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Co-producing commons-based resilience: lessons from R-Urban

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The co-production of resilience in European urban neighbourhoods is explored based on the experiences from a case study. Within the current 'resilience imperative', co-production processes involving multiple stakeholders can be a key factor for increasing cities' resilience. Co-produced resilience processes are more successful when embedded in collaborative forms of governance such as those associated with urban commons and when fulfilling needed roles with a community. Through the application of the R-Urban approach in a neighbourhood of Colombes (near Paris), the co-production of a commons-based resilience strategy is described. This involved a group of designers as initiators and a number of citizen as stakeholders of a network of civic hubs. The specific strategies involving a participatory setting, collective governance aspects and circular economies are analysed in the light of co-production theories and practices.

Internal and external challenges are identified within the implementation process. The nature of conflicts and negotiations in this co-production approach are discussed, and the role of the architects/designers as agents within the process is investigated. Reflections from this example are provided on the limits and promises of this approach and the lessons learned from R-Urban for collaborative civic resilience.

Keywords: agency, bottom-up approaches, commons, community participation, co-production, design, participatory action research, resilience, social networks,

1. Introduction

Given the unknown and unpredictable effects of Climate Change (IPCC, 2015) and the multiple challenges of resource depletion, loss of welfare and economic crises, current ways of living are not resilient. Crises arising from climate change will become increasingly frequent and severe. Cities will need to find ways to adjust and thrive in these rapidly changing circumstances. as a 'resilience imperative' (Lewis and Conaty, 2014).

Resilience theory was first introduced in the 1960s-70s as an area of 'new ecology' (Holling, 1982) It was then further developed across disciplines, and subsequently entered the mainstream academic discourse via 'social-ecological resilience' with a focus on 'socio-ecological systems' (Folke, 2006). In the last few decades, definitions of resilience have proliferated in many different fields – ie physics, ecology, business studies, psychology, geography, social science urban and regional planning (see eg. Shaikh and Kauppi 2010; Holling 1973, Werner 1995; Godschlak 2003, Timmerman 1981, Godschlak 2003). This has led to a deeper understanding of the conditions required by complex socio-ecological systems to thrive with uncertainty and unpredictable change. .

Sustainability is traditionally associated with development and growth based on a dynamic equilibrium (Scoones, 1999; Zimmerer, 1994; Botkin, 1990). The resilience discourse, however has partially updated the discourse on sustainability, due to its emphasis on uncertainty and disruption. It has introduced a more dynamic perspective on change processes, addressed through subsequent notions such as 'adaptive capacity', 'transformation', 'transition' (Folke, 2006) (Brown et al, 2012), and 'resourcefulness' (MacKinnon & Derickson, 2013). Resourcefulness is a relatively new concept, which addresses the necessity to identify, make available and redistribute resources of space, knowledge and power across local actors and communities to improve resilience. Resourcefulness put resilience in a more positive light, relating it to the agency of empowerment of the community

Resilience and empowerment

The resilience discourse on adaptation and mitigation has also been adopted by major international development, research and policy institutions, such as UN (*Resilient People, Resilient Planet* document, 2012) the Intergovernmental Panel on Climate Change (IPCC) and the World Bank (Welsh, 2014). More recently, the policy discourse on resilience has shifted focus from the idea of mitigation to adaptation to climate change (Nelson, 2014). EU directives tend to consider resilience mainly from technological and environmental perspectives (ie. CIIP, EPHA), with little emphasis on social, cultural and political dimensions (Hornborg, 2011) or the 'bottom-up' practical perspective (Vale, 2014). This policy framework has prompted research in the area of engineering solutions which tackle 'emergency' aspects rather than 'empowerment' aspects of resilience processes (MacKinnon & Derickson, 2013).

However, the empowerment aspect addressed in the resilience discourse has been adopted by national and local policy to some extent, particularly in the context of the recession following the global economic crisis of 2008. 'Community resilience' in these policies focuses on community self-reliance and empowerment, by reducing the state contribution and encouraging volunteering and community activity. Although some governments are starting to recognize the vital impact of community empowerment on the economy of crisis, and promote supporting policies (eg. the Big Society flagship programme of the UK government; Cameron, 2011), little research has been done on the challenges communities have in achieving long-term resilience. This applies particularly in relation to evolving and aligning strategically community resilience projects with other initiatives, support frameworks and top-down policies in order to produce convergent action with large scale impact.

Resilience supporting political status quo

Despite the widespread use of the concept of resilience across a range of fields and sectors, it is significantly under-theorized in terms of power, conflict, contradiction and culture (Hornborg, 2009; Wilkinson, 2012). Resilience is thus put forward as a politically neutral term, which maintains a simplified rhetoric of sustainability and offers

technocratic (adaptive management) solutions, arguably framed within, and using pervasive capitalist logic and vocabulary (Welsh, 2014).

Resilience theory is also seen as offering a scientific vocabulary for market-based approaches to climate change by framing adaptive change in terms of 'leveraging' social and natural capital (Nelson, 2014). Furthermore, by encouraging the idea of active citizenship, whereby people and communities take responsibility for their own social and economic well-being rather than relying on the state, resilience has been also associated with normalised neoliberal ideology (Joseph, 2013). This is illustrated by the 'Big Society' project, with its focus on localism and community as a way of legitimizing the dismantling of the welfare state and the provision of public services (Cretney & Bond, 2014)

In a similar manner, 'top-down' resilience strategies, as defined externally by experts and state agencies, place the onus on individuals, communities and neighbourhoods to become more adaptable to various external threats. This is paradoxical because instead of empowering communities, this in turn reproduces wider social and spatial inequalities (MacKinnon & Derickson, 2013). Indeed, some argue that resilience represents the preferred means of maintaining business as usual (Diprose, 2015), promoting 'responsibility without power' (Peck & Tickell, 2002.p.386), and producing active citizens and institutions whose purpose is to maintain the status quo rather than challenge it (Welsh, 2014).

Commoning resilience

In parallel to this neoliberal framing of resilience, groups which challenge such dominant societal structures have also been mobilising resilience strategies within a different ideological approach (e.g., Transition Towns movement¹). Aspects of adaptive capacity and transformation have been used to strengthen local communities and promote anti-capitalist activist projects rather than maintaining dominant economic and political systems (Cretney & Bond, 2014). Movements such as Transition Towns, or Incredible Edible, which act in this manner, have been extensively studied (Barnes, 2014; Connors & McDonald, 2010; Feola & Nunes, 2014; Mason & Whitehead, 2012), but little research has been done on the link between these grassroots resilience initiatives and the 'new commons' movement, which is concerned with communal management of land and resources as a project of resistance to privatisation and globalisation (Brown, et al., 2012).

The term 'commoning' has been coined by historian Peter Linebaugh (2008) in his work on the living history of commoners' struggles to describe how people living across times in close connection to the commons. The term which turns a noun into a verb refers to the social process that creates and reproduces the commons (An Arkitektur. 2010). It is also grounded in Ostrom's earlier work on the community governance of common pool resources (1990) and the further development of a commons-focused interdisciplinary political theory (Angelis, 2007; Negri & Hardt, 2009; Bollier, 2014; Capra & Mattei, 2015; Stavrides 2016), which marked the 'return of commons' (Gutwirth & Stengers, 2016) in the academic and political discourse.

This 'return' questions the current democratic foundations and the dual regime of public/private ownership, reclaiming commonly produced values as a new revolutionary project. Grassroots resilience movements are producing new social and economic values and have an important role in 're-commoning' the assets necessary for a community to sustain collective activities in the neighbourhood and beyond (Brown, et al., 2012). These movements contribute to the a new political-economic agenda of 'commons', within a broader process of connecting and expanding the fissures in the logic of capitalism by proposing new alternatives (Holloway, 2010). The study of commoning related to resilience movements combines contemporary discussions on resilience with those on co-produced democracy (Hirst 1993, Harvey 2014, Hardt & Negri 2004, Bawens 2015). This can offer radical possibilities for resilience theory to go beyond its neoliberal framing (Welsh, 2014) and to forge new understandings of the world as an unstable and crisis-prone social-ecological economy (Nelson, 2014)

At the present, little research has been done on the nature of processes of collaboration and co-production entailed by the practices of different governance models, the multiple actors involved and the diverse methods used in the movements and activities mentioned above. Performative accounts of such commons-based resilience can usefully explore the gap between the theory and practice (Wagenaar & Wilkinson, 2013).

This paper focuses on one such example by trying to understand the processes and challenges within the implementation of a participative strategy of civic resilience in the suburban town of Colombes, at North West of Paris through a network of urban commons.

The first section of the paper contextualises the problematics of co-produced resilience within current resilience theory, underlining the importance of empowerment and commoning within neighbourhood resilience.

The second section introduces the concept of co-production in the light of commons-based resilience theories and practices.

The third section analyses the nature of co-production within the R-Urban strategy. This strategy, which consist in the setting up of a network of civic hubs that host and support resilient practices, tools and spaces for local actors, is based on three main principles: *Networking, Participation* and *Local ecosystems*.

The fourth section analyses the methodology of co-producing resilience in the implementation of R-Urban in Colombes which is taken as case study. This involves a twofold process:

1. Co-production of a resilient context, through collaborative mapping, design and building

2. Co-production of resilience through circular economy, ecological systems and civic governance.

The results of this implementation are discussed in the fifth section, with a focus on the social, economic and ecological benefits and the quality of the governance process within R-Urban in Colombes.

The sixth section identifies specific internal and external challenges of the project around issues of governance, sustainability of processes and structures, legal and institutional support and access to space.

The paper concludes with a critical reflection on the results of this approach and the lessons that can be learnt from this example of collaborative civic resilience, formulating a set of recommendations for practitioners and policy makers, as well as for further research in the area.

