

Chapter 6

Barcelona Experience in Resilience: An Integrated Governance Model for Operationalizing Urban Resilience



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6.1 Introduction

In the last two decades the concept of resilience conquered global policy reports dealing with sustainability and urbanization processes (GSP 2012). Many cities have started to label with this concept any climate, environmental or disaster risk reduction plan. This has resulted in a growing literature criticizing resilience for its conceptual emptiness (Albers and Deppisch 2012; Pizzo 2015). While having a long tradition in engineering and social sciences, resilience applied to cities only recently has been explored, recognizing the complexity of its operationalization (Chelleri and Olazabal 2012). Indeed, while different projects could easily integrate resilience through safety, redundancy or flexibility measures, the application of this concept to cities rises different issues. Among others, knowing that cities are characterized from “slow and incremental processes of growth and accumulation” from one side and “rapid and sudden processes of destruction and reorganization shaped under a disturbance” on the other (Eraydin and Taşan-Kok 2013:6) these questions come to mind: how to integrate the resilience with respect to short- and long- term threats? and How to prioritize between investments in short term treats-responses, or building long term resilience through adaptive capacities building? Consequently, some scholars suggested the importance of conceptually distinguishing between embedded ‘inherent resilience’ of a system and ‘adaptive resilience’ process (Cutter et al. 2008), or between ‘cumulative’ and ‘disaster’ resilience (Johnson and Blackburn 2014). A related issue is therefore how to put into urban planning and management practices the emerging and metaphorical “urban resilience thinking” (Elmqvist 2014), enabling the shift from a project or

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plan centred approach in building resilience to an integrated policy or governance process. This chapter offers a clear example about a tentative framework for framing such an integrated governance centred around the concept of city resilience. By reviewing the last five years of Barcelona policies and strategic moves in framing a Municipality Resilience Unit, and exploring the range of past and current resilience related projects within the city, this chapter contributes to better understand challenges and opportunities of framing a resilience related governance model.

6.2 Methods

This case study has been developed through a qualitative research addressing the analysis of official institutional documents and plans, and attending 2 international workshops organized in Barcelona by the city council in order to launch the Barcelona resilience model. Furthermore, preliminary learning and results have been discussed and implemented through a set of semi-structured interviews, with policy officials from the Barcelona City Council, members of the UN-Habitat City Resilience Profiling Programme (CRPP), and the research institutes, foundations and industry partners constituting the Barcelona Partnership for Urban Resilience (interviews performed from January to June 2015).

6.3 Case Study Introduction: The Background for Building the Barcelona City Resilience Strategy

Barcelona is one of the most known Mediterranean cities because of its vibrant night life and quality of public spaces, but also because of its governance based “Barcelona Model” (Marshall 2000), risen after the Olympics (1992). Indeed, the city leveraged through the Olympic Games a set of strategic investments in mobility and public space design operationalized through very efficient public-private partnerships, which has been defined as the Barcelona Model. Been the capital of Catalonia region (Spain), Barcelona is a dense and compact city as illustrated in the Fig. 6.1. The city municipal area is included between two river estuaries, the sea and the north-western Collserola hill.

As many other Mediterranean cities, Barcelona suffered periodical flooding, droughts and summer heat waves. However, and unexpectedly, among all those stresses, a tipping point shaking the city government decision making process has been a technical failure happening in 2007, when the city suffered during the same year three unexpected events threatening business continuity in the city. The first was a blackout leaving over 300,000 users (corresponding to 6 city districts) without electricity for almost three days and implying: three subways to be out of



Fig. 6.1 Barcelona location and city centre morphology. *Source* Author from Google Map

service for almost half an hour, six hospitals running only the most urgent surgeries thanks to their emergency generators, traffic jam out of control due to 23,100 traffic lights off (60% of the total), temporal breakdown of water supply and communication services due to the interdependency with the energy provision. There is no official estimated costs of those three days of blackout, but in 2013 ENDESA, the energy distribution utility company, and the *Red Eléctrica de España* (Spanish Electricity Net), have been fined with a 20 M Euro penalty for the blackout. Back to summer 2007, just after the blackout, an accident during the works for the high speed railway interrupted the train services, causing several human injuries. At the same time, a slow but worrying climatic variable threatened Barcelona, since the whole Catalonia region suffered the driest seasons in more than 60 years (AGBAR 2009). Barcelona metropolitan area population (counting with 3.2 Million inhabitants) is provided with the freshwater coming from the two river basins of Ter and Llobregat, while counting with 5 water reservoirs of 789 hm³/year, supplying a total average water demand of 525 hm³/year. In 2007 and until 2010, the freshwater reservoirs registered a deficit of 177 hm³/year in water re-charge (Dalmau et al. 2008). While different technical and policy solutions were trying to respond to the water scarcity, in 2011 Barcelona suffered some unexpected and out-of-the-range floods with precipitations that reached 100 mm rainwater in less than 48 h and a maximum intensity of 47.7 mm in 1 h (Servei Meteorològic de Catalunya 2011).

