills the need for homes and public spaces, and open urban space on the other, which fulfills the need for places for environmental regeneration and re-balancing, but which could also be an important contribution for the production of primary goods for nutrition (Bertizzolo, 2011).

Moreover, it is necessary to refer to **Richard Ingersoll's** idea of *agri-civism* (Ingersoll, 2004; Ingersoll, Fucci, Sassatelli, 2007), which analyses some phenomena underway in the most developed metropolises, interpreting them from the viewpoint of civic value, since they are situations capable of generating the re-thinking of urban public space, starting from a virtuous and unprecedented interaction between very different situations. This idea proposes a possible parallel between what happened with agriculture and tourism (which has taken on the name of agri-tourism), and what could happen with farming and the city (which the author thus calls agri-civism). In his famous essay *Sprawltown* (Ingersoll, 2004, pp. 200-201), Ingersoll analyses some cases in which portions of New York City lots have been reconverted to agricultural micro-productive use, highlighting how such interventions have determined situations in which to experiment a new idea of community, thanks to the establishment of collective places considered as true social spaces. This can be used to support the validity of the hypothesis of associating this type of intervention to an original and deep rethinking of urban public space.

Also **Yona Friedman's** viewpoint can be interpreted in this way: in his "Architecture of Survival" he imagines and proposes the establishment of small communities capable of transforming poverty (or *new frugality*) into a resource. His idea is that of resilient and self-fed communities, in which urban agriculture allows one to *reunite roof and food* (Friedman, 2009) in the same place or in a condition of close proximity.

It is also useful to recall **Andrea Branzi's** "Agronica" project (a theoretical project on the models of weak urbanization, elaborated for the Philips Corporation; with the Domus Academy research centre and the Philips Design Centre, 1995), which bases its idea of a *weak city* on the relationship between semi-urban land and semi-rural land, in which farming is a sort of background on which to construct non-monumental urban situations (Waldheim, 2010).

Lastly, but only because it is more recent, **Aldo Cibic's** design research work, which takes the name of *Microrealities* (Cibic, Tozzi, 2006) is very interesting. In section 3, called "La città degli orti. Riappropriarsi delle stagioni" ("The Vegetable Garden City - Living the seasons"), Cibic imagines and visualises, by using scale models, peri-urban scenarios in which space and time,

regulated by the rhythms of nature, are the context in which social situations that combine a rural but tamed context, and typical urban users, take form.

CRITICAL ASPECTS AND POTENTIALITIES

The phenomenon of UF also has critical aspects.

In the introduction to the second edition of *Campagnes urbaines* (Donadieu, 2013), Pierre Donadieu lists the difficulties farms located in urban or peri-urban contexts might encounter. It is possible to propose a synthesis of these critical aspects according to different thematic areas: economical difficulties, technical-logistical difficulties, environmental difficulties and social and political difficulties.

Among the first, one can recall the economic weakness of farms with regard to the real estate mechanisms which drive owners to favour hypotheses of maximization of potential profits, also by promoting changes of the use of the areas; there is also a second aspect, related to the costs of lodging and commercial activities (agri-tourism and “zero-kilometre” market) and social activities (didactic farms), with regard to the variability of the request of the market towards these services.

Among the technical-logistical critical aspects it is appropriate to cite the distance of urban farmland from the activities which support production (storage, selection, processing and marketing of farm products, and veterinary centres) and the necessary limitation in the choice of the possible crops, which according to Donadieu is one of the most important points, though still not much investigated, of UF strategies.

Then there are environmental critical aspects related to air and urban land pollution, and, accordingly, to the possible environmental risks due to the use of pesticides and chemical substances, especially in the case of non-biological crops, undesirable for the population concentrated in residential areas.

As for the social and political aspects, beyond the risks of vandalism and theft, which are a consequence of the difficulties of controlling the boundaries of farmed areas, in the specific case of agricultural parks it is useful to stress the difficulties of the managing authorities to counter the erosion phenomena of farmland on behalf of real estate economic professionals, with the consequence of landscape and environmental deterioration. Such policies are often limited to safeguard interventions, while a strategic vision is totally absent (Vescovi, 2012); a consequence of this is the fact that in the perception of the experts – and often of the entire community – the aspects which prevail are the restrictive and regulatory character of the policies and more generally of the management of the park.