2. Co-production

The term 'co-production' was originally defined in the late 1970s by political economist Elinor Ostrom as 'the process through which inputs used to produce a good or service are contributed by individuals who are not "in" the same organization.' (Ostrom, 1996 p.1073). Ostrom related co-production with resilience and commons, stressing the importance of collective governance in holding these aspects together (Ostrom, 1990).

More recently, the term co-production has been deployed in public services policy, particularly after the global economic crisis of 2008, in order to describe a more effective and cost-efficient transformation through the involvement of users in the design and delivery of these services (Boyle & Harris, 2009). However, this particular concept of co-production can be used to cover the withdrawal of public services, and marginalise the goal of shifting power relations between stakeholders involved with services and their production (Petcou & Petrescu, 2015).

Within academia, critics such as Freire (1970) have highlighted the need for counter-hegemonic approaches to knowledge construction in oppressed communities in order to challenge the dominance of more powerful interests and perspectives. Ethical and political legitimacy of decisions is also weakened if the voice of affected people is absent in the making of those decisions (Young, 1990). In this context, deeper engagement with those being 'researched' is encouraged as part of achieving a 'more open and democratic process of knowledge production' (Brock & McGee, 2002, p.8). This is particularly important when producing knowledge for sustainability and resilience (Pohl, et al., 2010; Polk, 2015) because resilience requires multi-agency responses and partnerships between diverse groups (Trojal & Petrescu, 2015).

Engaging with multiple stakeholders, such as researchers, practitioners and communities experimenting with ways of implementing resilience on the ground is arguably key for a successful process (Beilin & Wilkinson, 2015; Boyd & Juhola, 2014; Cretney, 2014). More broadly, the term 'stakeholder' has been used to describe various actors, human as well as non-human, participating in, and affected by an environmental issue (Vigar & Healey, 2002). This level of multi-stakeholder engagement in co-producing resilience has to be rooted in a political ecology standpoint, and requires ideas, tools, space, time and agency if it is to succeed (Maguire & Cartwright, 2008). A co-production approach to resilience needs indeed to enhance the 'capability to act' (Sen, 1999) of as many as possible.

3. Co-production of resilience: the R-Urban strategy

The R-Urban model has been developed by atelier d'architecture autogérée (aaa) an interdisciplinary research and design practice operating out of Paris (r-urban.net; urbantactics.org).

Researchers and architects worked together with other public and civic actors to design and build infrastructure for the co-production of resilience in the form of a network of civic hubs that host and support resilient practices, tools and spaces for actors and activators.

R-Urban follows previous models of resilient neighborhood development, such as Howard's Garden City (1889) and Geddes's Regional City (1915) and the Transition Town (Hopkins, 2008). However, R-Urban is not a direct application of theory, but works through an exploratory practice and a theoretical strategy that constantly inform and re-inform each other.

R-Urban follows the eco-urbanism turn in urban planning (Rohe, 2009) by engaging with issues of 'resilient cities' (Vale, 2014), at the key scale of the neighbourhood to enable the pro-active engagement of local residents in resilient processes. The current discourse on sustainable neighbourhood development in the Northern hemisphere tends to concentrate on green technologies, strategies for smart and efficient use of resources, carbon footprinting and low-carbon development. It primarily pays attention to climate resilience by verifying performance using assessment tools with the aim of enhancing competition among developers and fostering innovation (Sharifi, 2016). However, little research has been done on the different stakeholders involved in the processes that projects such as R-Urban adopt at the neighbourhood level, the influence of market forces, the issues in to achieving social equity and the building of diverse and inclusive communities active in resilient transformations (Holden et al, 2015).

The R-Urban strategy adopts a pluralist approach that provides platforms for various stakeholders to participate in the planning and decision-making process (Sharifi, 2016). It does this through the

creation of a network of citizen projects and grassroots organisations around collective civic hubs hosting economic and cultural activities and productive practices that engaged with local resources and contributed to increasing resilience. This includes urban agriculture, recycling and reuse, community energy production, water and energy consumption reduction and community economies. The hubs are key elements for providing the infrastructure to enable change and offer space, training and capacity building for resilient practices to emerge and to strategically connect to each other. These civic hubs are enhanced the 'capability to (of the community) act' - an essential condition for achieving resilience (Sen,1999). The network functions through locally closed systems starting at the neighbourhood level with the potential to scale up at the city level.

Unlike other top-down regeneration strategies facilitated by external managerial structures, in R-Urban the researchers, architects, designers and planners act as initiators, facilitators, mediators and consultants within a 'pluralist' approach that provides a platform for wider participation. This can result in a more effective and sustainable implementation, which allows non-specialists and ordinary citizen to rapidly participate in a co-production process. The strategy conceived as a process to physically transform an urban context and contribute to the social and political emancipation of those living and acting in this context enabling them in time to become more ecologically, economically and politically affluent. Citizens are encouraged to change the city by changing their way of living and working in it (Harvey, 2008). R-Urban attempts to avoid market speculation by proposing alternative funding, based on a combination of institutional support for implementation, public and civic investment as well as self funding for running costs, and by putting in place co-operative management structures.

The hubs and their local ecological systems constitute a form of the urban infrastructure that can contribute to a wider ecological transition in neighbourhoods, understood as a relational process rooted in new collaborative social and economic practices. The R-Urban hubs act as prototypes for new ways of building and managing the neighborhood and demonstrate the positive impacts of ecological transition. Together with a re-activated local community, a number of ecological/ environmental parameters were also directly improved through the way in which the hubs were conceived and functioned, as shown in the next section.

The measurement of such positive impacts is important for prototyping models of resilient neighborhoods (Mapes & Wolch, 2011). Usually these impacts are used to define the market value of a neighbourhood (Sharifi, 2016). In the case of R-Urban, the positive impacts are directed to the local citizen themselves in terms of diversity, modularity, social capital, innovation, overlap, tight feedback loops, ecosystem services (Lewis and Conaty, 2014), redundancy, connectivity, continuous learning and experimentation, high levels of participation, and polycentric Governance (Biggs et al.2012). These processes are captured in the three main principles of the R-Urban strategy:

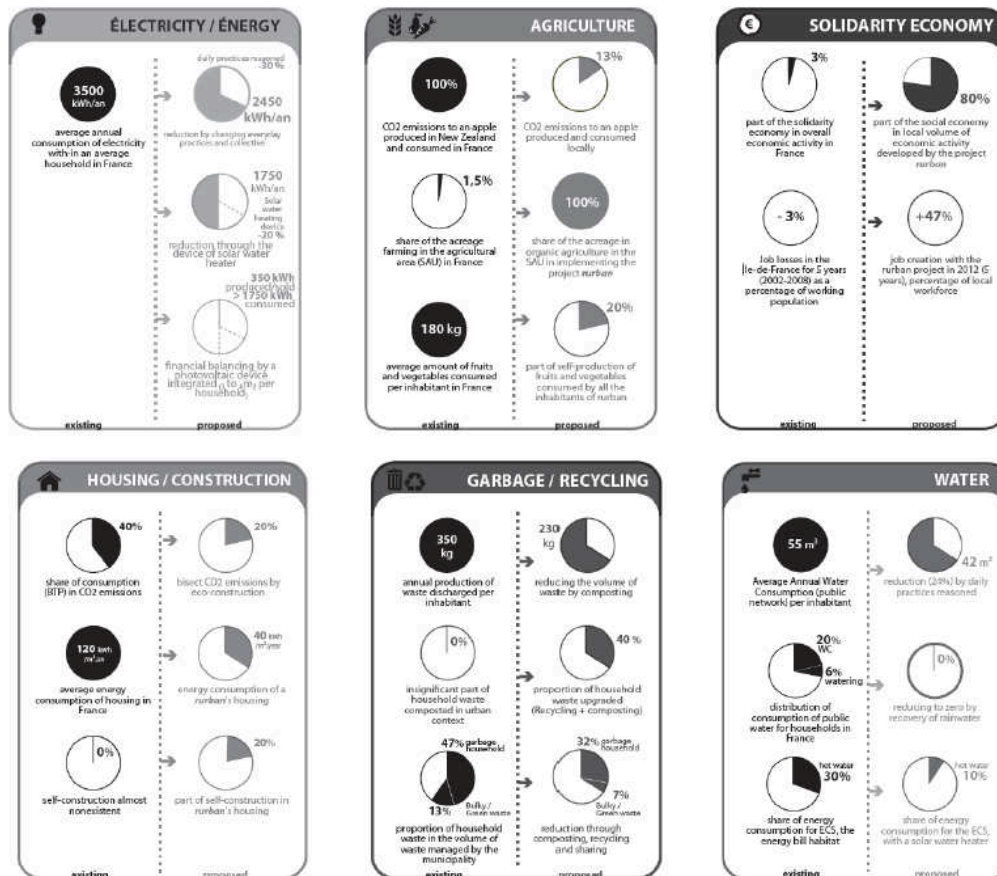


Figure 1: R-Urban predicted effects in different urban sectors

The figure 1 shows the improvements in terms of CO2 reduction, energy consumption, water consumption, waste through the introduction of saving schemes, positive (composting, reuse and recycling, solar energy, cycling and car sharing) The calculations have been done in relation with average consumption/ person in France (2008), based on data estimated for 100 citizen using diverse R-Urban hubs totalizing 2000m2.

Networking

The R-Urban strategy set up the conditions for resilience networks and initiatives to emerge in a neighbourhood through a variety of active individuals and local organisations becoming stakeholders of the R-Urban collective hubs, with civic support. These networks valorise the resourcefulness of neighbourhoods (MacKinnon & Derickson, 2013), and help to produce a more even power distribution within the regeneration process as drivers for community resilience (Hopkins, 2008). Collective physical assets – the hubs- make the network visible and anchor the feedback loops in this territory.

Temporary available spaces are negotiated for mid-term or long-term use for R-Urban activities, including vacant sites for urban agriculture, recycling activities and housing. There are further plans for existing buildings to host cultural and productive activities, social housing estates to be transformed into co-housing estates involving the inhabitants in the collective management and maintenance of the estate. These temporary used plots need to be controlled and governed by citizen to prevent them becoming drivers for market intervention (Blokland & Savage 2008). In R-Urban each civic hub is flexibly

connected to a small local network and at the same time is part of the wider R-Urban network, enabling an open system of diverse hubs and productive practices to emerge.