6.4 Barcelona Responses Toward an Integrated Model of City Resilience Projects Management

The unexpected concentration of emergencies triggered a set of responses dealing both with climate change and technological potential failures issues. From the recently created *Oficina Catalana por el Canvi Climatic* (OCCC—Catalan Office for Climate Change) established in 2007 the *Convenció Catalana por el Canvi Climatic* (CCCC—Catalan Convention for Climate Change) putting the bases for the forthcoming *Plan por la Mitigació al Canvi Climàtic en Catalunya 2008/2012* (Plan for Climate Change Mitigation in Catalonia; PNACC 2008). From the other side, Barcelona city council run in 2008 an assessment on the vulnerability of its infrastructures and services called 3Ss (Security of Services Supply). This vulnerability assessment identified the weakest points of the city infrastructures networks and highlighted their interdependencies suggesting 40 improvement projects. In Fig. 6.2c the 40 actions enhancing city resilience have been illustrated, and among these the most strategic are: emergency protocol in case of food chain problems (14), audit on the safety state of underground tunnels (21), optimization of the performance of electric buses (32), review of the Drought Plan (44), and assessment of the relationships between gas and water pipelines (51). All these actions have been framed within 8 management issues (represented using different colours in Fig. 6.2b, c) corresponding to different sub-department of the city council, which are: municipality services, urban tunnels, electricity, water cycle, energy, mobility and public transport, telecommunication and finally underground works. In order to manage all those projects and decision-making processes in an integrated way, a management board has been established in 2009, called *Taula de Infraestructuras i Serveis Urbans TISU* (Resilience Technical Bureau on Infrastructures and Services Supply, Barcelona City Council 2013). As represented in Fig. 6.2b, TISU wants to be a formal and institutional place where seventy-two professionals involved in thirty-seven entities are clustered within different Municipality departments, sharing information and coordinating their involvement in the 40 Improvement Projects enhancing city resilience.

In its first stage of existence, the TISU operated with the objective of improving the relationship with all the public and private actors involved in the Improvement Projects, establishing a coordination team (CT) re-defining the projects (if needed) in order to deepen a self-assessment process, and better detect and tackle the dynamic nature of urban vulnerability (Valdes et al. 2013). As reported by Filippi, five years after the creation of the TISU there were only four projects completed out of the forty established in 2009 (Filippi 2014). However, apart from the performance of the projects implementation, TISU evolved step by step toward an integrated governance-oriented model, including more urban challenges including sustainability and societal issues (Valdes and Ferrer 2015). Indeed, two more topics, or boards (related to social Services and Urban Planning), were introduced within the 8 sectors previously framed. Also, a Control Room where services incidences are reported was established, jointly with a Situation Room (an information

