Chapter 15
Urban Productive Landscapes: Designing Nature for Re-acting Neo-liberal City

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Abstract In the world of urbanism, architecture and landscape, new paradigms are currently changing the way people think about or interact with economic crisis, quality of life and self-made practices. In a scenario where the scale and pace of market-driven urbanization and ephemeral landscapes of pop-up settlements are challenging the notion of permanence as a basic planning principle, the regeneration of the city in the twenty-first century aims to the definition of multi-level approaches associated with emergent socio-spatial challenges. Many of the most promising ideas in this field are that of the reformulation, reclamation and recycle of variable patterns of open spaces as real generators of urban life. This paper presents a theoretical framework, understanding how urban regeneration processes, through the '*bottom-up*' redevelopment of residual spaces, can represent an attempt to reduce degradation of peri-urban fragile environments and to find environmentally compatible ways of increasing the definition of urban productive landscapes.

Keywords Productive landscapes · Ecological footprint · Urban sprawl

15.1 Neoliberal Contradictions in Urban Development

With the term neoliberalism we usually refer to *«a complex and contested set of processes comprised of diverse programmes, practices and discourses»* (Perreault and Martin 2005). This is the backdrop against which the contradictory process of real-estate spatial reconfiguration of contemporary urban condition, the so-called *actually existing neoliberalism* (Shenjing and Fulong 2009), is clashing with the traditional definition of the free-trade economic theories opening to further studies

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and more in-depth research. Considering the prevalent context of a market-driven globalization, these trends can be interpreted according to the design disciplines as an emerging restructuring relationship with extensive liberalization policies between private economic actors, capital and the institutions, in order to promote a *growth-first* approach for strategical planning and urban development (Brenner and Theodore 2002).

Rather than a conscious urban policy and design principle, neoliberalization in growing metropolitan regions can be understood as a response to multiple challenges as well as the trigger for fast development of public–private sectors, place-making, new forms of local boosterism in face of polarization of urban markets, rising of food and fuel prices, growing dependence on raw material imports. Places for market challenges and economic growth, cities have become hubs of institutional relations and socio-spatial open laboratories of intensive urban design experiences, although they functions very differently from the historical centres we inherited and their connections with the territories have profoundly changed.

Moreover, the pervasive impact of logistic and automotive sector based on the ubiquitous use of fossil fuels and supported by an extensive metropolitan demand for new mobility infrastructures, which make the physical dimension less liveable, is fostering the urban development as the only territorial 'engine' to be considered in order not to lose the demand of global connectivity. Today, the geographical position of settlements is becoming less relevant as company offshoring and production relocation are overturning the potentials of national and local economies. Contemporary urban dwellers *«do not really live in a civilisation, but in a mobilisation of natural resources, people, services and products»* (Girardet 2004). In the century of the city, modern agglomerations will require more and more significant quantities of green open areas for their environmental balance, clashing with their demands of big amounts of finite resources, commodities and food produced and distributed from the surrounding territory, or most of time to be shipped from other countries. Although it is strange to see, after two centuries of robust industrialization, urbanism, building construction activities and social institutions related to it have led agriculture and rural areas to an increasingly marginal role (Fig. 15.1).

The metropolitan region of London, just to mention one significant case study, covers an area of about 158.000 ha. With 13% of UK's population, London city depends upon more than 42% of Britain's whole agricultural territory for its fresh food supply. However, the global dependence of Londoners' foodscapes has to be extended overseas, reaching the wheat plains of North America, the Amazonian soya bean crops, the Mediterranean orchards and the tea cultivation of Far East and Central Africa.

Nevertheless, the side effects imposed by retailing and big distribution channels have never been a big issue for most part of Western society. The food topics are internationally debated on the cultural, social and health qualities in favour of the contemporary urban society, while the environmental impacts related to the processing, transportation and consumption cycle are only recently tackled.

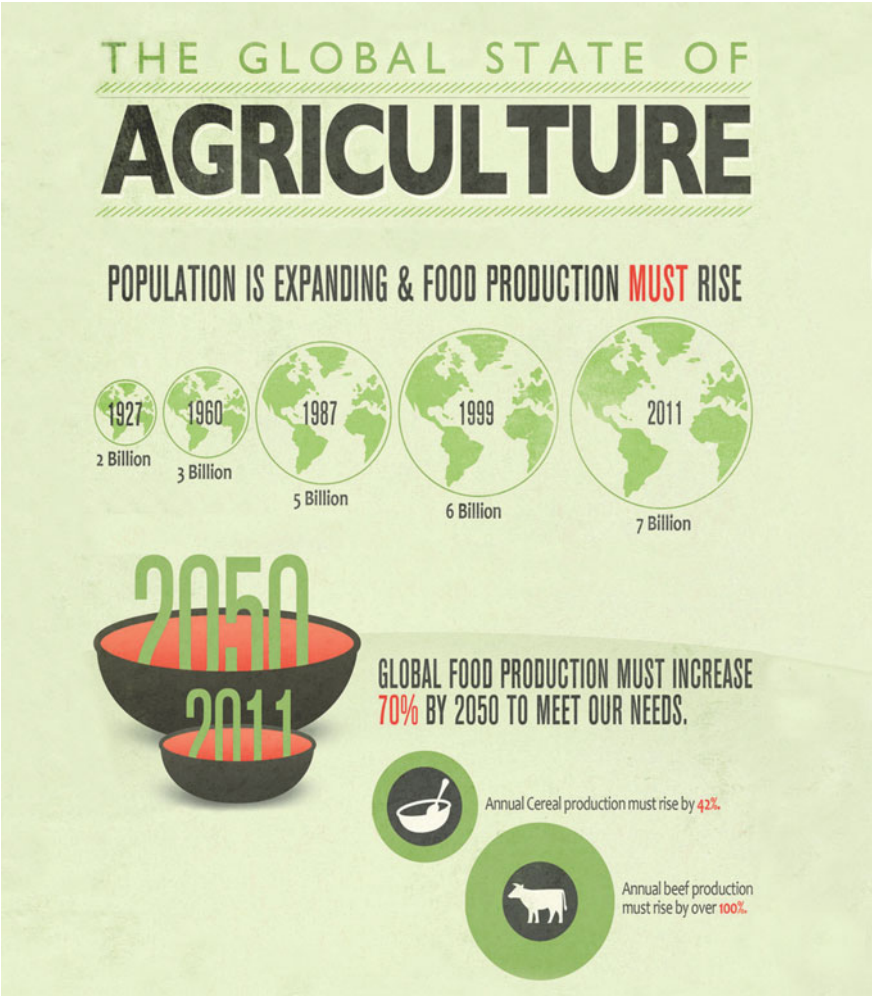


Fig. 15.1 State of world agriculture, food productions and scenarios of future development. *Source* UN DESA