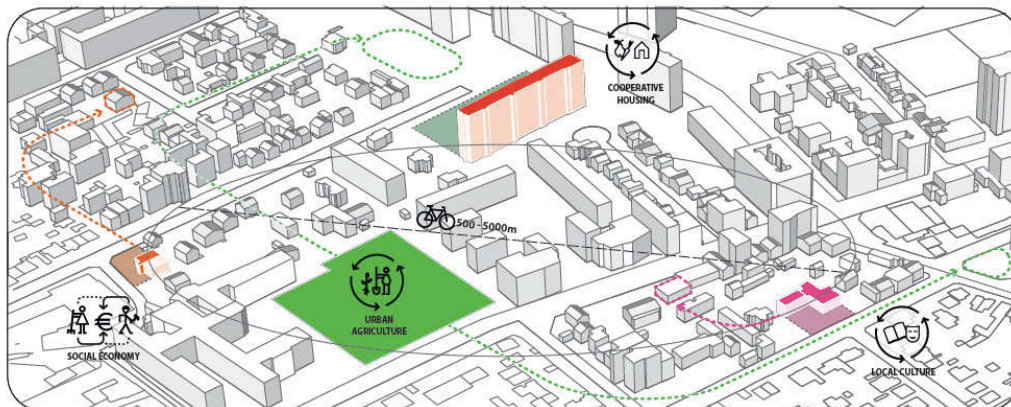


Figure2: R-Urban network; source: aaa

Participation

R-Urban valorises the valuable social capital existing in neighborhoods by enabling all citizens who choose to become involved to fully participate in the implementation of the strategy. This includes participating in events and training programmes, to developing their own activities, and supporting and running the hubs. Citizens are thus not only participants but also agents of innovation and change, generating alternative social and economic organisations, collaborative projects and shared spaces. producing new forms of commons. The new types of jobs, skills and specialisms emerging from this process allow a third sector of collaborative green services in the area of environmental management (Wong , 2015) and diverse community economies (Gibson-Graham et all, 2013) to emerge.

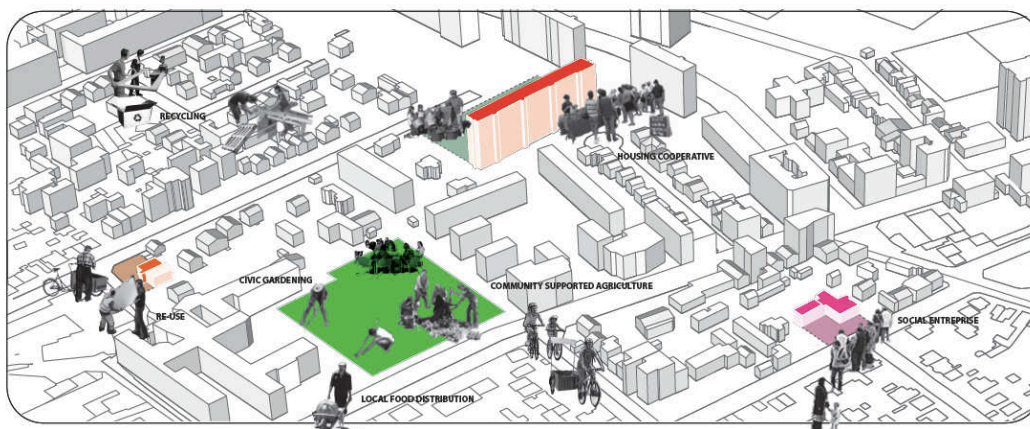


Figure3: R-Urban participation
source: aaa

Local ecosystems

The R-Urban hubs generate local ecosystems which connect existing and emerging civic projects and practices. Residents are encouraged to buy local products and also to create local products. These activities provide the basis of an urban metabolic system within the neighbourhood (Rapoport, 2011; Castán-Broto and Allen 2011, Douthwaite, 1996). The emerging local circular economy (McKinsey and Company 2012, Andrews 2015) is managed by local actors to provide social, ecological and economic improvements for the neighbourhood.

Unlike Industrial Ecology (Tibbs, 1992) or Cradle to Cradle [Braungart and McDonough, 2002] marketised technocentric approaches, R-Urban hubs are run by citizens to maintain an ecology of local practices. The urban metabolic system thus becomes a tool for community resilience and a form of commoning in itself. The R-Urban spatial design processes facilitate the activity of citizens through the democratic governance of a commons associated with concrete hands-on action as a catalyst for urban transformation, innovation, and creativity. The eventual aim is to develop long-term impact through the development of socio-ecosystems at the local, regional and international scale to facilitate new “commons” within a wider collective urban resilience movement.

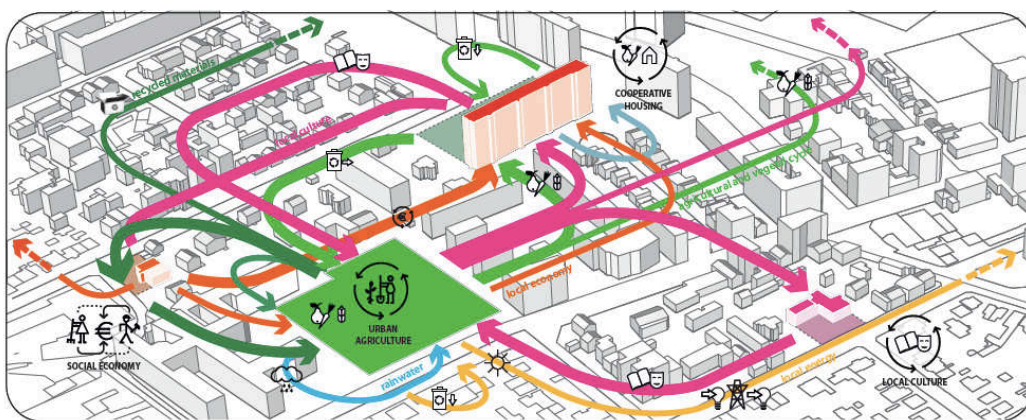


Figure4: R-Urban circuits
source: aaa

4. R-Urban methods

The suburban town of Colombes near Paris, was selected as the first area for developing the R-Urban strategy. It has a mix of private and council estates housing 84,000 residents with a mix of social issues such as youth crime, typical of large-scale dormitory suburbs, combined with a consumerist, car-dependent lifestyle typical of more affluent suburbs. Despite a high unemployment rate (17% of the working-age population) Colombes has a high number of local organisations (approx. 450) and a very active civic life.



Figure 5: Colombes, France
source: aaa

The implementation of the R-Urban strategy in Colombes took 7 years as an ‘exemplary’ case which by ‘the force of its example’ (Flyvbjerg, 2006), was useful for generating and testing R-Urban as a potential commons-based resilience strategy for other suburban towns in Europe.

The research methods were developed through practice by atelier d’architecture autogeree (aaa) working with a wider interdisciplinary research team acting as a think tank. The original initiative was started by aaa in 2008 and subsequently developed into an action research project through a series of funded activities which included international exchanges between R-Urban stakeholders and actors in similar projects in Europe and beyond to help develop the co-production methods .

The co-production process including the conception, building and governance of a network formed around three civic hubs. This strategy involved different actors (academic, public and civic) in a twofold co-production process:

1. Co-production of a resilient context, through collaborative mapping, design and building
2. Co-production of resilience through circular economy, ecological systems and civic governance.

Co-producing a resilient context

In 2009 aaa contacted representatives of the Colombes Municipal Council, including the Mayor and applied for funding to implement the R-Urban strategy, with the Municipality agreeing to act as partner. A coordination team was formed which included aaa as the lead research team, municipal departments and council representatives. From 2011-15, the project involved the design and building of three hubs – Agrocité, Recyclab and Ecohab - and aimed to create a civic network around them. Each hub aimed to provide complementary facilities: housing, urban agriculture and local culture, recycling and eco-construction to enable citizen-run services and local economic and ecological systems².

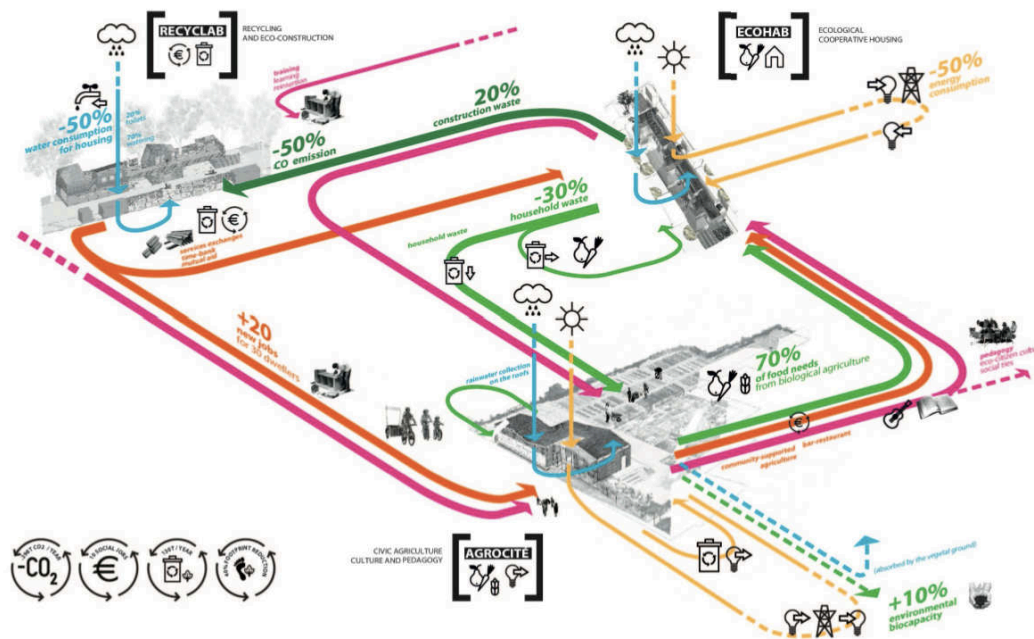


Figure 6: The three R-Urban civic hubs in Colombes
source: aaa

A R-Urban executive team was formed with emerging stakeholders and representatives of the Municipality. The EU funding programme informed the co-production process through formal assessment sessions and feedback on the implementation of the project. Residents were recruited via self-interest in the project at the outset through a series of debates and workshops organized by aaa in Colombes. The executive team was dissolved after the local elections, as a result of the change in local politics and the withdrawal of the Municipality from the project partnership. The hubs have nevertheless continued to be effectively self-governed by stakeholders, users associations and aaa.