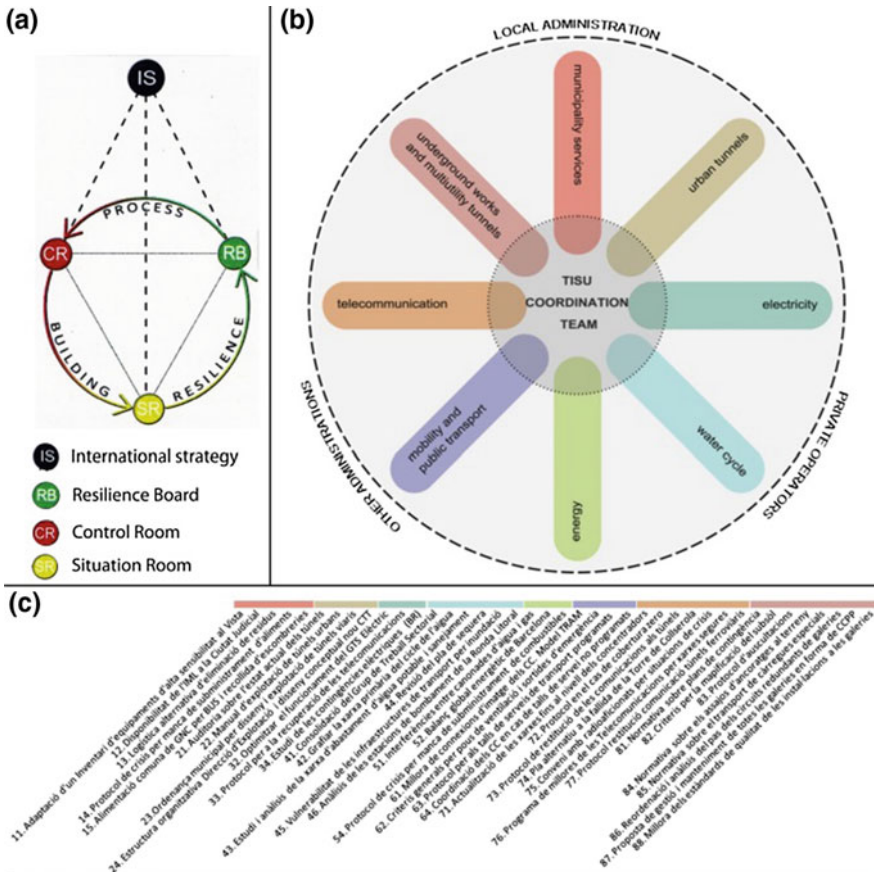


Fig. 6.2 Barcelona resilience strategy (a), TISU resilience boards (b) and the related actions proposed by the 3Ss report (c). *Source* Author from Barcelona Municipality 2013

platform supporting decision making processes, improving the emergency management), contributing to build a new, and as much as possible integrated, working method dealing with urban risks management (illustrated in Fig. 6.2a). Such a working method is a continuous process, in which any service failure-incidence is detected and reported by the Control Room, then managed in the emergency phase in the Situation Room and finally the Resilience Boards will take the necessary decision in order to manage the necessary actions/projects to enhance the resilience to the risks triggering the failure. What emerged from such a working methodology is not only the working tasks and responsibility re-framing within different Municipality departments, but the increased cross-sectors collaboration within a set of industrial and international partners, supporting the different projects and the dissemination of such a good governance practice.

6.5 Unpacking and Understanding the Barcelona City Resilience Model

From the creation of the TISU resilience board, Barcelona successfully promoted in different international events this integrated projects management model, until been awarded in 2013 as “role model city” for infrastructures and services risks reduction policies from the UNISDR Making Cities Resilient campaign. Also, being already part of the C40 Network for climate mitigation challenges, the city strategically offers to host and support financially the headquarter of the UN-Habitat City Resilience Profiling Program (CRPP) and one year later awarded to become one of the Rockefeller Foundation’s 100 Resilient Cities. Officially, the Barcelona Resilience Model (consisting within the TISU boards and integrated management described above) has been defined and presented during the first international workshop organized by the municipality and titled “Barcelona’s Experience in Resilience”, on February 2015.

Because of this rapid and successful international networking and support, framing public-private partnerships and defining a governance model, in the following sections this chapter uncovers all the strategic steps, and components of this emerging model. In particular, the two following sections will explain: (a) which influences and strategic political moves lead to the creation of the proper locals and international network of supporters for the Barcelona resilience model to be proposed, and (b) which previous specific experiences and expertise in resilience constituted the bases in Barcelona for a successful framing of the model.

6.5.1 *Institutional Re-framing and Strategic Moves Toward a Resilience-Centred Governance Approach*

The crises shaking the city from 2007 led to the creation of the TISU resilience board, but until the 2013, as briefly introduced above, there was not an international projection, nor the official announcement, or promotion, of any “governance model”. Indeed, the shift from an internal projects’ integrated coordination board to a governance model happened after a mayor policy change happening in Barcelona in 2011. A new department called *Hàbitat Urbà* (urban habitat) was created when the right-wing party won the election after almost 30 years of leftists. The mission of the new department was to integrate the existing variety of different units dealing with urban planning and management related issues (see Fig. 6.3). Leveraging on this new integrated configuration of the units the new deputy chief of the TISU board (previously managed by the infrastructure unit) succeeded to propose and create a new unit named Resilience Unit, expanding the previous mission of the TISU board and having influences on most of the other units and departments (Filippi 2014).