So, while the development of agriculture and urbanization are drawn apart from people's perception—two recent surveys led by British national newspapers have shown that only 22% of UK citizens were aware that most of the bacon sold came from foreign farms and only 36% of children knew the names of the vegetables served in schools—never before have these two disciplines have been so related. The reasons are as simple, as they are significant. Firstly, both agriculture and urban development could not do without the use of the same resources that are, in addition, increasingly rare: earth, water and energy. Secondly, both disciplines are forced to fulfil urgent global needs: How to serve, provide home/work and feed a

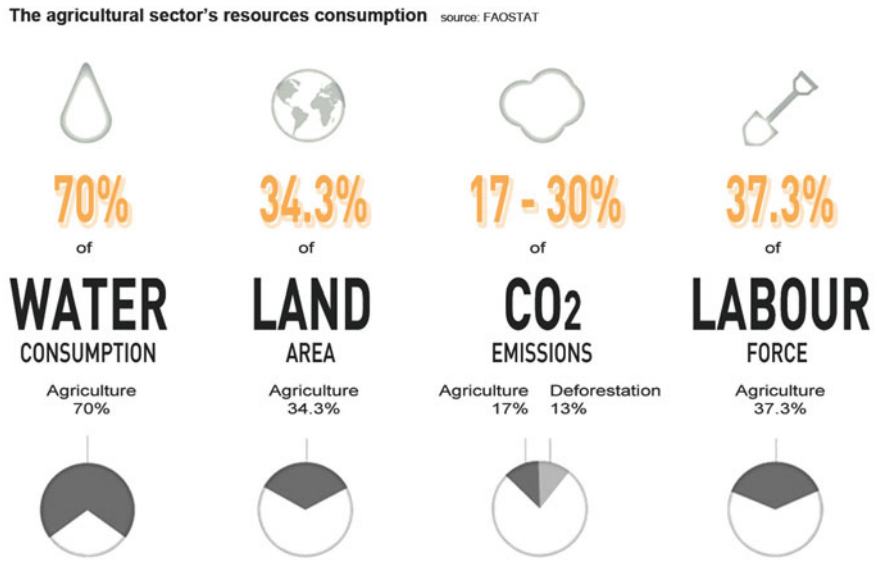


Fig. 15.2 Agriculture and urban development use the same resources until when they reach a stalemate

world population that will be estimated at 9 billion by 2050, of which more than half now is living in urbanized contexts?

Moreover, people awareness of environmental, social and economical crisis is growing, produced by unsustainable practices that have characterized the continuous development of the society until the last century (Fig. 15.2).

Nevertheless, while the urban sprawl continues to expand silently, as one of the effects of logic of purely incremental growth, new affordable lands, often in the forest regions of South America and South Asia, are being cleared and converted into agro-industries sites. Is here that the production of wood, fruit, cotton, soya beans or animal feed, challenges the primacy of the sector held by the USA. This fact enshrined the record of Brazil as one of the emerging worldwide giants of agriculture, providing China with more than one-third of agricultural imports.

Nowadays, we are facing with a complex territorial scenario[1]: many countries have access to limited areas to expand their agriculture, considering the high density of urbanization; others, which should have provided much larger areas, cannot do it

[1]Only 11% of the land is suitable for agricultural production without improvements made by man or by external devices, and its intensive use in the long period impoverishes greatly the quality of the soil. All over the world, 75% of the soil put in production is compromised by erosion with a peak of 62% in Europe. Every year we lost from 5 to 7 million hectares of arable lands. The greatest risk is posed by water erosion and the poor drainage (affecting 55% of cases), followed by the low absorption of nutrients and by the high level of acidity/salinity (28%). Source: FAOSTAT (2012) http://faostat.fao.org/.

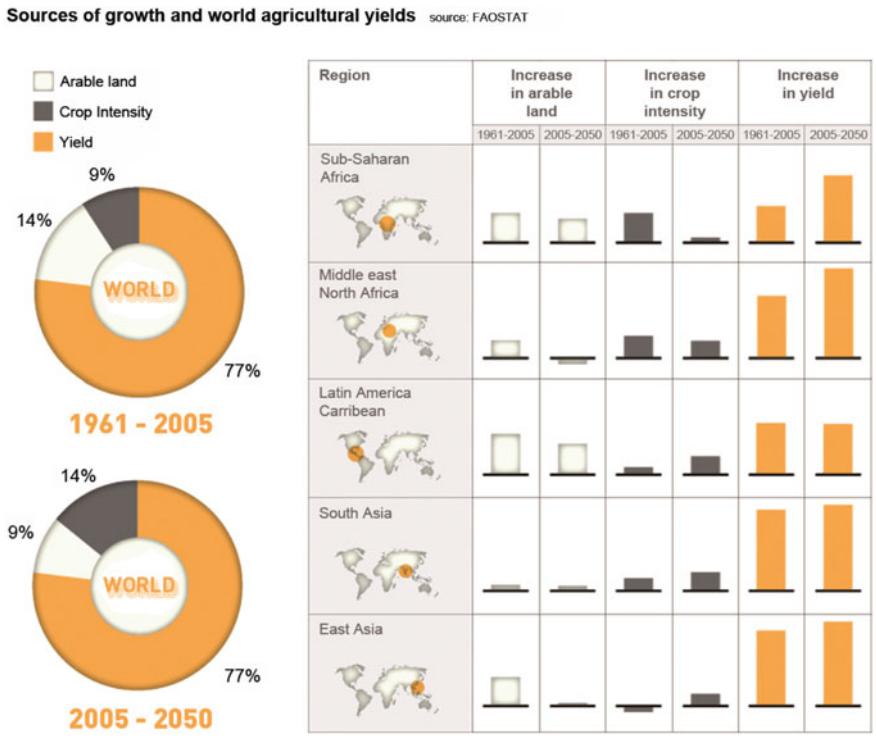


Fig. 15.3 The reduction of biodiversity and arable land is due to the increased productivity of agriculture

for adverse weather conditions and/or geographic disadvantages. On the contrary, Latin America (Argentina, Brazil, Uruguay and Chile) has the greatest potential for expansion of croplands for the favourable soil conditions and low percentage of population density. The questions posed by the urbanization of society and its effect on climate change are influencing more and more profoundly the world state of agriculture, causing alteration of prices, reducing the individual access of *food security*[2] and considering the food production as mere commodities (Fig. 15.3).

Despite their in-built density, metropolis can guarantee multiple potential sites for enhancing farming practices and new open spaces, whether properly interpreted in continuity with network-oriented regional parks, can become *Continuous Productive Urban Landscapes*, showing how agricultural lands can still be part of urban iconic body (Viljoen et al. 2005).

[2]According to FAO definition, *food security* is defined as *«… the achievement of a condition where everyone has the opportunity to access to enough food to satisfy own nutritional needs and food preferences to lead an active and healthy life».* This definition also includes a large extent to *Safety*, even if the latter receives much less attention in the international discussion.

Over the past 10 years, for example, the cities of Hong Kong, Singapore and Taiwan have produced within their administrative boundaries more than 65% of poultry, 16% of pigs and 45% of vegetables consumed by their own citizens. Recent reports show that in the USA, more than one-third of valuable agricultural production is developed in the so-called *Metropolitan Statistical Area*. Dar-es-Salaam, Casablanca and Cairo among the fastest growing African megacities are fully self-reliant in livestock and vegetable production, counting on the 68% of target groups involved in horticulture, compared with 17% in 1966 (Smit et al. 2001).