In view of this, it is advisable to reflect on the opportunities that a tight relationship between urban and rural display on multiple levels; it is also useful to wonder about the reasons which trigger so much interest for this phenomenon.

As has already been mentioned, there are the advantages tied to the increase of agri-food production and to the contribution to the food security policies, to the containment of land consumption and to the great benefits in terms of sustainability: the increase of the overall resilience of the territory; the reduction of the consumptions for transportation and production; the reduction of the ecological footprint; and the decontamination of the soil and the reduction of pollution. In addition to these aspects, there is the improvement of the standard of living and

of social trends: the intelligent management of free time and the reduction of stress; the didactic-educative aspects for the new generations; the improvement of health and nutritional aspects; the increase of exchange opportunities; the social interaction and cohesion; the reinforcement of the relationships within the community and the neighborhood units.

In particular, it is advisable to stress the central role of issues such as land consumption, a phenomenon which concerns not only Europe and which is progressively threatening the resource of farmland and rural landscape. With regard to such critical aspects, urban farming is considered as a tool capable of partly containing uncontrolled metropolitan growth (CRCS, 2012; ISTAT, 2012; Lanzani, 2013; Legambiente, 2011; Governo italiano – Ministero delle Politiche Agricole Alimentari, 2012; WWF – FAI, 2013).

In addition to this, starting from the 1990s, in many European contexts, alongside the role played by the infrastructure system as the driving force for urban sprawl, phenomena of urban shrinkage began to be observed (Oswalt, Rieniets, 2006): underuse, decommissioning and abandonment of portions of urbanized space, obsolescence of buildings – also recent ones –, and lack of strategies for the reuse of old spaces which are located alongside the new spaces, which however do not replace them (Lanzani, 2013); and all this happens while the consumption and the impermeabilisation of land continues to increase.

Alongside these phenomena, which are at the expense of built space, the process of fragmentation and degradation of rural contexts and the increasing abandonment of farmland take on an even greater significance.

Indeed, one can observe a substantial contraction of productive farmland, which is beginning to rouse alarm, due not only to the loss of the territory's and the landscape's environmental quality, but also to the decrease of the food production necessary for communities, in view of a phenomenon of inurbation which proceeds with no apparent decline.

This combination of factors makes us consider UF as a phenomenon capable of counteracting these critical conditions, thus confirming the idea that UF can contribute to the protection of the territory and to the increase of urban quality.

In conclusion, we should not forget, among the causes of the popularity of urban farming, the role and popularity taken on by social gardening, that is the practice thanks to which private users manage small portions of land used as orchards. Generally, they are areas in the city, from which derives the name "urban orchards", which have been very successful lately among citizens, especially administrators and designers, and which, as we have seen, have interesting social and spatial consequences (Cognetti, Conti, 2012).

FIELDS OF DESIGN EXPERIMENTATION

The tool chosen to question the complex rapport between architectural form and urban experience implies an investigation of the composite character of our cities, which can be carried out by the discipline of architecture through the cognitive and transformative practice of architectural and urban design.

From the methodological point of view we believe that the original and complex forms of space, which originate from the interaction between urban and rural, may be investigated experimentally through the practice of architecture. The latter, by questioning the urban-rural relationship through the formulation of possible physical-formal configurations for the areas

involved, becomes a research tool capable of anticipating unprecedented spatial situations.

The design is thus considered as a strategic-functional operator, useful for the rethinking of the forms of urban space, capable of supporting and integrating historical-critical and descriptive approaches. This tool, despite some recent critical positions which tend to downscale its role, seems to be the only one capable of anticipating the spatial effect of the modifications as a consequence of programmatic and procedural hypotheses.

The perspective of the design pursued through architectural practice in contexts of proximity and contact between urban and rural, displays a variety of themes which go from the multiscalarity of the intervention to the need to respond to new functional programmes. We are referring to a variety of themes which ranges from the search for unprecedented spaces, such as places of transit and mediation between different spatial conditions, to the recognition and assignment of identity to places, and on to the control of the relationships through the introduction of elements which can order and recompose spaces, and which are capable of establishing complex relationships between farmland and urban fabric used in very different ways.