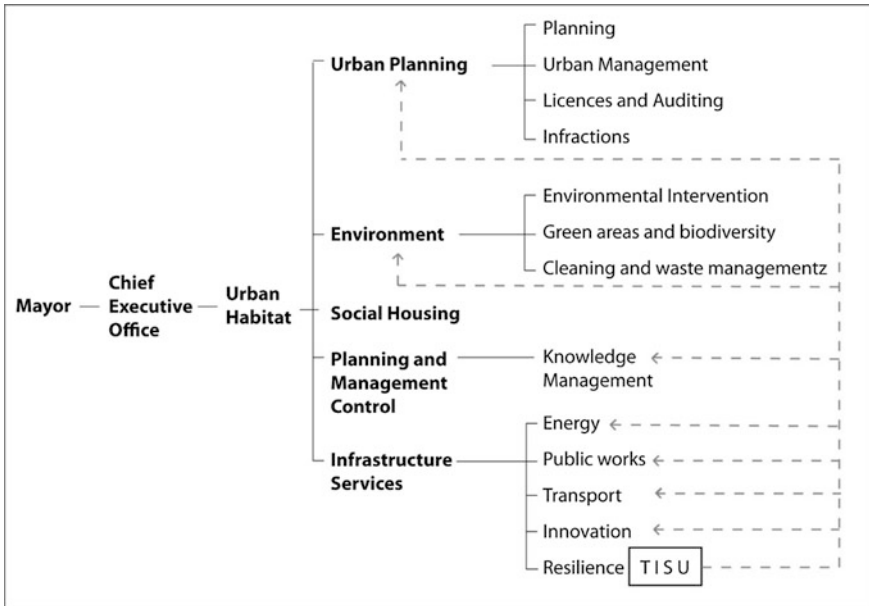


Fig. 6.3 The organizational chart of the Barcelona Municipality departments in 2014, with emphasis on the new Resilience Unit position within the hierarchy and its emerging influences on other units. *Source* Adapted from Filippi (2014)

Having the opportunity to influence others units’ projects, and therefore be also connected with a vast number of private companies involved in public-private partnerships, in 2013 the team of the resilience unit succeeded in building a consortium of 13 industry partners and research institutes (which will be named Barcelona Partnership for Urban Resilience) financially supporting with 2 MI euros in four years the Municipality in offering to host in Barcelona the Headquarters of the City Resilience Profiling Programme (CRPP), by the United Nations Human Settlements Programme (interviews and national press).¹ UN-Habitat CRPP is a program framing an innovative assessment tool for driving investments once urban resilience needs to be operationalized. Such a tool should be able to evaluate a range of urban risks in an integrated way in order to prioritize them, offering practical advises, based on solid evidences and measures, to practitioners and decision makers. Also, the CRPP works with global partners such as the UNISDR Secretariat, Red Cross, Habitat Partner Universities, big insurance groups, engineering and utility companies, and last but not at least relevant global networks such as ICLEI, Rockefeller 100 Resilient Cities, UCLG, Metropolis and the C40 Climate Leadership Group. Furthermore, Barcelona Municipality being among the

¹<http://www.elperiodico.com/es/noticias/barcelona/bcn-sera-sede-programa-onu-2355024>.

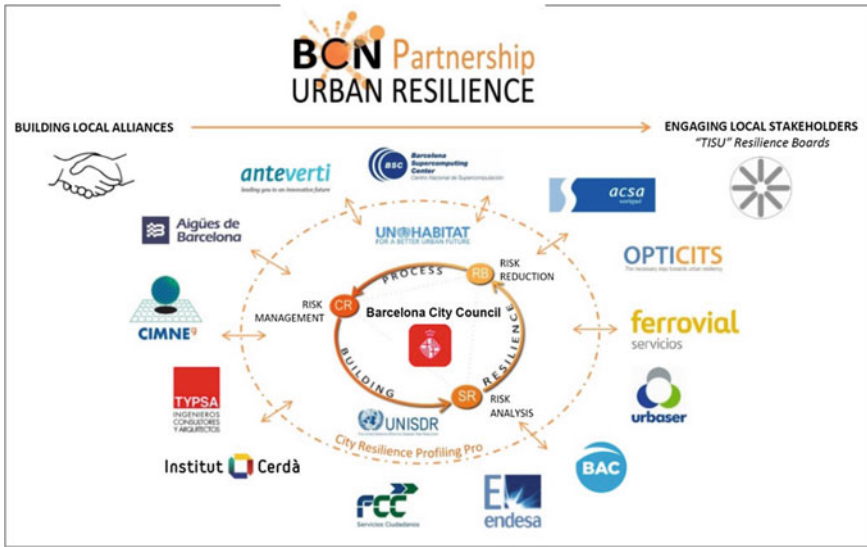


Fig. 6.4 Barcelona partnership for urban resilience. Source Author from Valdes and Ferrer 2015