These data prove the overall incapacity of traditional planning strategy, to include agricultural topics with the urban policies. Experts of design disciplines were less engaged in urban agriculture practices as they were conceived as marginal and disorganized activities, sometimes conflicting with urban amenities development programme. For more than ten years, self-organized movements of citizens and associations reclaim their rights to green within urban areas, as an alternative factor for better living quality, self-sufficiency and survival strategy against the big distribution chains. If this state seems to be internationally known for developing countries with poor nutritional conditions, it is remarkable how this global trend is involving also neoliberal megacities, especially where the unemployment rate and social conflict are growing. Spending time in growing fresh food besides to enhance a sense of respect of community spaces (*cure by use*) is again conceived as a leisure pursuit and an escape to alienating daily urban living.

So, whether food topics are addressed by international authors, especially focused on the relationship between organic production, local identities and cultural values associated with agriculture, whereas not so much has been written about the profound implications on the structure of cities.

During wars, hard times or economic recessions, supporting basic food productions in cities has always played an essential role for the population. At the end of nineteenth century, *jardins ouvriers* (workers gardens) spread all over the country improving the diet of poorest industrial working classes. *Schrebergarten* (family gardens) were initiated in German-speaking countries between the WWI and WWII, as a public initiative for leasing municipal land in order to let children of poor classes playing in a safe environment while educating them to grown fresh food. In the same period also in UK and USA, the *Victory gardens* and *Dig for Victory* social campaign contributed with urban food production to contrast the famine of war.

Recent decades we are facing other challenges and we have the emergence of a dual equation that is based, on the one hand, on the competitive positions of megacities in a neoliberal scenario and, on the other, the demand for new cultural and environmental sensitivity towards urban recycle and re-naturalization process (Gausa 2012).

Chronically high levels of unemployment and social inequality dare a rising alarm in emerging metropolitan agglomeration, imposing the weaker parts of urban society to re-invent a culture of public spaces, associating new productive values, environmental awareness and social engagement. Several groups of activists across Europe, such as *Land is Ours* or *Guerrilla Gardening*, offered through their

fieldworks forms of temporary employment and the re-naturalization of urban squatted spaces often involving citizens, as in the case of *jardin partagé*: gardens with horticultural plantings of ornamental type that recall for formal structure the productive vegetable gardens.

The common awareness on wider social inclusive and greener urban condition has been supported also by prominent political figures such as Michelle Obama's campaign (2009) of new allotment and kitchens gardens, in order to teach the younger generation the values of a healthier diet and the safeguard of local identities/products. In this sense, looking at the history and thinking about the future of our cities, it is worthy to speculate on urban agriculture as a way to re-think more articulated food networks in order to express contemporarily strategic and structural elements of more sustainable urban environments (Fig. 15.4).

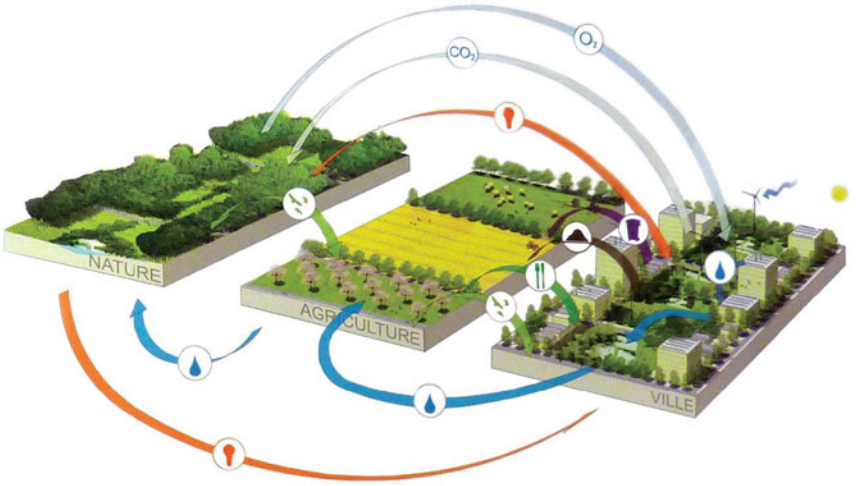
15.2 Farming Beyond the Edge

The results of a recent American analysis on city growth, directed by Karen Seto with a group of researchers from Yale, Stanford and Arizona State University, confirm the actual trend in urban development for the next few years. The study, based on the satellite data available for 48 major metropolitan regions, shows how by 2030 the cities will have grown by about 1.5 million square metres, almost the size of Mongolia, to answer to the needs of 1.47 billion new inhabitants who will be living in urban areas. Cities will also expand in areas that are sensitive and vulnerable, such as forests, biotopes and savannahs. Most of all they will grow more rapidly along the coasts, with huge environmental risks. According to the study, from 1970 to 2000 the ecological footprint of the world's cities grew by 58,000 m^2 (Seto et al. 2011).

The notion of ecological footprint[3] can be introduced for illustrating how much rural territories are affected by urban sprawl and which part of the natural capital is consumed during these transformation processes. Ecological footprint analysis calculates the absorbing capacity of a territory in order to evaluate ecosystem health in comparison with every human activities, such as housing, energy and food production, material consumption and waste disposal (Wackernagel and Rees 1998). The total amount of lands, necessary to satisfy the average resource use for a defined population, represents the ecological footprint of a specific macro-region. This does not have to coincide, and often does not, with the statistical demographic data of a territory. In this way, ecological footprint studies disclose the raising

[3]Ecological footprint has emerged as one of the world's leading measure of human demand on nature. Firstly introduced by Wackernagel and Rees (1998), today this quantitative and qualitative assessment measurement is used to define the ecological deficit of a region per number of inhabitants, compared with many other statistical data define an important benchmark for our planet's health. Source: Global Footprint Network (2016) http://www.footprintnetwork.org/.

Environmental impact and differences between neoliberal or resilient community source: COYLE S. (2011)



	Neoliberal high carbon urban model	Resilient low carbon urban-rural model
Urbanisation or delopment pattern	Dispersed uncontained growth in the countryside; Fuel and raw materials dependency; Lacking of clearly ecological pattern in the city.	Compact and bounded for small community; Green corridors and ecological oriented for big community.
Land-use pattern	Use-based zoning both in urban and rural territory; No control over the forms and urbanization trends; High density housing, commercial sprawl, infrastructure pervasively growth, waste and vacancy increase.	Flexile zoning reuse, enhancing urban mixitè
Public space forms	Fragments or enclosures agricultural plots; Public spaces scaled on the automotive; Parks and green areas scaled to adjoining infrastructures.	Human centered design; Multifunctional services in periurban green spaces; Ecosystem services.
Transports and mobility	Use of motor vehicles	Public transport with no or low carbon fuels or vehicles demand-management technologies; Pedestrian cycling network.
Energy production	Conventional energy fossil fuel-generated	Renewable and limited fossil fuel-generated electric power, improve efficiency and demand's reduction.
Water resources	Conventional water supply system delivered via engineered hydrologic or hydraulic components; Ron off drainage based on watershed.	Reduce water demand, increasing performance of natural watershed cycles or at urban scale, storm water recycle for compatible uses.
Food and agriculture	Conventional food supply consists largely of monocultures related to rice, grain, mais production (on fertilizer based technologies).	Sustainable agriculture and food short chains; Improvement of local regional supply food biodiversity; Education on quality food oriented diet.
Solid waste	A minimal waste recycling or reduction; Land filling and other high impact waste treatment.	Sustainable solid waste system, recycling, zero waste approach (recycling in use and packaging).
Economic	Economic system focuses on prosperity by increasing production and consumption of good and services.	Increase the community prosperity through production, distribution of goods and services due to necessity or reducing waste and energy losses.