Appropriate locations within available plots in the city were located using a *participative mapping process* which shortlisted three locations for the first three hubs. This involved collective discussions on land availability and accessibility to decide the location and programming of the hubs.

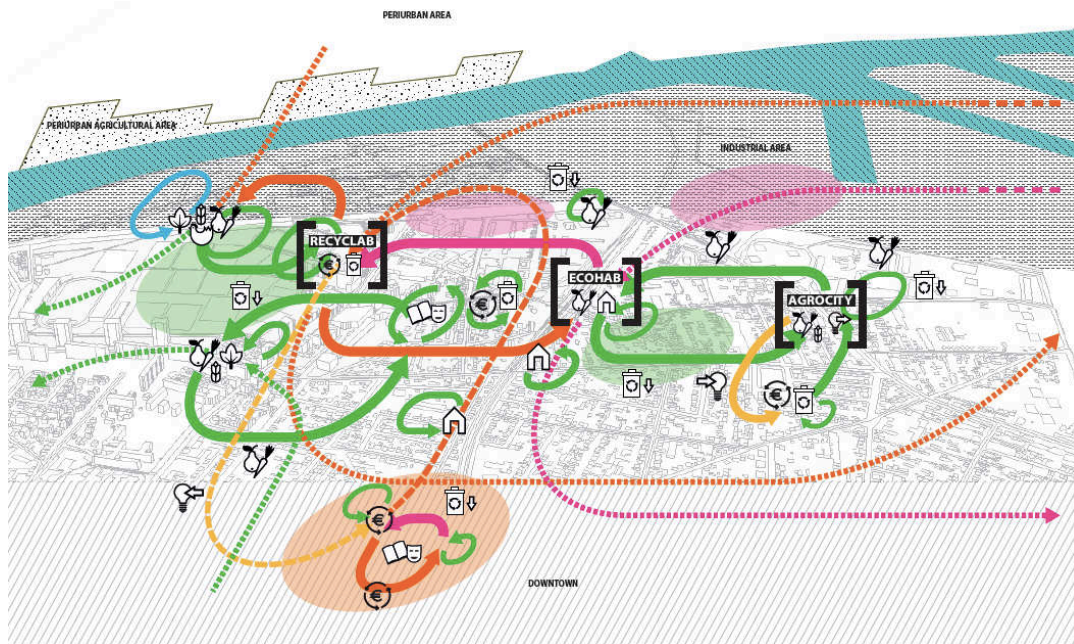


Figure 7. R-Urban assets in Colombes, identified with residents
source: aaa

Consequently, three sites- own by the City were identified by the City planning department for the development of the three proposed hubs. Two of the hubs - Agrocité and Recyclab - were subsequently developed and built over two years from 2011-13. Following the change of Municipal representation after local elections in 2014 the development of the third hub - Ecohab - was cancelled due to the local authority withdrawing the available municipal site.

Table1: Agrocité, Recyclab and Ecohab functions (2015)

R-Urban Hub	Components	Users	Governance	Location	Design and Building	Date
Agrocite Urban agriculture unit Building : 150m2 Plot 3000m2	<ul style="list-style-type: none"> - Agrolab: ecological building hosting a local market, workshop, greenhouse space, community café/canteen local shop and educational and cultural space. - Experimental micro-farm, including cultivation plots, beehives, chicken farm and compost facilities - Community gardens 	3organisation s: Agrocite (x) Ecole de Compost (x) AMAP (x) + 400 citizen	hybrid structure: user organization (NGO) (e.g. the community garden, cultural and educational spaces) + social enterprise (e.g. the micro-farm, market and cafe)	Plot issued from demolition of a small local industry, in the core of the social housing estate Fosses Jean - temporary lease on land that belonging to the city, planned for development in 10 years	Integrated ecological devices , built through participative workshops: compost heating system, wormery, compost toilets, hydroponic growing system, grey water plant filtering system. Eco-construction with raw or reused materials: - reused windows and cladding elements -recycled drying panels - straw for insulation from local farmers Local labor (ie. Local eco-	Built 2013

					construction company) partially self-built (interior insulation, outdoor facilities, cladding, fences)	
<p>Recyclab Recycling and eco-construction unit</p> <p>Building : 120m2</p> <p>Plot 700m2</p>	<p>- Facilities for storing and reusing locally salvaged materials, recycling and transforming them into eco-construction elements for self-building and retrofitting</p> <p>- co-working workshops for makers and designers and a participative workshop open to residents for repairing and small DiY sessions.</p>	<p>4Organisations Recyclab Simone de Colombes Colombes a Velos Repair café -One carpenter + 200 citizen</p>	<p>Social enterprise</p>	<p>existing road that was closed to be transformed into a parking.</p> <p>- temporary lease on land that belonging to the city, planned for development in 10 years</p>	<p>- Designed to be quickly dismantled in case of faults in the public servicing systems of the road (sewage, electricity, etc).</p> <p>- Built with small companies ; partially self-built (interior insulation and cladding)</p> <p>- Eco-construction with raw or reused materials: Build with reused containers and prefabricated wooden huts on the top and cladded with salvaged wood</p> <p>- Integration to context: Geometry informed by the shape of the street tree canopies</p>	<p>Built 2013</p>
<p>Ecohab cooperative eco-housing</p> <p>plot : 1100m2</p> <p>building: 600m2</p>	<p>- 7 flats + 2 temporary residential units for students and researchers</p> <p>+ 1 civic or commercial space</p> <p>- shared facilities: food growing collective energy rain water harvesting, car sharing.</p>	<p>7 families + 1 organization/ local business 2 researchers in residence</p>	<p>Cooperative</p>	<p>Plot issued from demolition of one family house</p> <p>- planned to be pursued by the cooperative</p>	<p>Planned to be built with small companies + partially self-built (partition walls and cladding with salvaged wood)</p>	<p>Unbuilt Construction licence blocked (May 2014)</p>



Figure 8: Agrocité, 2013
source: aaa



Figure 9: Recyclab, 2015
source: aaa

Co-producing circular economy, ecological systems and civic governance

According to Ostrom, collective governance is key for the resilience of commons as it involves an 'agreement' and a 'shared concern' not to destroy the resources on which all members of the community depend (1990). The R-Urban governance strategy is based on a multipolar network involving local and regional actors, formed around the various

nuclei of activities that animate forms of exchange and collaboration. Each hub is thus proposed as a *commons* organisation as part of a mutual coordination platform that brings together various entities.. R-Urban is conceived as an actor network as described by Latour (2005) in which both humans and non humans (hubs, materials, devices, frameworks, regulations) have agency.

The R-Urban hubs were designed to set up local circular economies in the neighbourhood using seed funding to construct physical infrastructure (the hubs) and provide development and training courses.

This aim of the initial investment was to enable the emergence in time of a diversity of small economic practices: gift economies (voluntary or solidary) material (swaps, loans, barter) and non-material exchanges (knowledge and skills, time), collaborative economies as well as monetary economies. These diverse economies are an important asset for a commons based economic transition (Gibson-Graham et al, 2013).

The hubs are also conceived as nodes of an ecological metabolic system emerging in the neighbourhood. Within the hubs, organic waste is collected from the neighbourhood and composted for urban agriculture and a local heating system, rainwater is collected and grey water filtered and reused, waste is recycled or reused, and energy is produced locally. The common pool of resources is visible and circular, involving actively all R-Urban members in its reproduction.

The hubs were deliberately set up as non-profit associations, with the aim that any common benefit be reinvested and distributed across the project to enlarge the pool of physical and social resources and the commoning process in general.

The functions of the hubs were not pre-established but were meant to emerge slowly according to available skills and implications. Participants were involved in co-producing in time the programme of the hub conceived as an open system. Each of the proposed activities or emerging practices is governed by the group participating in the co-production of these dynamic and resilient systems, in order to evolve rhizomatically, transforming and adapting according to who joins in the ecosystem.

5. R-Urban in practice

The positive socio-ecological impact of R-Urban in this case study is the direct result of a commoning circular economy based on community run ecological systems. The hubs and their components provided an appropriate infrastructure for an effective framework for governance, enabling the various ecological and economic loops formed to work together coherently for the benefit of the local community.

Table2 - R-Urban hubs Impact (2015)

Social	Ecological	Economic
+ 500 users	- 300t CO2 emission	- 20 small civic initiatives and temporary green jobs created in relation with the 2 hubs
- 40 stakeholders	- 500t waste reduction/ year	
- >4000 followers	- 70% electricity produced locally	- 62 training certificates for compost masters released by the Compost School
- 18 researchers dissemination	- 60% ecological footprint reduction for the 2 hubs	
- > 100 press references	- 50t reduction of water consumption	- 100 000 euros/year turnover
- 80 web references		
- 8 international exhibitions	- 24t organic waste transformed into compost	
- 60 000 hits / 18000 visitors / year		

These figures concern only the 2 existing Units, including the construction period. The proportional reductions of water and energy consumption have been calculated in comparison with average consumption for similar size units covering the same activity and using conventional energy, transportation and construction materials. The reduction of waste and CO2 emission has been calculated by Objective Carbon (www.objectifcarbone.com), a local company based in Colombes specialised in CO2 counseling.