10 selected cities of the CRPP,² the Resilience Unit would be directly involved in the framing and testing of the CRPP urban resilience framework, tools and indicators. In the light of all these networking opportunities and strategic partnerships the consortium built from the Resilience Unit was aiming at bridging, broadening and exporting commercially their accumulated local resilience expertise, also leveraging on the more than 2000 cities involved within UN-Habitat activities (interviews with different Barcelona Partnership for urban resilience members, 2015). Formally, the Barcelona Partnership for Urban Resilience³ has been created as a public-private alliance built on the TISU framework (as illustrated in the Fig. 6.4) and contributing to shape the Barcelona Resilience Model, defined as “a multi-level public-private long term collaboration fostering local and international networking in order to shape resilience strategies and boost experiences and opportunities sharing” (Valdes and Ferrer 2015).

This governance model, framing public-private partnerships within a set of key strategic networking moves has been presented as an innovative and effective way to operationalize resilience to the Rockefeller 100 Resilient Cities program, which recognized and awarded it in 2014. Once hired officially a Chief Resilience Officer, Barcelona undergo another political turn in 2015, with the left-wing party again in

²The ten cities, selected on the bases of the successful proposals submitted to UN-Habitat in response its call in November 2012, are: Balangoda (Sri Lanka), Barcelona (Spain), Beirut (Lebanon), Dagupan (Philippines), Dar es Salaam (Tanzania), Lokoja (Nigeria), Portmore (Jamaica), Concepcion/Talcahuano (Chile), Tehran (Iran), and Wellington (New Zealand).

³See <http://www.barcelonaresiliencegroup.org/>.

power. Due to the economic crisis and recent cut in education, health, and different social programs, the new policy agenda was promoting social policies while neglecting the recent emphasis and budget on infrastructures and public works. Also because of this turnover, the very same Resilience Unit, leading the Barcelona Partnership for Resilience, suddenly introduced within their goals “social resilience” aspects (officially presented during the Barcelona Experience in Resilience Workshop, held in February 2015, see Valdes and Ferrer 2015). Indeed, the official resilience challenges for Barcelona, as reported in the website of Rockefeller 100 Resilient cities program, are: flooding, heat waves, high unemployment, lack of affordable housing and social inequity.⁴ However, Barcelona experience in resilience (explored in the next section) from one side does address physical and climatic threats, but from the other, social inequity, unemployment and housing are very smoothly addressed in practice, notwithstanding the policy discourses.

6.5.2 *Barcelona Experience in Resilience*

After having explored the mechanisms and strategic moves contributing to the emergence and consolidation of an urban resilience unit within Barcelona Municipality offices, and the framing of a resilience-centred governance model, this section explains which of the experiences were already contributing to resilience building in Barcelona, before this concept was used in policy discourses. Indeed, while the boosting event for the first vulnerability assessment has been the chain of hazards suffered in 2007, a long list of previous resilience-related projects constituted Barcelona experience in resilience. Within the next subsections those experiences will be presented and critically analysed in order to better understand the contribution of the “accumulated resilience” (Satterthwaite 2013) to the emerging of the Barcelona urban resilience model.

6.5.2.1 **The Evolution of Flooding Resilience and Water Management**

Barcelona has been always exposed to flash floods and droughts, as any other part of the Mediterranean region. In a dense city like Barcelona, climate change coupled with the Spanish *laisse faire* of urbanization practices, increasing soil sealing, generation of barriers for subsurface waters or occupation of the natural basins and sewer networks deficiencies (lack of pipes capacities, poor maintenance) have always put flood resilience, challenges and solutions, at the forefront of urban vulnerability issues. Along the history of Barcelona’s drainage and water management strategies (Favaro 2014) the *Plan Especial de Alcantarillado* already in 1988 (PECB) conceived the first underground rainwater retention deposits

⁴Rockefeller Foundation 100RC website, http://www.100resilientcities.org/cities/entry/barcelona#/-/_/.