Fig. 15.4 Comparison between the neoliberal urban model and the resilient low-carbon urban–rural system

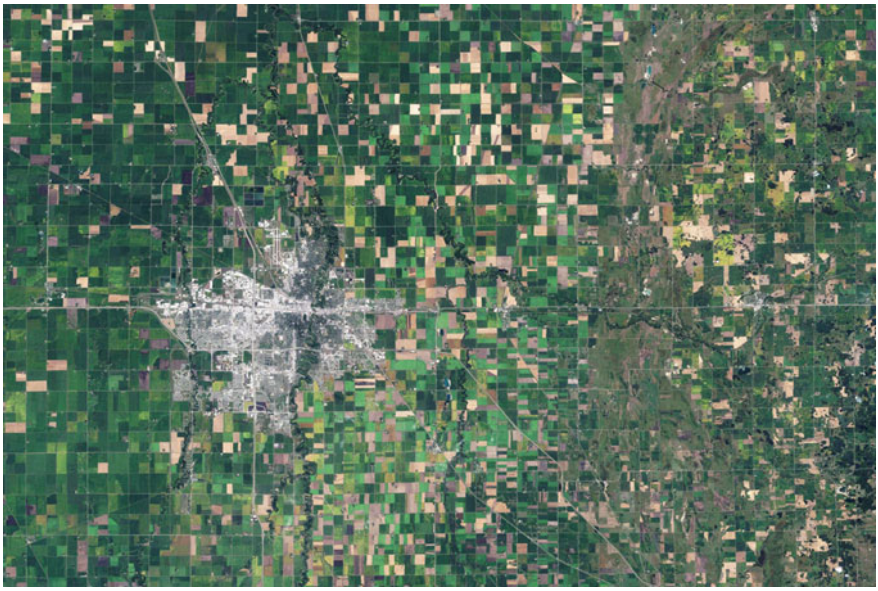


Fig. 15.5 The territorial impact of uncontrolled urban sprawl in the farming plains of Minnesota, USA

stresses on ecosystems produced by human activities, meanwhile tackling issues of social equity and future accounting of natural balance (Fig. 15.5).

By establishing the ecological footprint divided per categories of industrial productions, infrastructures, energy consumptions, waste disposal, urban services and fabrics, it is possible to understand better the effects of overconsumption of territorial resources and to intervene with appropriate mitigation strategies. According to Agenda 21, between the most important principles for the city of the future we can mention the reduction of human activities besides the enhancement of housing comforts, the accessibility to green spaces and the food self-sufficiency.

The global debate on the importance of agricultural realities for the city takes shape in 1960 by UN Conference on Trade and Development, after the beginning of the decolonization processes by the Western countries, which call into question the development models, their phenomenology and its purpose. In 1976, when for the first time Western society was compared with the effects of an energy and environmental crisis, John Seymour published in London '*The Complete Book of Self-Sufficiency*'. The theme of *self-sufficiency* became an integral part of a movement that will involve increasingly large portions of the population. But it is from 1983, with the evolution of the studies of Odum and Commoner, the diffusion of the

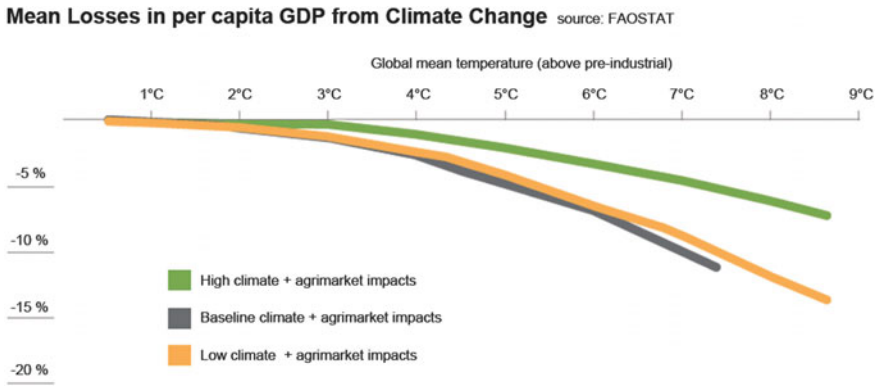


Fig. 15.6 The urbanization of society and the climate change are affecting worldwide the agricultural sector

ecological economics by Herman Daly, the Brundtland Report,[4] the World Conference on Environment and Development promoted by the UN in Rio de Janeiro,[5] that emerged in parallel to the discourse on the city, a common awareness on the ecological role of agriculture in urban areas.

In 1996, the United Nations Development Program (UNDP) surveyed how the work of 800 million people is connected to urban agriculture, 200 million of whom were directly employed in food production with an economic strength that was particularly evident in Asian cities. The multiplication of agricultural initiatives in urban contexts today still yields between 16 and 21% of the global food supply.

After the *Millennium Development Goals*, the consistency of this phenomenon has been consolidated in a renovated framework of urban and social policy, considering also transversal issues such as the food's quality and traceability, the fragmentation of suburban and rural areas, the ageing population, the employment crisis as well as the climate change urgencies. The practices of self-production and commercialization of short distribution chains are emerging as the essential components of a rebalanced agro-food system (Fig. 15.6).

An emphasis on urban sustainability has encouraged the use of the formula *Urban and Peri-urban Farming* (UPF), for its ability to summarize a number of socio-spatial and technical features that detach these local experiences from the backdrop scenario of large-scale mechanized agribusiness. Citizens often ignore

[4]*Our Common Future*, technically known as Brundtland Report, is a document issued in 1987 by the World Commission on Environment and Development (WCED) where the concept of '*sustainable development*' has been introduced as the capacity to satisfy the needs of present population without compromising the future generations.

[5]The *Earth Summit* held in Rio de Janeiro in 1992 was the first global meeting on issues relating to the environment. It was attended by 172 governments to build a synthesis framework on the strategic issues of the ecology that led to the drafting of the *Kyoto Protocol*, of local development programmes (*Agenda 21*) and of the *Conventions on climate change and biological diversity*.