One of the main ecological and economic systems generated by the Agrocité garden concerned locally produced vegetables and animal products (eggs, honey, worm compost) that were distributed locally through the mini market, the canteen and the shop. The Agrocité canteen provided a hybrid economic model, where a group of unemployed inhabitants from the area (men and women) took turns to prepare canteen meals once a week, cooking dishes with vegetables from the garden and donating 20% of the profit to cover part of Agrocité's expenses.

Also, the *School of Compost* which run periodically at Agrocité, implemented an external training program, providing for Agrocité's maintenance expenses by paying a small rent to the hub. Participants in the training programme also used the canteen during the programme, aiming for a local economy that mixed reciprocal exchange (hardware and know-how), contribution to the commons and also provided personal benefits.

Another important system concerned organic waste: peelings from the canteen, waste from the neighbouring markets and local shops (Biocoop shop La Bruyere), beer malt from local breweries (Astrolab), as well as organic domestic waste from the neighbourhood were collected and turned into compost used for the garden but also for heating and seedlings, the last being produced in collaboration with the municipal environment department. These systems are not only material but include services such as those offered by workshops (knitting, crocheting, cooking, aromatherapy) involving unemployed women living in the neighbouring tower blocks of Colombes, the Community Supporter Agriculture (CSA) scheme involving a farmer from the region, the beekeeping

course and the School of Compost training course for compost masters to enable them to be employed by the municipality.

The non-consumerist shop sold products from the garden and the canteen but also from other local producers (honey and bee products, local beer, syrups and jams). The systems were linked to specific spaces (storage areas, processing and distribution spaces) and generated collective and coordinated activity timeframes.



Figure 10: Flea market at Agrocité, 2014

Source: aaa

The recycling system in the Recyclab hub operated through the collection of materials (wood, metal textiles) from various local sources including joinery from demolition, scrap from carpenters workshops and wood packaging. This system generated a variety of social and economic relationships including working with a sport retail chain which recycled old bicycles that were sent to Recyclab to be turned into cargo bikes by being partially self-built by the users, a local college (Lycée Valmy) providing textile waste to be used by designers in residence at Recyclab, and furniture recovery via a local group of manufacturers using the co-working space at Recyclab. In addition, local volunteers,

including a retired professional engineer, regularly shared their know-hows at the Repair



Cafes.

Figure 11. Repair café at Recyclab, 2014

source: aaa

At Agrocité, concentric actor-networks were formed around different groups and initiatives to manage the various ecological systems: the market garden, scheme, chickens, bees, compost, fleamarkets, disco-soup events, prod-actions, the canteen. This network based micro-management of ecosystems weaved together the economic, the social and the ecological. Each system acts at the same time as a process and a commons and all activities participate in the overall commoning process: ‘We are here to *share*: to share time, knowledge, products, meals, music’ according to one of the local inhabitants.ⁱⁱ Specific goods and services also generated specific networks in a similar way at Recyclab through co-working programmes, repair cafés, up-cycling workshops, manufacturing and training workshops.

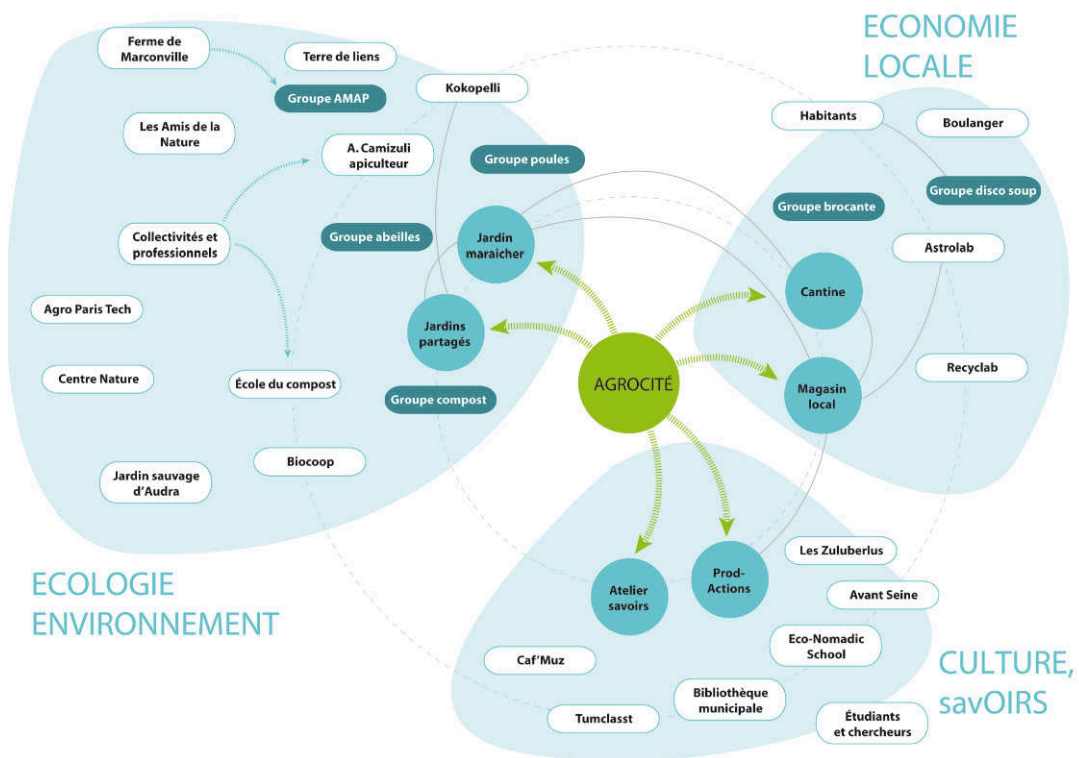


Figure 12: Actor networks at Agrocité
Source: aaa

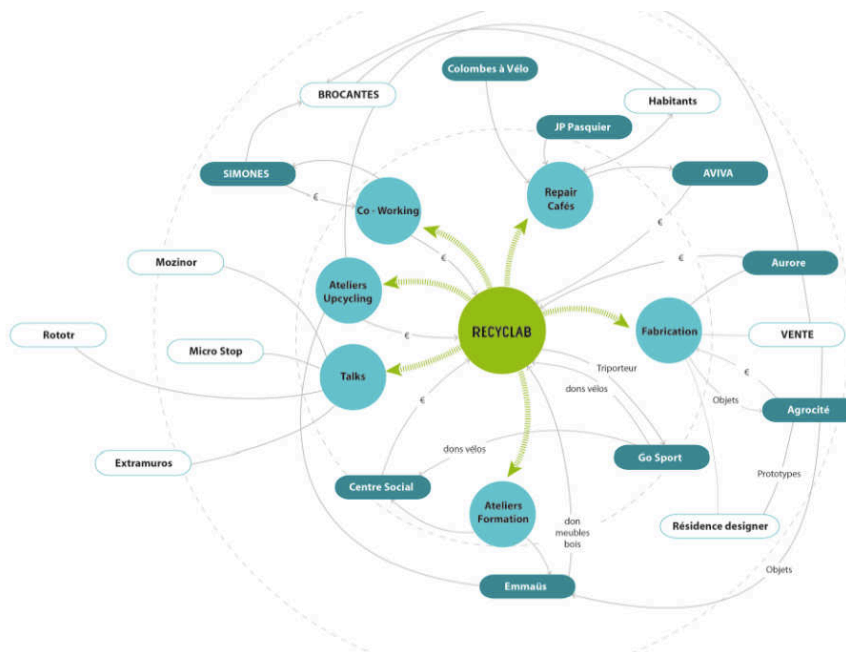


Figure 13: Actor networks at Recyclab
Source: aaa

Local partnerships were formed in parallel with the gradual development of the user and stakeholder networks. These involved numerous organisations and local institutions to develop activities in relation to R-Urban including the Régie de Quartier, the Cultural and

Social Centre Fossés–Jean, the Social Centre Europe, Lycee Valmy, the Biocoop La Bruyere and the Aurore organisation. The overall network started to construct a resilient environment across the neighbourhood. At the same time, the network constructed greater social trust and pro-active civic dynamics, which are very important assets in times of crisis and uncertainty (Platts-Fowler & Robinson, 2013). This has been evidenced by the quality of the relations between members, that started to collaborate in order to accomplish collective tasks, the growing number of initiatives and partners in the network and the transformation within different individual subjects (from isolated unemployed to socially active and eventually self-employed in a collective business).

One result of R-Urban in practice is that it has become a reference for municipalities, professionals and project leaders. New urban resilience hubs are planned for the Parisian region (R-Urban Gennevilliers, R-Urban Bagneux and R-Urban Montreuil). R-Urban is now setting up a wider Development Trust to operate across local and regional scales, which will take the form of a Cooperative Society of Collective Interest (SCIC), working with a network of like-minded partners including AgroParisTech, CHP, Habitat Solidaire, La NEF, Le Labo ESS, L'Atelier ESS and Terre de Liens. The SCIC will offer a mutual coordination platform for all hubs and provide a mechanism for developing governance and solidarity.

As a result of the practical demonstration of R-Urban, various researchers, artists, activists, interns, and visitors became interested in adopting the R-Urban strategy in other contexts. In order to disseminate and develop the R-Urban strategy in these other contexts, a number of clear principles and protocols were set up by aaa to integrate and support this wider network of *commons*. An R-Urban Charter was developed to help create opportunities for new initiatives and new hubs to emerge in other neighbourhoods, other cities and other countries.