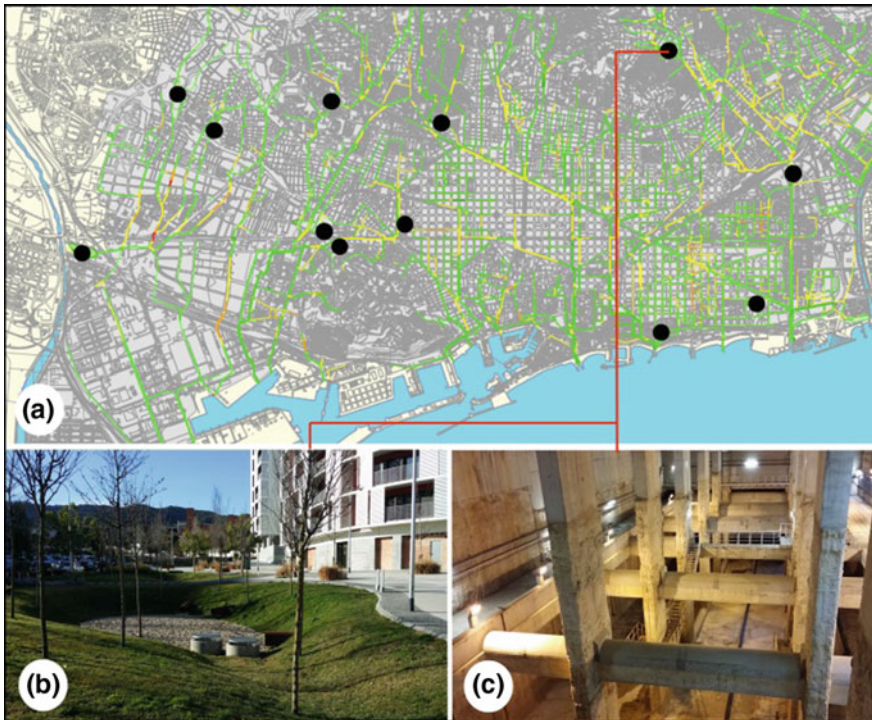


Fig. 6.5 Rainwater underground retention tanks map of Barcelona (a) and pictures of a retention tank placed under a big central city square (b) and an overflow basin for rainwater infiltration (c). *Source* Map adapted from Favaro (2014) and pictures from author

preparing the city for the 1992 Olympics' Games. Three main typologies of rainwater retention were planned as detailed in (Gago Lara 2010): (i) hurricane retention tanks (underground deposit designed for a flooding return period of 10 years) (ii) overflow basins (designed for rainwater retention and infiltration improvement, with multiple functions being open green spaces, although placed not in Barcelona city centre but at the edge of the sealing intensive areas) and (iii) Sustainable Drainage Systems (implying a consistent reduction in the pollution carried from the first flash flood waters since placed near a key pipe delivering the water to the sewages). Two decades after the Olympic Games, the city counted with 12 deposits already built with a total volume of potential rainwater retention of $722,200 \text{ m}^3$ (see Fig. 6.5). Within the last plan called PECLAB (*Plan Especial de Alcantarillado*), 24 more retention tanks have been planned within the Barcelona city area and other 6 in nearby municipalities (PECLAB 2003).

As one of the different outstanding performances of such measures, in 2011 about $154,000 \text{ m}^3$ of rainwater have been treated, avoiding flooding and the flowing of 1784 ton of pollutants into sea waters (CLABSA 2011). This hard-infrastructure based solution to flooding has been necessarily linked to improvements in the

monitoring, modelling and forecasting of weather, and new sensors integrated within a real-time infrastructures control systems, which can be managed from a control room optimizing water management while avoiding risks (Russo et al. 2015).

6.5.2.2 Dealing with Drought

Barcelona accumulated flooding resilience provides the city with increasing capacities in facing climate and urbanization challenges related to drainage management, but has little to do with reducing the risks of droughts (Aqualogy Interview 2015), which have been threatening the capital city several times in the last decade. As mentioned in Sect. 6.1, the region of Catalonia suffered from 2007 to 2010 the worst droughts in 60 years. A special law for water saving (*Decreto de Sequía 108/2008*) helped in reducing the domestic water usage rates by 10% which reached the excellent performance of just 103 l/pers/day (AGBAR 2009; Dalmau et al. 2008). At the same time un-used water wells were recovered, and re-using treated waters from the sewage plant (*Estación Depuradora de Aguas Residuales—EDAR—*at El Prat de Llobregat) for agricultural purposes has been introduced a new good practice. At the same time, from 2007 to 2009, one of the biggest European Desalination plants has been constructed, having a capacity of sea water desalination of 60 hm³/year (AGBAR 2009) although requiring the very high energy demand of 3 kWh/m³.