Fig. 15.7 Self-sufficient food production campaigns since WWII up today focused on UPF practices

that agricultural or allotment gardens can find space between the peripheral fringes or within urban blocks, even on terraces or rooftop gardening, in courtyards or community farms, as well as in residual spaces of the city, leading towards a spontaneous re-appropriation and re-design of existing green infrastructures. Therefore, the principle of multi-functionality can become a pervasive tactic to envisage new development potentials at every scale of urban design project, from *edible landscapes* to *eco-districts* (Sommariva 2014).

Many examples are visible in various *rur-urbanization* projects promoted both in UK and in France, where there are associations of urban gardeners active since the end of the nineteenth century. The *National Society of Allotment & Leisure Gardeners* (1930) or *Ligue Française du Coin de Terre et des Jardins Familiaux* (1896), for instance, gathered about 2000 regional organizations of small farmers and local distributors (Fig. 15.7).

On public lands in Berlin, there are currently 80,000 gardeners and 16,000 other people in waiting list, in Moscow 65% of households are involved in forms of agricultural self-production or through cooperative buying groups. In Vancouver, one of the world capital of urban agriculture, 40% of the population practice forms of cultivation within the city, both for production purposes and leisure ones. These forms of economy are made at local scale and regional scale, influencing also the education, the social participation and the highest institutional levels.

After the *World Summit on Food Security* (2009) sponsored by FAO in Rome, and international conferences such as *Cultivating the Capital* (2010) in London or

specific research as '*Re-naturing Cities*' in Berlin (2008), big metropolis like London, Paris, Berlin, Munich and New York adopted in their political agendas documents which connect food policies, smart planning and urban form (Schröder and Weigert 2010).

In this sense, the growing awareness of peri-urban landscapes' fragility, the expansion of interest on urban *leftovers* and the environmental sensitivity, as well as the demands for healthier and fresh food, make more and more evident that the places for agricultural production coincide not exclusively with the rural realm.

The intra- and peri-urban contexts, for a long time seen only in terms of land cover consumption, today are complex realities that interpret the changes taking place in the territories, defining measures of co-planning, providing alternative services (such as agro-tourism, leisure, education, consumer groups, organic productions) and promoting networks of relationships between farming communities and citizens. In other words, urban agriculture in the common imaginary is valued for its capacity to produce symbolic goods, enhancing new economic and social demands.

15.3 Sprawl Is a Way of Life

The theme of peripheral areas' governance is an important node of the matter, if we think that most of them define many historical and rural contexts covering over a half of the world's land surface. Characterized by the modest presence of primary sector services, these areas are organized by mainly organic crops, the use of traditional techniques, the eco-friendly parameters, but also the fragility of the economies and difficult accessibility towards the big distribution chains, which limit their development.

If after WWII the countryside has been the main focus of sub-urbanization phenomena, connected with the fluctuating logic imposed by the housing market, today we look at the multiple interpretations of metropolitan reality (*exopolis, global city, in(de)finite city, soft city, multiple city…*) trying to describe the complex territorial mosaic we have to manage. Though the geographic knowledge is commonly referred to traditional toponyms and worldwide cultural heritage as happens in Rome, Cairo, Tokyo, New York, Berlin, New Delhi, the larger part of human population live in a peripheral or peri-urban condition, in a place totally different from the historical or consolidated city centres. The unprecedented diffusion of urban sprawl of the last twenty years has led metropolitan agglomerations far beyond their limits, so that we cannot talk anymore about a precise form of urban condition, but of an '*urbanized territory*' (Ingersoll 2012).

Turri (2000) tells the story about the pervasive suburbanization effect in Northern Italy, particularly evident in Turin, Milan, Brescia, Bologna, Vicenza and Verona, coining the term *Megalopoli Padana* (Po-Region Megalopolis). All around Europe is possible to identify similar phenomena, such as the *Dutch Randstad* (Ring City) of 7 million inhabitants, the Rhine-Ruhr region with more than 11

million people living in a sort of inter-urban condition or again the Vienna-Bratislava metropolitan area with 4.6 million.

Speaking about famous experiences, the Nile City, Los Angeles metro region and Tokyo-Yokohama conurbation are emerging as global habitat comparable per number of inhabitants and complex governance system to sub-nations. Everywhere the size and pace of city development trends are not readable anymore through the lens of traditional paradigms, becoming what we called *exurbia, urban nebulae, urbanized countryside, étalement urbain, aglomerationś, città diffusa*. Different concepts are used to describe a tendency which is experiencing multiple variations since 70's, but with the lack of exploring the reasons why these trends occurred not only on the city's edge, but also between cities, towns and historical districts. These categories refer to a relationship of dependency between contexts and landscapes, but it does not seem to trace the complexity of urban growth still in evolution. The neoliberal city, in this way, is *«less topical and territorial and always more teletopical and extraterritorial»* (Virilio 1996).

The consequences on the transformation of the rural agricultural fringe zones concern the combination of important cognitive processes. Particularly in the territories characterized by sprawl, are going to configure different undefined spaces developed on the pre-existing agro-landscape structures, which are still the only weak frame of reference (Lanzani 2003). The role of residual agricultural practices, both in the peri-urban territories and in the agro-food systems integrated into the city, is still significant in order to define an idea of hybrid landscape, within the residents identify themselves, as stated by Andrea Branzi's Agronica (Fig. 15.8).

However, these spaces casually defined as residual or marginal borders are not recognized as integral part of cities and we often make the mistake of underestimating their potentials, both for the dynamics of internal changes and for the effects on environmental mitigation induced in the neighbouring contexts.

Gilles Clément in his *Third landscape Manifesto* talks about the ecological potential expressed by *friches* (brownfields), *délaissé* (residual territories) and by the underused plots, abandoned by human activities or never exploited, constituting nevertheless a key resource for the conservation of biological diversity. It implies a diverse idea of enclosed landscapes like the roman *hortus conclusus*, or the designed nature of the art of gardening, in favour of those spaces described for their wild aspects as in the Italian poems written by Leopardi: *the Broom or the flower of the desert*. The conceptual revolution brought by the text of Clément is realized if *«you do not look at the landscape as an object of human activities, discovering a quantity of informal spaces with no purpose, of which it is difficult to give a name»* (Clèment 2003).

If viewed in a wider perspective, the thesis proposed by Clément is to consider the environmental potential offered by these spaces. In fact, urbanizations must avoid welding processes around the city borders in order to ensure the continuity for existing or residual biodiversity. On the contrary, an excessive infrastructural development and closures deny the exchange of ecological services and the *biological inventions* (Fig. 15.9).