6. Governance challenges

Despite the various successful outcomes of the R-Urban strategy in practice, the co-production process within R-Urban nevertheless faced numerous internal and external challenges. When such a project conducted in an ordinary suburban town does not deal directly with the idea of resilient response related to life-threatening conditions, it is more difficult to maintain a focus because the imperative of resilience is not of immediate concern. This raises the question of how it is possible to promote a resilience agenda with citizens who are not particularly ecologically literate or socially active, and have other more immediate priorities related to work, health and housing. Some citizens in Colombes were unaware of the resilience imperative because they lacked any connection or involvement with the place in which they lived. Education for resilience was needed in this context, and R-Urban was meant to allow a gradual familiarization with resilience issues through mutual learning and community of practice (Wenger, 1998).

Involvement and understanding

The large majority of local citizens, who did not join the R-Urban community, did not necessarily understand, the idea of self-management, collective social organization, the economic and ecological benefits or the modest architecture and the deliberately improvised aesthetics of the hubs (ie the integration of reused and recycled materials). The R-Urban way of working needs time to allow capacities to develop in citizens and spread out to the community as well as the development of the practices involved, such as urban agriculture, which may well be new to urban citizens.

The R-Urban project placed particular emphasis on making visible the direct benefits of improved social relations, health conditions and peer learning processes. In reality, it proved difficult to maintain the long term involvement of people who lived and worked in precarious conditions. People attended the activities according to their availability and work and family commitments. Interestingly, those who were able to attend R-Urban activities together with their family, proved to be the most stable and regular participants.

Cohesion and conflict

Like many collective projects, R-Urban generated both cohesion and conflict (Coy & Woehrle, 2000). Most internal conflicts occurred between users with different visions about the collective management of the project or who attempted to appropriate tools and opportunities for their own personal purposes. The management of such interpersonal conflicts was democratically always led by a group of users and stakeholders in dialogue with the protagonists. Conflict resolution skills were key in selecting the leaders of the two hubs. These leaders were confirmed democratically by the users's organisations to co-ordinate the management of the hubs. In an 'agonistic' project such as R-Urban which has no predetermined agenda, the conflicts, with only few exceptions, were not particularly subversive and disruptive but in fact, more activating and transforming of the project itself. As Chantal Mouffe points out, agonism is the keystone of radical democracy (2005). An 'agonistic space', according to Mouffe, allows the possibility of a conflict of interests and values, and the expression of different alternatives, which are arguably a pre-requisite for truly collaborative resilience.

Institutional support

In terms of external challenges for R-Urban in Colombes, there was a distinct lack of institutional support structure in place (for this type of project. New and exceptional agreements had to be negotiated with various authorities. Setting up the system of plant filtering for the grey water and the installation of the compost toilets, required derogations from the city services because the off grid sewage system in this urban area was not legal. This involved a negotiation for the non payment of the grey water treatment provided by the city services as it was not used by the R-Urban hubs. The only regulation in place which truly supported R-urban civic resilience practice related to local energy production, which enabled this energy to be sold to the national grid at a good price. The small surplus from this price fixing, was then returned back into the R-

urban hubs to cover maintenance costs.

Access to space

Access to space for temporary use by the hubs proved to be a major challenge. The speculation pressure on land is enormous in dense cities (Harvey, 2008) and access to space was a political issue for a municipality which supported speculative development in Colombes.

The leases obtained for the two R-Urban hub sites were only short term for one year. This was because the municipal administration in place was not confident enough to provide medium or long term leases for such an experimental project, which would last beyond their term of election and could provide a challenge for them at the next election. In fact they wanted to secure the possibility of further development of the land, beyond R-Urban, which was considered only a mid-term temporary project.

The role of power in resilience strategies

A key difficulty in the implementation of the R-Urban strategy was the complexity of the power relations with the municipal administration and the resistance of municipal services in Colombes to fully adopt the protocols established within the co-produced management of the project. The municipality was supposed to act, according to the funding contract, as a partner and facilitator of the implementation of the strategy and not as a client or authority. Transitioning requires a *Partner-State*, which supports and facilitates citizen initiatives rather than managing in the usual top-down fashion (Bauwens, 2015). It proved extremely difficult to transform the normative relations with elected officials and municipal services, and to change their understanding and habits in order to help them act as facilitators rather than managers. This hierarchical governance model, the fear of decision taking within new processes, the lack of capacities and ecological literacy combined with a resulting passivity and indifference, were key reasons for most administrators and elected officials in Colombes not to play an active role in a project in which the Municipality was meant to be an official partner.

The tensions described above culminated in a situation of conflict generated by the change in the municipal administration following local elections in May 2014, that conducted to the decision of the Municipality to demolish the R-Urban hubs.ⁱⁱⁱ This situation raises serious questions about the limitation of current democracy to be able to address and accommodate civic resilience (Shearman & Smith, 2007). It also raises question about the capacity of civic organisations to be able to successfully co-produce resilience via commoning practices at the neighbourhood level without the support of local governments.

Legislation to protect commons

Currently, there is a lack of specific legislation to protect the commons in Europe (Capra & Mattei, 2015) and no political definition and legislation to protect what could be called a 'right to resilience' through commoning (Petrescu & Petcou, 2015). In the absence of such

legislation, there is a need for the State to 'assist, enable and support' (Weston & Bollier, 2013 p.199) the institutionalization of commoning for resilience approaches and to sustain the human rights that are part of this process.

Without political definition and protecting legislation, the commons depend on the good will of local governments or other external administrations which can refuse to recognise the legitimacy of self-organisation (Gutwirth & Stengers, 2016). With some irony, the right wing ideology and market interests of the new municipality decided to demonstrate its interest in 'resilience' with plans to build a 4000m² privately own vertical farm in Colombes (Arc Sportif Masterplan, June 2016), while at the same time aiming to demolish an existing farm held in common (Agrocite). This presents a new form of 'enclosure' (Linebaugh, 2009), as in other cases of privatisation of community controlled resources already well under way elsewhere (Alden Wily, 2015; Padilla, 2015, Bollier & Helfrich, 2015).

The local decision to dismantle R-Urban triggered a wave of solidarity amongst professionals, researchers, citizens and residents of Colombes who have engaged in different forms of protest. This is a new stage within the R-Urban co-production process which is now framed as advocacy campaign and political struggle to defend the socio-ecological commons created, to challenge the local government adversity and claim recognition of the success of the project.

Colombes inhabitants have engaged at a political level: "This is a project which is very good for us. One should not touch it. To think it could disappear is a scandal. Yes, I said the word, and those around me said: you're right!" stated an eighty year old member of the canteen and gardeners group when interviewed^{iv}. However, R-Urban is not alone in its struggle for social and environmental justice as other communities have also failed (Pulido et al, 2016).

It remains to see whether the new mobilisation to protect the R-Urban initiative will turn into a political leverage for the continuation of the project in Colombes or elsewhere.

7. Conclusions : transcending the limits of resilience co-production

The R-Urban hubs and processes endeavoured to demonstrate what citizens can achieve if they engage in different ways in co-producing resilience and transforming themselves from users to stakeholders and from relatively passive inhabitants to initiators of collective resilience practices and economies. R-Urban showed that architects and researchers could play an important role in designing and setting up new conditions for resilient living through communing. The project also underlines the challenges of such an approach in terms of conflicts and political blockages, the general lack of supportive regulations and the lack of civic skills and expertise for such project development. New local regulations should be negotiated and implemented in relations with the needs and advancements of such projects. Provision for community run spaces to develop resilience

practices should be provided through regulations in neighbourhood planning.

R-Urban demonstrates the relevance of a political ecological approach to resilience through co-production and collective governance. It further demonstrates how this process can be made visible and physical through the setting of a network of self-managed hubs. Such an approach enhances the control by the community over the metabolic system of the neighborhood and specifically addresses ecology in political terms ' , not only preserving the commons but also struggling over the conditions of producing them' (Negri & Hardt, 2009p. 171) as a form of commons-based resilience.

Although on paper governments may support the idea of 'community resilience', this can easily become a threat to them in reality by empowering communities to promote a postcapitalist agenda (Cretney & Bond, 2014). This is why civic initiatives at the neighbourhood and city level are particularly vulnerable to mainstream politics. But it is at this very level that the processes of co-production can potentially gain political agency to conduct to new forms of social and ecological self-governance and offer solutions for securing resilient transformation.

Local governments must understand their role as partners and facilitators rather than managers in such processes.

Although the R-Urban experiment was blocked by politicians, it would be a mistake to consider it as a failure. The positive results and the extensive interest it has raised demonstrate its potential impact on the society, the profession, and the policy makers at a wider level. This attempt to produce a commons-based resilience can be understood as a 'generative institution' (Capra & Mattei, 2015) that can challenge existing public institutions to recognize communities 'responsibility *with* power' to prompt change at different levels and identify policy and procedural gaps that need to be addressed in order to support, sustain and enhance civic resilience.

R-Urban has demonstrated through its ecological, economic and social results that resilience can be co-produced at the neighbourhood level. What was perhaps underestimated was the importance of its political agency. A commons-based resilience project is a political project too and skills for negotiation with mainstream political institutions are needed. These negotiations should be considered as integral part of the co-production process.