We can thus single out scenarios which anticipate planning interventions in, or at the edge of, areas devoted to urban agriculture. These interventions can be summarized according to three principles capable of orienting the strategies: the principle of **percolation**, aimed at the construction of a network or light framework of public spaces in large private and productive rural areas; the principle of **hybridisation**, aimed at the definition of borderlands, i.e. margins of interference and mediation between consolidated urban structure and farmland, and places of spatial hybridization capable of controlling the rapport between spaces with different scales and potentialities; and the principle of **tessellation**, which consists of the productive and micro-productive agricultural use of small and middle-sized open spaces, embedded in the body of the consolidated city.

CONCLUSIONS

A series of examples can show situations in which such scenarios of intervention have been or could be implemented. Some of these examples already have a long history: among them we can recall the case of Parco delle Cave and of Parco Boscoincittà, which are comprised in the system of Parco Agricolo Sud in Milan, the Parc Départemental des Lilas in Vitry-sur-Seine near Paris, the Parco Urbano G. Bassani, the Parco delle Mura and the system of farmland north and east of Ferrara.

Parco Agricolo Sud Milano. It was established in 1990 and is a regional park which has an extension of 46.300 hectares and involves about sixty municipalities. It is a territory rich in abbeys, castles, villas and farmsteads which comprises approximately 1.400 active farm businesses. Its aims are the protection of farming activity and natural spaces, the highlighting of the cultural, historic and architectural heritage, the promotion of landscape and environmental recovery interventions, and the implementation of a didactic and informative role on the conscious use of environmental resources.

Parco delle Cave. This park is located in the western area of Milan. Until the end of the 1960s this area was used for gravel pits. The 1976 town plan envisaged its use as a park but construction began only in 1997, in order to create one of the more significant Milanese parks

with regard to the tight bond between agricultural functions and built-up areas. In this park, which measures about 135 hectares, there are numerous urban orchards, along with a historic farmstead (Cascina Linterno) still in use and with its related farmland. This farmland includes two protected areas in which an ancient farming technique is still being used: the “marcita”. This technique is typical of the Padan Plain in the north of Italy, and its origins date back to the activity of the Mediaeval Cistercian monks.

Parco Boscoincittà. This park is also located in the western side of Milan and is one of the first examples of urban forestation. Construction began in 1974 on a surface of approximately 35 hectares – later expanded to 110 – thanks to an agreement between the municipal administration and the Italia Nostra association. The park has contains urban orchards (called “free time orchards”) since 1984. The Cascina San Romano, located in the park, houses the Centro di Forestazione Urbana (Urban Forestation Centre) which manages the park, and which also managed Parco delle Cave until 2010.

Parc Départemental des Lilas. It was constructed starting from the 1990s and is another example of urban park with a farming potential. It has an area of 98 hectares and is located about four kilometres from Paris, in the municipality of Vitry-sur-Seine, in the department of Val de Marne. It is surrounded by the Parisian conurbation and has an alternation of cereal fields, urban orchards, nurseries and vegetable crops.

Urban and agricultural parks in Ferrara. In the perimeter of the walls of the historic city, extended with the so-called Addizione Ercolea (1492-1510), there is a farm with its related grounds, which organises farming and agri-touristic activities. This area is connected to the Parco delle Mura and therefore to the Parco Urbano G. Bassani, which is located north of the city walls all the way to the river Po, in what used to be the hunting grounds of the Este family. In this park there are urban orchards, and a system of bike and pedestrian paths allows people to reach the river by crossing a landscape made up of fields and farmsteads (Ingersoll, Fucci, Sassatelli, 2007).