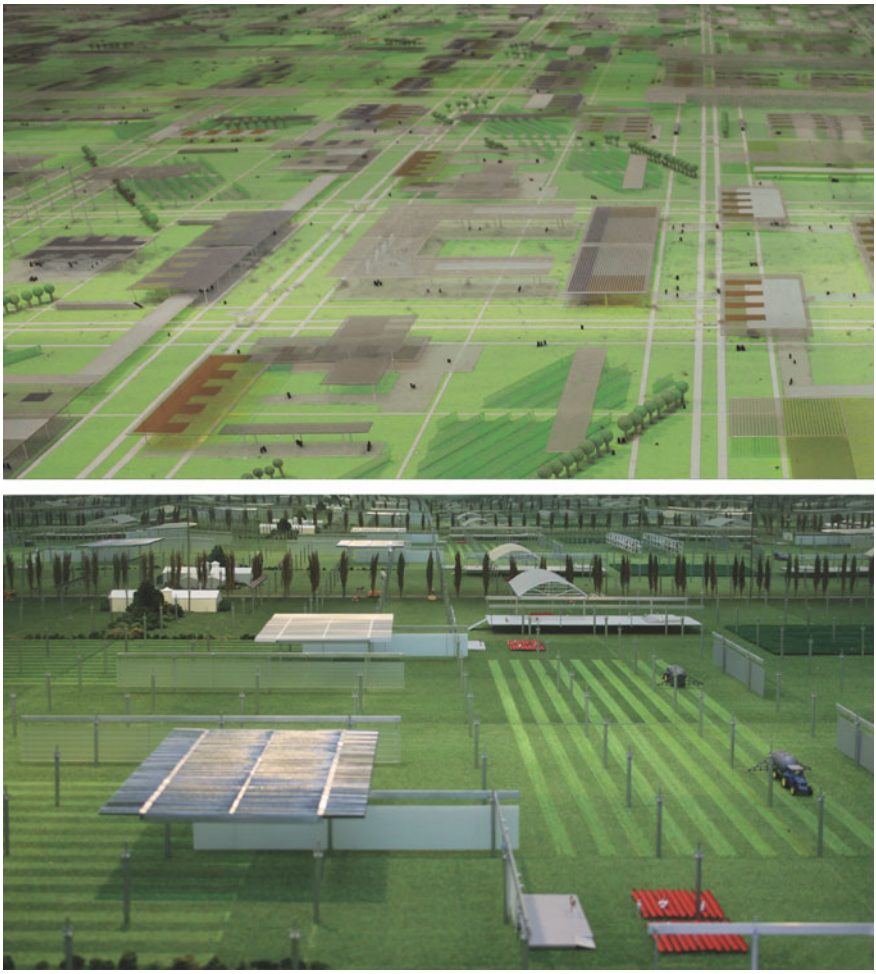


Fig. 15.8 The weak urbanization model of Agronica congregate multiple interpretations of metropolitan reality

The territorial phenomenology here described ensures that the concept of *urban limit* must be updated. No more as a visible and physical border, which make distinctions between what is inside and what is outside, but a transition gradient perceived with an original physiognomy capable to absorb specific uses for the realities defined by sprawl. These can be strategic functions for urban metabolism (delocalized services, buffer zones, mitigation areas, wetlands, water basins, waste treatment, ecological corridors, etc.) focusing not only on soil productivity that could allow territorial agencies to re-think urban planning policies in an innovative way for the management of both the urban open spaces and the marginal peri-urban areas.

Fig. 15.9 Gilles Clément + CoLoCo Studio, Garden of the third landscape in St. Nazaire submarine base, 2012

It is in this perspective, especially in metropolitan areas, that Lewis Mumford's lesson must be interpreted: today does not make sense to define a clear distinction between urban and rural strategical policies especially when the descriptive categories speak about fringe areas, or half-open, enclosed or semi-closed spaces, no more defined with independent form and functions, but resulting by what is around

them. With the current development trends, this process will continue to increase the contradictions between a city more and more similar to a big suburb and a rural urbanized territory in which the spaces will be arbitrarily mixed and values related to the different contexts, will be confused, or worse, forgotten (Donadieu 1998).

Even though it is still unclear whether the socio-economic crisis contributes to the rapid change of land use/land cover patterns, neglecting the topological relationship between urban and rural contexts leads to unsustainable spatial fragmentation, the erosion of ecosystem services,[6] the introduction of new ecological stress as well as the reduction of territorial adaptability to natural hazards (Carsjens and van der Knaap 2002).

Understanding the risks and potentials of small-scale urban pattern configurations compared with the heterogeneity of farming practices helps to monitor local environmental balances and to deepen urban landscape traditional characterization methods, generally subdivided into three categories:

1. ***Biophysical landscape classification***: verifying the structural consistency of landscape elements, their forms, the replicability, the redundancy and the functional models referred to geo-botanical, geo-morphological, climatic regions, water availability and land uses.
2. ***Anthropic landscape classification***: addressing the development processes of the landscape, the values to be conserved and the possible opportunities/threats produced by human activities on it, with particular attention to livestock farming, agriculture, forestry, fishery, mining and urban growth.
3. ***Visual landscape classification***: studying the perceptive values related to landscape fruition by different target groups, based on indicators such as accessibility, degree of security, interaction with other public functions, attractiveness and aesthetic aspects.

Although these approaches in recent years have become a key framework for regional and metropolitan planning studies, serving as basis for landscape analysis and evaluations, the role of characterization is generally narrowed to natural realm, ignoring the increasingly diffusion of hybrid spaces produced by sprawl. Situated halfway between the urban and rural culture, the landscape project for urban agriculture represents a strategy that derives its operating tools from both realities but it is the bearer of a new synthesis.

On the one hand tries to contain the gradual city dispersion of *land-stocks* (enounced with a positive meaning as new lands of potential transformations) and on the other hand, look to rural areas as new potential public spaces, enhancing the local cultural heritage and identities.

[6]The *Millennium Ecosystem Assessment* (2005) establishes the concept of ecosystem services as supporting natural benefits for living beings. The report entails four different categories: life support (all earth's primary production, such as soil, water, air-wind, vegetation), procurement (nutrients, food and finite resources), regulation (natural cycle for climate, water and soil regeneration) and health and well-being (education, recreational, aesthetic and spiritual values).

Fig. 15.10 Analysis of sites for urban agriculture in the Queens District, New York. *Source* Columbia University

The interest on the regeneration of these fragmented landscapes is a praxis already experimented in many European and international programmes as proved by the growing interest on urban agriculture, allotment gardens associations and alternative zero km initiatives (Fig. 15.10).

In particular, several European regional development projects such as *Metropole nature, Rurbance* (*Rural–Urban Governance*), *PureFood* and *RurbAl* (*Rurban Alimentation*) underline the topicality of these themes and their mutual relationship

with regional and local dynamics. In other terms, the regenerative capacity of future cities by means of participatory planning approach will pass through the reinvention of these undefined spaces, envisaging forms of interaction between land reclamation, new collective demands and green community governance models.

The re-naturalization of the twenty-first-century city aims to the definition of multi-level scenario of interventions associated with today's socio-spatial challenges in face of potential conflicts, in order to overcome the limit of the crisp classification of peri-urban landscapes and the necessity to define adaptive design approaches for enhancing ecological resilience[7] and self-sufficiency (Drescher 2000).

15.4 Recycle as a New Urban Vision

In the world of urbanism, architecture and landscape, new paradigms are currently changing the way people think about or interact with socio-economic trends, technology production, quality of life, self-made practices and survival strategies (Ricci 2012).