Recommendations for future research arising from the R-Urban experience are as follows:

- The development of new legislation to protect commons based resilience and to provide access to legal support for organizations working in the area of civic resilience at the neighbourhood and city level
- The promotion of civic alliances with citizens at national and trans-national levels, providing shared knowledge, academic inputs and pro-active support through

policy developments on co-produced resilience

- Co-production of town and neighbourhood planning to include provision of access to space for experimental projects of civic resilience
- Training to increase ecological literacy within the public and civic sector to enable co-produced resilience within neighbourhoods and cities.
- Funding and support to advance practice-based research and produce new performative knowledge in this area

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Supplementary data

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References

- aaa (2007). *Urban/ACT, A Handbook for Alternative Practice*. Paris: aaa-peprav.
- AnArchitektur (2010). On the Commons: A Public Interview with Massimo De Angelis and Stavros Stavrides. *E-flux* 17 <http://www.e-flux.com/journal/view/150> (accessed 10 July 2016)
- Bawens M. (2015) *Sauver le monde: vers une économie post-capitaliste avec le peer-to-peer*. Paris: Les liens qui libèrent
- Beilin, R., & Wilkinson, C. (2015). Introduction: Governing for urban resilience. *Urban Studies*, 52(7), 1205-1217.
- Blokland, T. and Savage, M.eds (2008). *Networked urbanism: social capital in the city*. Aldershot: Ashgate
- Bollier, D. (2014). *Think Like a Commoner: A Short Introduction to the Life of the Commons*. Gabriola Island: New Society Publishers.
- Bollier, D. & Helfrich, S. (eds) (2012), *The Wealth of the Commons. A World beyond Market and State*, Amherst: The commons strategies group/Levellers Press
- Borne, E. (2012) Atelier d'architecture autogérée : sous les pavés, la résilience urbaine, *Le courrier de l'architecte*, http://www.lecourrierdelarchitecte.com/article_3626 (accessed 12 June 2016)
- Botkin, D.B. (1990) *Discordant Harmonies: A New Ecology for the Twenty-First Century*, New York: Oxford University
- Boyd, E., & Juhola, S. (2014). Adaptive climate change governance for urban resilience. *Urban Studies*.
- Boyle, D., & Harris, M. (2009). *The challenge of co-production: How equal partnerships between professionals and the public are crucial to improving public services*. London: Nesta.
- Bradley, K. (2015). Open-Source Urbanism: Creating, Multiplying and Managing Urban Commons. *Footprint*(16), 91-108.
- Bradley, K. and Hedren J. (2014) *Green utopianism: Strategies, perspectives and micro-practices*. London: Routledge.
- Brass, C., Bowden F. and McGeevor K. (2011) 'Co-designing urban opportunities', *SCIBE Working Paper No. 4*. <http://www.scibe.eu/wp-content/uploads/2010/11/04-PSI.pdf>
- Braungart, M and McDonough, W. 2002. *Cradle to Cradle: Remaking the Way We Make things*, New York : North Point Press
- Brown, G., et al. (2012). Holding the Future Together: Towards a Theorisation of the Spaces and Times of Transition. *Environment and Planning A*, 44(7), 1607-1623.
- Cahn, E. S. (2000). *No More Throw-away People: The Co-production Imperative*. Washington DC: Essential Books.
- Capra, F. and Mattei U (2005) *The Ecology of Law: Toward a Legal System in Tune with Nature and Community*, San Francisco: Berrett-Koehler Publishers

- Cameron, D. (2007). The Conservative approach to improving public services (Speech). Retrieved from http://www.webarchive.org.uk/wayback/archive/20080908030035/https://www.conservatives.com/tile.do?def=news.story.page&obj_id=134729&speeches=1
- Cameron, D. (2011) PM's speech on Big Society, 14 February. [<http://www.number10.gov.uk/news/speeches-and-transcripts/2011/02/pmsspeech-on-big-society-60563>]
- Casarino, C. (2008). Surplus Common: A Preface. In C. Casarino & A. Negri (Eds.), *In Praise of the Common: A Conversation on Philosophy and Politics*. Minneapolis: University of Minnesota Press.
- Castán-Broto, V. and Allen, A, 2011, *Interdisciplinary Perspectives on Urban Metabolism. A review of literature*, Project Proposer and Co-Applicants, UCL, London
- Connors, P., & McDonald, P. (2010). Transitioning communities: community, participation and the Transition Town movement. *Community Development Journal*.
- Cote, M., & Nightingale, A. J. (2012). Resilience thinking meets social theory: Situating social change in socio-ecological systems (SES) research. *Progress in Human Geography*, 36(4), 475-489.
- Cretney, R. (2014). Resilience for Whom? Emerging Critical Geographies of Socio-ecological Resilience. *Geography Compass*, 8(9), 627-640.
- Cretney, R., & Bond, S. (2014). 'Bouncing back' to capitalism? Grass-roots autonomous activism in shaping discourses of resilience and transformation following disaster. *Resilience*, 2(1), 18-31.
- De Angelis, Massimo (2007). *The Beginning of History: Value Struggles and Global Capital*. London, UK. Pluto Press.
- De Certeau, M. (1984). *The Practice of Everyday Life* Berkeley: University of California Press.
- DESA. (2011). *World Urbanization Prospects, the 2011 Revision: Highlights*. New York: United Nations, Department of Economic and Social Affairs, Population Division.
- De Moor, T. (2011) From Common Pastures to Global Commons: a Historical Perspective on Interdisciplinary Approaches to Commons, *Natures Sciences Sociétés*, 2011, Vol. 19, 422-431
- Diprose, K. (2015). Resilience is futile: The cultivation of resilience is not an answer to austerity and poverty. *Soundings*, 58.
- Douthwaite, Richard (1996) *Short Circuit: Practical New Approaches to Building More Self-Reliant Communities* (Dartington Devon: Green Books)
- Feola, G., & Nunes, R. (2014). Success and failure of grassroots innovations for addressing climate change: The case of the Transition Movement. *Global Environmental Change*, 24, 232-250.
- Ferrao P. and Fernandez J. (2013) *Sustainable Urban Metabolism*, Cambridge (MA): MIT Press
- Flyvbjerg, B. (2006), Five Misunderstandings About Case-Study Research, *Qualitative Inquiry* 12 / 2, 219-245
- Folke, C. (2006). Resilience: The emergence of a perspective for social-ecological systems analyses. *Global Environmental Change*, 16(3), 253-267.
- Folke, C., et al. (2010). Resilience Thinking: Integrating Resilience, Adaptability and Transformability. *Ecology and Society*, 15(4), 20.
- Fondation for Common Land, <http://www.foundationforcommonland.org.uk/rights-of-common>
- Freire, P. (1970). *Pedagogy of the Oppressed*. London: Continuum.
- Geddes, P. (1915). *City in Evolution* London: Williams & Norgate
- Gibson-Graham K.J, Cameron J & Healy S. (2013) *Take Back The Economy: An ethical guide for transforming our communities*. Minneapolis MN: University of Minnesota Press
- Godschalk, D. (2003). "Urban Hazard Mitigation: Creating Resilient Cities." *Nat. Hazards Rev.*, 10.1061/(ASCE)1527-6988(2003)4:3(136), 136-143.
- Goldstein, B. E. (Ed.). (2012). *Collaborative Resilience: Moving Through Crisis to Opportunity*. Cambridge, MA: MIT Press.
- Government, H. (2010). *Decentralisation and the Localism Bill: an essential guide*. London: Department for Communities and Local Government.
- Guattari, F. (2008) *The Three Ecologies*, London: Continuum
- Gunderson, L. (2000) Ecological Resilience—In Theory and Application. *Annual Review of Ecology and Systematics* Vol. 31: 425-439
- Gutwirth, S and Stengers, I.(2016) Le droit à l'épreuve de la résurgence des *commons* in *Revue juridique de l'environnement* (rje) 2016/1
- Harvey, D. (2008). The right to the city. *New Left Review*, 53(9-10), 23-40.
- Hardt, M. and Negri, A. *Commonwealth*, Cambridge MA: Harvard University Press, 2009
- Hirst, P. (1993). *Associative Democracy: New Forms of Economic and Social Governance*. London: Polity
- Howard, E. (2013 [1889]) *Garden cities of to-morrow*. London: Routledge.
- Holling, C. S. (1973). Resilience and Stability of Ecological Systems. *Annual Review of Ecology and Systematics*, 4(1), 1-23.
- Holling, C. S. (1982). Myths of Ecology and Energy. In L. C. Ruedisili & M. W. Firebaugh (Eds.), *Perspectives on Energy: Issues, Ideas, and Environmental Dilemmas* (3rd ed., pp. 8-15). New York: Oxford University Press.
- Holloway, J. (2002). *Change the world without taking power*. London: Pluto Press.