Figure 1. Agriculture at the bus-stop in the north-east of Bergamo – Italy

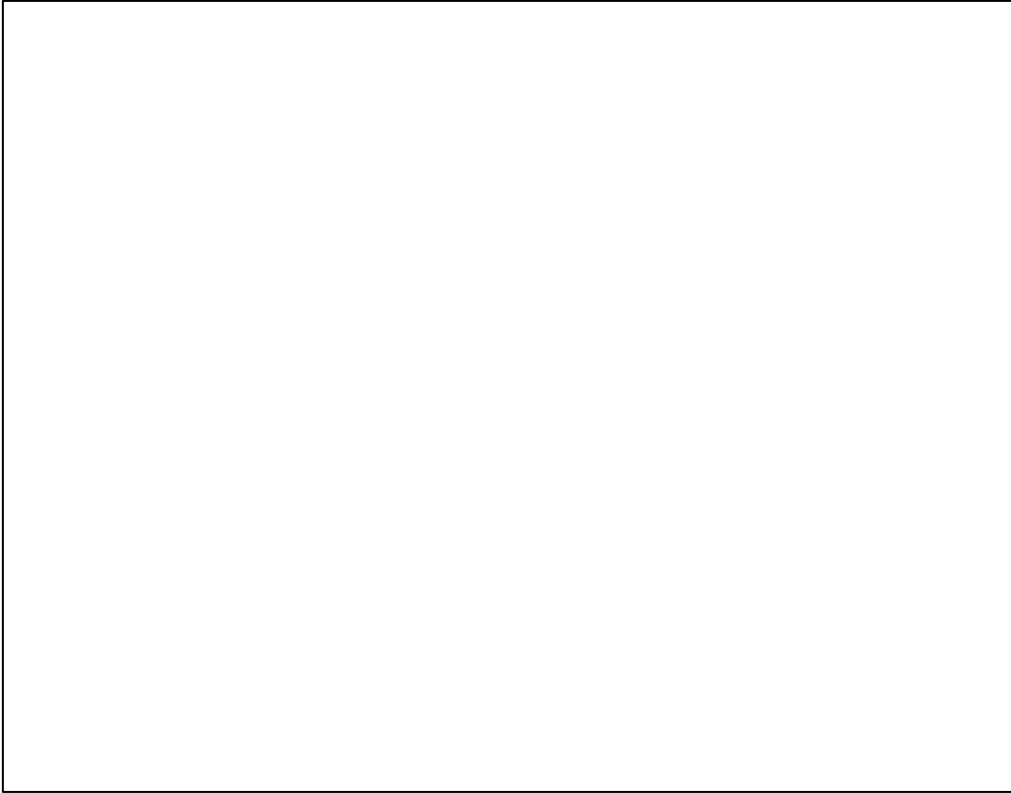


Figure 2. Crop fields in the north-east of Bergamo – Italy

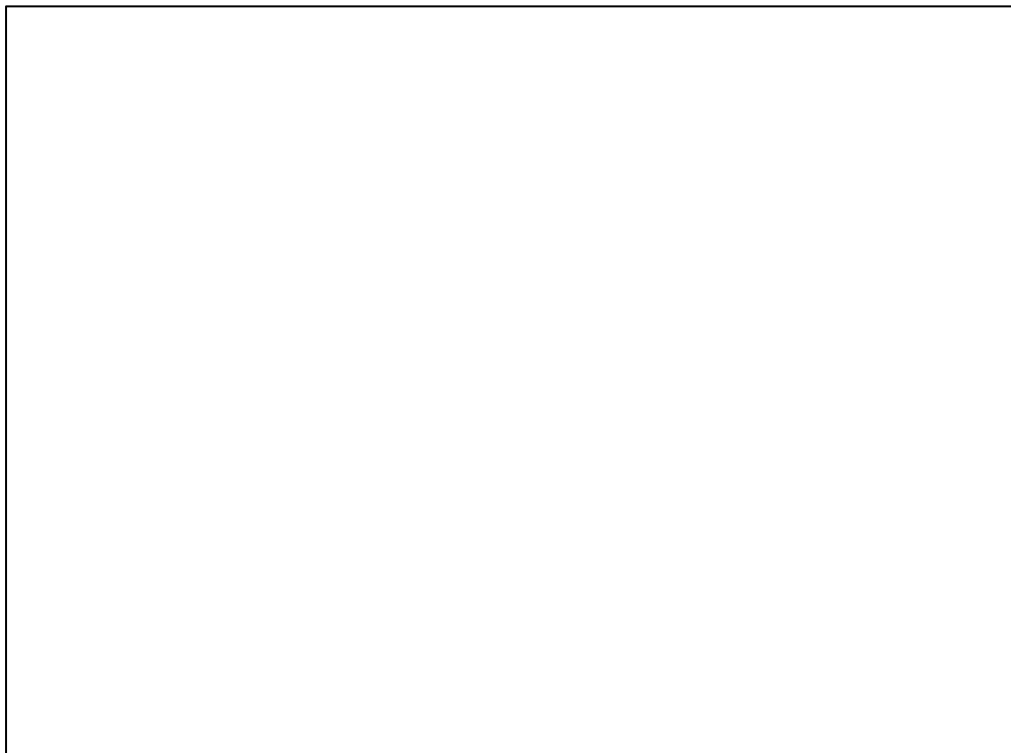


Figure 3. Strategies: percolation and hybridisation

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