Today as never before Latouche's theory on *happy de-growth* represents a realistic hypothesis for urban communities, struggling to survive in this neoliberal and environmental stress juncture. In the meantime, recycle strategies applied to architecture and urban design are emerging as the better low-cost approaches in order to congregate social innovation, historical memories, re-functionalization and public–private involvement in the post-metropolitan city. Researches[8] on complex systems confirm that the structural weakness of emerging megacities (especially in terms of food, energy and water supply) is closely related to the limits of development of society (White and Przybylski 2010). Moreover, if the essential metabolism of urban agglomerations is structured on the transformation of raw materials in the process of building new facilities and settlements, based on massive injections of fossil fuels as the only main energy source, is evident that cannot be anymore the only vehicle of progress for our way of living and creating cities.

[7]In the discipline of ecology, the term resilience describes the capacity of a system to absorb shock or external influencing forces, by adapting its configuration and enabling different responses for restoring the equilibrium. In ecology, different properties can be used to measure the resilience attitude of an ecosystem, such as the degree of biodiversity, the multiplication of uses (redundancy), the self-regenerating capacity of a terrain, the panarchy (mutual influence between level of hierarchies in a context).

[8]The application of ecological resilience to urban and territorial studies is not an easy task and represents an area of academic interesting of growing importance that can be subdivided in the following principle lines: climate urgencies, transition towards sustainable energy resources, ecological remediation and mitigation, disaster recovery, socio-ecological systems (Pickett et al. 2004; Colding 2007; Scotti-Petrillo and Prosperi 2011; Wilkinson 2011).

In other terms, the scale and pace of contemporary urbanization defy the concept of permanence as a basic condition for creating cities. Ephemeral landscapes of pop-up settlements are constantly increasing in size and confronting the metropolitan dimension as a long-lasting permanent entity. Considering the evolution of our society, when cities are analysed over large temporal spans, metamorphism and dynamics emerge as basic constructing principles for absorbing transformations without losing a distinctive urban structure.

The concept of recycle applied to urban landscapes should mean, therefore, a research for new equilibrium: the overlap of functions in space and time and the capability of different regenerative level as defined by the citizens, in a condition of mutual exchange, learning and experimenting. It introduces an operative idea of sustainability, such as that described by resilience: not as stability, but as persistence borne out of adaptive renewal cycles. According to smart and ecological planning principles proposed in many urban agendas, the paradigm of sustainability should be reached through the facilitation of active flows (material or immaterial), the porosity as a value of the complex morphology (natural or man-made), thinking of a gradient from more stable and fix models towards informal and open-configured ones (Mostafavi and Doherty 2010).

The innovative aspect of this contemporary condition lies in understanding that the practice of recycling can be strategic for both architecture and landscapes, because it is necessarily place-based and time-adaptive. Each specific condition offers a wider range of possibility which cannot be tackled with standard solutions or pre-configured forms and functions, even if it answers to the same general objective: to restore value to the waste that urban transformations have generated over time, making them new *leading figures* (Ricci 2012). It is a negotiation art, which works on a language of mediation between the demands of technique, history and its interpretations by society. It would be unrealistic to affirm that recycle represents a solution to oppositions in terms of modern–postmodern, utopia–realism, collective–individual; contrarily, it represents an approach that is able to collect unlimited individual tendencies, able to absorb the past and the identity of context without imitating them or being overwhelmed by their value. Nevertheless, it is possible to speak about a new horizon for design discipline, focusing on the intelligent and creative dimension, pioneer activities and co-planning principles to combine informal uses with formal planning (Fig. 15.11).

The nineteenth century was characterized by the idea of the metropolis as the target for social progress and qualitative development, while today the diffusion of environmental and ecological sensitivity has garnered in urban discourses is the expression of a recent disciplinary realignment on the two positions proposed within the frame of landscape urbanism. The first, developed in the USA within the Harvard GSD, focuses its activities on recycling post-urban territories in the dimension of landscape. The second, inspired by European academies, adopts a more regionalist position for the preservation of *genius loci*, in which the landscape is re-configured as the cultural medium for the local communities against the flattening perception imposed by the globalization (Frampton 1983). The landscape has replaced architecture as the basic structure for urban design, becoming a lens by

Fig. 15.11 Superelevata Foot[Prints] took place in 2014 within the Genoa Port area by opening a secluded part of urban waterfront by implementing art performance, open-air installations and participatory planning activities. *Source* Università degli Studi di Genova

means of which is possible to read the territorial complexity (Corner 1999, Waldheim 2006).

Whether the contemporary design is based on the criticism of urban traditional paradigm for counteracting neoliberalism as a condition of new territorial efficiency, is not so easy to be defined. Nevertheless, it is intriguing to see how the various ongoing experiences on green cities are including in their urban policy agenda the necessity to reinforce the connection with the surrounding, interstitial and clustered productive landscapes and producers' community. Urban dwellers in the '*Age of the Metropolis*' will need open spaces to express their different sociocultural biodiversity, whether in a more aesthetic form such as the urban parks and gardens or with a more flexible structure such as the urban allotment gardens can provide (Fig. 15.12).

Different scholars and practitioners, such as Andre Viljoen, Kathrin Bohn, André Fleury, Joe Nasr and Pierre Donadieu just to name some of the best known, emphasize in their studies how urban agriculture can be interpreted as distinctive

Fig. 15.12 Views of Union Street Orchard, herbal and community gardens in Southwark, London Bridge

elements to enhance cultural landscape values for local communities, combining the production meaning (*self-sufficiency*) with place-making strategies (*self-identity*).

However, there is a theoretical void in terms of what follows contemporary design methods and cultural disposition of globalized development models, which affects the production and reproduction of urban and peri-urban spaces. Different research frameworks reacting to these assumptions assert that an alternative

narrative exists outside the trappings of market-driven process, proposing a post-neoliberalism approach with the interactions of local–global levels, such as the Critical Regionalism[9] or the Territorialist School (Magnaghi 2005).[10]

Many of the most promising ideas in this field are those related to the reactivation and reclamation of variable patterns (spectral, textural, topological, etc.) related to open space as generator of new urban–rural linkages. In this way, the project, instead of representing a precise interest, form and function, acquires a narrative value that depicts contexts for their democratic spatial qualities (decided by many, shared by many, made by many) augmenting the possible different uses and the sense of the place. This strategy for a new green re-naturalization of the city obviously occurs in order to take advantage of vacant and underused spaces, fringe between urbanizations, brownfield areas as well as the borders towards non-urban realm. Sometimes, they belong to natural or semi-natural spaces; in other situations, the logic behind is far beyond the standard categorization methods, talking about semi-open, enclosed or interstitial places (Groom 2005).

Numerous projects have addressed the issue of dross, as a result of Alan Berge's studies on landscapes of American sprawl, on the remains of mining operations, on former military or industrial areas, inspiring subsequent research such as *Re: American Dream* regarding new adaptive configurations in American suburbs. Undoubtedly worthy of note are the experiences related to the ten visionary proposals for Paris metropolitan region after Kyoto Protocol, exhibited in 2009 at the *Cité de l'Architecture*.