- Holloway, J. (2006). 'Un mouvement "contre-et-au-delà": À propos du débat sur mon livre *Changer le monde sans prendre le pouvoir* [Change the world without taking power]. *Variations: Revue internationale de théorie critique*, 18(04), 15–30.
- Hopkins, R. (2008). *The Transition Handbook: From Oil Dependency to Local Resilience*. Totnes: Green Books
- Hopkins, R. (2009) 'Resilience thinking'. *Resurgence*, 257,12-15.
- Hopkins, R. (2010) 'What can communities do'. Retrieved 14 February 2013 from <http://www.postcarbon.org/Reader/PCReader-Hopkins-Communities.pdf>
- Hopkins, R. (2011). *The Transition Companion: Making Your Community More Resilient in Uncertain Times* Totnes: Green Books.
- Hornborg, A. (2009). Zero-Sum World: Challenges in Conceptualizing Environmental Load Displacement and Ecologically Unequal Exchange in the World-System. *International Journal of Comparative Sociology*, 50(3-4), 237-262.
- Illitch, I. (1973) *La Convivialité*, Paris: Seuil
- IPCC (2014). Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]. IPCC, Geneva, Switzerland.
- Jasanoff, S. (2004). *States of Knowledge: The Co-Production of Science and Social Order*. London: Routledge.
- Joseph, J. (2013). Resilience as embedded neoliberalism: a governmentality approach. *Resilience*, 1(1), 38-52.
- Klein N. (2001) Reclaiming the Commons. *New Left Review*, 9, 81-89.
- Latour, B. (2005) *Reassembling the Social: An Introduction to Actor Network Theory*, Oxford: Oxford University Press
- Linebaugh, P. *The Magna Carta Manifesto - Liberties and Commons For All*, Oakland, University of California Press, 2009.
- Alden Wily, L. (2015) The Global Land Grab: the New Enclosures in D. Bollier & S. Helfrich (eds), *o.c.*, resp. p. 132-140 et p. 157-160.
- C. Padilla (2015) Mining as a Threat to the Commons : the Case of South America », in D. Bollier & S. Helfrich
- Lefebvre, H. (1991). *The Production of Space* New York: Blackwell.
- Lefebvre, H. (1996). *Writings on cities*. New York: Blackwell.
- Lewis, M. and Conaty, P. (2012) *The Resilience Imperative: Cooperative Transitions to a Steady-State Economy*. Gabriola Island: New Society Publishers
- Mapes, J. & Wolch, J. 'Living Green': The Promise and Pitfalls of New Sustainable Communities, *Journal of Urban Design*, Vol. 16. No. 1, 105–126, February 2011
- MacKinnon, D., & Derickson, K. D. (2013). From resilience to resourcefulness: A critique of resilience policy and activism. *Progress in Human Geography*, 37(2), 253-270.
- Maguire, B. and S. Cartwright (2008) 'Assessing a community's capacity to manage change: A resilience approach to social assessment'. [http://adl.brs.gov.au/brsShop/data/dewha_resilience_sa_report_final_4.pdf]
- Mason, K., & Whitehead, M. (2012). Transition Urbanism and the Contested Politics of Ethical Place Making. *Antipode*, 44(2), 493-516.
- Medosch, A. (2015). *Cities of the Sun: Urban Revolutions and the Network Commons (key-note lecture)*. Paper presented at the Hybrid City 03, Athens.
- Mouffe, C. (2005) *On the Political (Thinking in Action)*. New York: Routledge
- Negri, A., & Hardt, M. (2009). *Commonwealth*. Cambridge (MA): Harvard University Press.
- Nelson, S. H. (2014). Resilience and the neoliberal counter-revolution: from ecologies of control to production of the common. *Resilience*, 2(1), 1-17.
- Nevens, F., et al. (2012). Urban Transition Labs: co-creating transformative action for sustainable cities. *Journal of Cleaner Production*, 50(Special Issue: Advancing sustainable urban transformation), 111-122.
- Office, C. (2011). *Strategic National Framework on Community Resilience*. London: UK Government.
- Ostrom, E. (1996). Crossing the great divide: Coproduction, synergy, and development. *World Development*, 24(6), 1073-1087.
- Ostrom, E. (1990). *Governing the Commons: The Evolution of Institutions for Collective Action*. New York: Cambridge University Press.
- Peck, J., & Tickell, A. (2002). Neoliberalizing Space. *Antipode*, 34(3), 380-404.
- Petcou, C., & Petrescu, D. (2015). R-URBAN or how to co-produce a resilient city. *Ephemera*, volume 15(1), 249-262.
- Petrescu, D. (2012). 'Relationscapes: mapping agencies of relational practice in architecture:' In *Traceable Cities*, special issue of *City, Culture Society* 4 (2)
- Petrescu, D. (2009). 'How to make a community as well as the space for it' in *The Rururban Plot*, Galicia: CGAC (Spanish / English) 2009, pp.107-112
- Platts-Fowler, D. & Robinson, D. (2013), *Neighbourhood Resilience in Sheffield: Getting by in Hard Times*. Sheffield: CRESR/Sheffield City Council.

- Pohl, C., et al. (2010). Researchers' roles in knowledge co-production: experience from sustainability research in Kenya, Switzerland, Bolivia and Nepal. *Science and Public Policy*, 37(4), 267-281.
- Polk, M. (Ed.). (2015). *Co-producing Knowledge for Sustainable Cities: Joining Forces for Change*. London: Routledge.
- Pulido, L., Kohl, E. and Cotton, N-M (2016). State Regulation and Environmental Justice: The Need for Strategy Reassessment in *Capitalism Nature Socialism*, 2016 Vol. 27 / 2, 12-31
- Purcell, M. (2006). Urban Democracy and the Local Trap. *Urban Studies*, 43(11), 1921-1941.
- Radywyl, N., & Biggs, C. (2013). Reclaiming the commons for urban transformation. *Journal of Cleaner Production*, 50, 159-170.
- Rapoport, Elizabeth, 2011, *Interdisciplinary Perspectives on Urban Metabolism. A review of literature*, UCL Environmental Institute paper, UCL, London
- Ravel, J. and A. Negri (2008) *Inventer le commun des hommes (Inventing the common)*, *Multitudes No. 31*. Paris: Éditions Amsterdam
- Reed C and Lister N-M (2014) *Projective Ecologies*, Cambridge Mass: Harvard GSD
- Robards M.D., Schoon ML, Meek C.L., Engle N.L. (2011). 'The importance of social drivers in the resilient provision of ecosystem services'. *Glob. Environ. Change*. issue 21.
- Robbins P. (2004). *Political ecology: a critical introduction*. Blackwell Publishing
- Rohe, W. M. (2009). From local to global: One hundred years of neighborhood planning. *Journal of the American Planning Association*, 75(2), 209-230
- R-Urban (2014) R-Urban. *Pratiques et reseaux de resilience urbaine* [http://rurban.net]
- Scharmer C.O. (2010) *Seven Acupuncture Points for Shifting Capitalism to Create a Regenerative Ecosystem Economy*, Oxford Leadership Journal. Vol.1/3.
- Scoones, I. (1999) 'New Ecology and the Social Sciences: What Prospects for a Fruitful Engagement?' *Annual Review of Anthropology* 28: 479-507
- Sen, A. (1999) *Development as Freedom*, Oxford, Oxford University Press.
- Shaikh A, Kauppi C. Deconstructing resilience: myriad conceptualizations and interpretations. *International Journal of Arts and Sciences*. 2010;3(15):155-76.
- Shearman D. and Smith J.W. (2007) *Challenge and the Failure of Democracy*, Westport: Praeger
- Stavrvides, S (2016) *Common Space: The City as Commons*, Chicago: University of Chicago Press
- Stiegler, B. (2015), *L'emploi est mort, vive le travail!* Paris: Mille et une Nuit
- Tibbs, H.B.C. (1992), *Industrial Ecology - An Agenda for Environmental Management*, *Pollution Prevention Review*, Spring 1992, pp.167-180.
- Timmerman, P(1981)Vulnerability. Resilience and the collapse of society: A review of models and possible climatic applications. Environmental Monograph No. 1, Institute for Environmental Studies, University of Toronto.
- Trogal, K., & Petrescu, D. (2015). *Architecture and Resilience: Strategies to deal with global change at a human scale*. Introduction to Architecture and Resilience at a Human Scale conference proceedings, 10-12 September, Sheffield.
- UN. (2012). *Resilient People, Resilient Planet: A future worth choosing*. New York: United Nations (United Nations Secretary-General's High-level Panel on Global Sustainability).
- Vale, Lawrence J. (2014) *The politics of resilient cities: whose resilience and whose city?*, *Building Research & Information*, 42:2, 191-201
- Vigar, G., & Healey, P. (2002). Developing Environmentally Respectful Policy Programmes: Five Key Principles. *Journal of Environmental Planning and Management*, 45(4), 517-532.
- Zimmerer, K. (1994) 'Human Geography and the "New Ecology": the Prospect and Promise of Integration', *Annals of the Association of American Geographers* 84(1): 108-25
- Wagenaar, H., & Wilkinson, C. (2013). *Enacting Resilience: A Performative Account of Governing for Urban Resilience*. *Urban Studies*.
- Walker, B., et al. (2004). Resilience, Adaptability and Transformability in Social-ecological Systems. *Ecology and Society*, 9(2), 5.
- Walker, J., & Cooper, M. (2011). Genealogies of resilience: From systems ecology to the political economy of crisis adaptation. *Security Dialogue*, 42(2), 143-160.
- Welsh, M. (2014). Resilience and responsibility: governing uncertainty in a complex world. *The Geographical Journal*, 180(1), 15-26.
- Werner E. Resilience in development. *Current Directions in Psychological Science*. 1995;4(3):81-85
- Weston B. H. & Bollier D. (2013), *Green Governance. Ecological Survival, Human Rights and the Law of the Commons*, Cambridge: Cambridge University Press
- Wilkinson, C. (2012). Social-ecological resilience: Insights and issues for planning theory. *Planning Theory*, 11(2), 148-169.
- Young, I. M. (1990). *Justice and the Politics of Difference*. Princeton: Princeton University Press.

ⁱ Transition Town Network was founded in 2006 by Rob Hopkins in Totnes, UK and has now become global. It focuses on connecting grassroots initiatives to increase self-sufficiency to reduce the potential effects of peak oil, climate destruction, and economic instability. (<https://transitionnetwork.org/>)

ⁱⁱ Parole d'Habitants - <https://vimeo.com/156241755>

ⁱⁱⁱ One year on the inauguration and successful implementation of the two R-Urban hubs, the new municipality decided to prevent their continuation for political reasons. The newly elected Mayor of Colombes positioned herself against the previous Mayor who supported the implementation of the project in Colombes, by publicly stating that her political agenda was divergent from the R-Urban agenda. In a radio interview at the time, the new Chief Executive of the municipal government stated that 'We have no moral obligation in relation to this organisation (aaa and R-Urban) because it was not our choice' (Radio Classique, broadcast 18 September 2015). In June 2015, the new Mayor decided to replace the Agrocité hub with temporary private car park for 80 cars. At the same time, without any reason given, the municipality refused the renewal of the temporary lease for Recyclab and subsequently asked for its removal. Immediately after this decision was announced, a request for demolition of the two R-Urban hubs was processed through a litigation procedure at the Tribunal Administratif. The case went in favour of the Municipality concerning Agrocité. However, the request for the Recyclab removal was rejected. Although R-Urban contested this judgement at the Court de Cassation. Agrocité is currently under threat of demolition and eviction by force. The Mayor mentioned at one of the sessions of the City Council the presence of another urban regeneration project conducted in a neighbouring area by the Agence Nationale de Renouveau Urbain (ANRU – The National Office for Urban Renewal) within a top-down regeneration scheme, as one of the main reason to remove the R-Urban hub. This happened despite R-Urban being internationally recognised for pioneering citizen led urban regeneration, as confirmed by the numerous international prizes awarded to the project.

^{iv} Parole d'Habitants - <https://vimeo.com/156241755>