Many of the teams involved in the Grand Paris study demonstrated that the crucial issue of contemporary urban transformation was that of recycling and re-naturalization. To reduce, simplify and scale down are the key words of Yves Lion and Jean Nouvel's projects (Groupe Descartes). The first is based on the breakdown of urban areas in twenty sectors inhabited by 500 thousand people, where it is possible to mitigate human pressure through the identification of *reserve areas* that can be populated: the pavillonnaires (warehouses).

The second traces a Paris through a scheme of creative activities including temporary occupations, which reinterpret volumes, interior and exterior spaces, public and private places without meaning. The LIN team follows the slogan of the *city upon the city* speculating on the many opportunities of reconnecting isolated

[9]Critical regionalism is a design approach different from vernacularism, which attempts to face the loss of distinctive character of the International Style, providing renewed architectural principles but rooted into site-specific cultural context. The term was coined by A. Tzonis and L. Lefaivre and then theorized by K. Frampton, and illustrated in the publication *Towards a Critical Regionalism: Six Points for an Architecture of Resistance*.

[10]The term territorialism is defined an approach to urbanism and planning based on the school of A. Magnaghi with other Italian academicians, which is focused on the local qualitative and on self-sustainable development. This approach intends to combine a deeper background knowledge of local arts and crafts and cultural heritage, with reference to bio-regionalism of P. Geddes, and the idea of self-government and place-consciousness.

fragments by introducing micro-polarity parallel to the ecological reactivation of the Seine.

The city and architecture have always known recycling strategies, which over time have defined articulated positions. At the end of this review, there is a desire to trace a brief reflection on the projects involving the scale of the landscape, as an essential palimpsest of memories, values within which the extended urban condition we live in, interacts with a renewed demand for nature, production and ecology.

Diller Scofidio + Renfro and Field Operations's High Line,[11] or the recovery of the landfill, Vall d'En Joan proposed by Battles y Roig Arquitectes[12] or the conversion of motorway tunnels by Elisabetta Terragni for Trient Historical Museum,[13] show us how the immense production of waste of our urban age (third and fourth landscapes, waste-scapes, various interstices) must increasingly correspond to a scenario in which design tools, remediation techniques of naturalistic bioengineering are parallel to the concept of recycle (Fig. 15.13).

These examples are making evidence that the design and landscape disciplines are strongly interconnected and need to evolve in a common spatial language, in order to overcome the limit of traditional representation, studying complex aggregation of discrete static objects. A condition of ephemeral landscapes to be explored and designed; an architecture of temporary uses in a weak urbanization structure but with strong relations between users and communities in a new sense of public spaces. As in other times of urban development, the possibility today offered by the many forms of reuse is that spaces, architecture and operative landscapes can be generated, capable of counteracting, at least in part, the wear and tear that affects the places we inhabit. Wear that not only includes uses, perhaps more easily replaced by others, but above all the meanings that those same places may convey in neoliberal society of twenty-first century.

[11]The High Line (2006–2009) is a linear park designed by Diller Scofidio + Renfro and Field Operations, on a disused section of New York's West Side Line. An agri-tecture project which alternates landscape inspired rooms with gradients and colours of pioneer plant species. Source: Dimendberg E (2013) *Diller Scofidio + Renfro: Architecture after Images*, Monacelli Press: New York.

[12]The conversion of the Val d'en Joan landfill into a landscape for agriculture and energy production on the part of Battle y Roig is supported by three key themes: the topography, water and vegetation. Source: Abitare la Terra, n.37/2015 Geoarchitettura.

[13]The intervention of Studio Terragni proposes the reuse in the two decommissioned highway tunnels under the hill of Piedicastello in Trento, merging recycled components of contemporary restoration. Source: Terragni E. (2010) *Tunnel REvision: le gallerie di Piedicastello; The Trento Tunnels*, Fondazione Museo storico del Trentino, Cataloghi XII Biennale di Architettura di Venezia.

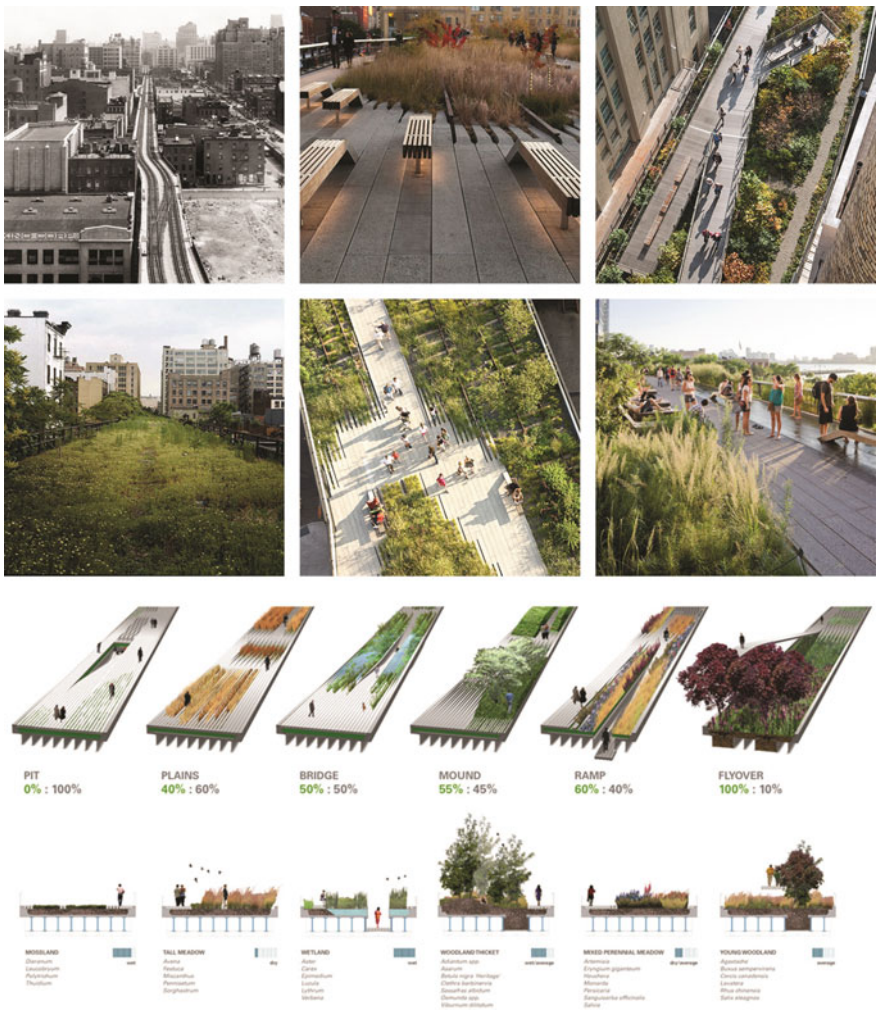


Fig. 15.13 Diller Scofidio + Renfro and Field Operations adopted an agri-tecture approach for the High Line, 2009

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