Notwithstanding the numbers and synergy between policies and infrastructure works, the Catalan Water Agency prediction of an increase of 110 hm³/year water consumption by 2025 (*Agència Catalana de l'Aigua 2008*) makes these solutions insufficient to meet long-term goals.⁵ At the same time, it is unlucky that due to the heavy pollution of the rainwater stored during the flash floods by the underground tanks, it's not a technically and economically feasible to save, treat and reuse the rainwater as a potential buffer of fresh water provision (Aqualogy Interview 2015). However, because the 37.5% of fresh water in Barcelona is used for the maintenance of parks and public gardens, such an amount of water could be saved by using rainwater collected from the roof-tops of parks adjacent buildings, as proposed by Fernandez Pérez (Fernandez Pérez 2009). Indeed, emerging local regulations from different municipalities are introducing (rain)water recollection, storage and reuse within the Barcelona metropolitan area, opening new opportunities for increasing drought resilience.

⁵It is worth mentioning that the desalination plant energy used for freshwater production correspond to 3 kWh/m³.

6.5.2.3 Coordination, Management Capacities and Mainstreaming City Resilience in Barcelona

Beyond the just mentioned big projects contributing to city resilience, it is also worth mentioning some local urban management capacities which already few decades ago constituted the bases for a successful longer-term city resilience strategy. Indeed, since the opportunity of hosting the Olympic Games in 1992, Barcelona demonstrated a wise planning strategy regarding the city-wide sprawling of Olympic sites and infrastructures benefitting different parts of the city. All the works have been executed through a governance based on efficient public-private partnerships without neglecting the quality of public spaces (Marshall 2000). In order to better manage all the necessary public works, a mixed private-public company called ACEFAT was created in 1990, with the mission of managing the work of utilities in an integrated way. Still nowadays, any public work should be executed through a previous application and communication to ACEFAT with respect to all of its details. ACEFAT will release the permit to each application only after having considered potential synergy with other works to be done in the same, or nearby area. Such a coordination and management practice has optimized public works execution during the last almost three decades, providing all the cartographic and potential synergies to any public work toward a method which nowadays has evolved into a web portal, called EWISE. This portal receives approximately 40,000 requests/year, from 6334 professional users registered, and connecting around 5656 organizations (interview ACEFAT 2015). Nowadays EWISE automates the management of administrative procedures, information on existing underground works and services, and resulting in a sensible reduction of administrative costs, prevention of damages to existing services, accelerated administrative procedures, and improved quality of service offered by the companies.

It could be also worth mentioning that among the hundreds of public works managed through this innovative service, Barcelona counted with dozens of projects which contributed to decrease the vulnerability of infrastructures and housing. These projects contributed to build Barcelona experience in resilience, as presented during the international workshop mentioned above, organized to celebrate the awarding of the Rockefeller 100 Resilient Cities program. Different enterprises introduced during this event their past and current experience in resilience, which could be synthesized mentioning that: (i) Agbar and Aqualogy, which are the water utility companies in Barcelona, offered an overview about the past and current flooding resilience initiatives, (ii) Endesa, the energy utility company, explained how the redundancy and monitoring of their nets have been enhanced in the last decade, (iii) Urbaser, responsible for streets cleaning and part of the waste management of the city, showed how they renewed and re-framed all their vehicles for being used 100% with renewable energy, produced within their own photovoltaic panels (and addressing both sustainability and resilience thanks to the redundant and flexible use of batteries and recharge options), (iv) TYPSA engineering consulting group explained how integrated measures in the (re)development of Barcelona city surrounding neighbourhoods have adopted resilience to flooding

thanks to their project and monitoring, (v) Anteverti consultant company, responsible of the organization of the Barcelona Smart City Word Expo, addressed how from Barcelona the synergy between the smart city concept and solutions could enhance resilience, (vi) research institutes CIMNE and Barcelona Supercomputing Centre illustrated how their research capacities in earthquake simulation and evacuation modelling could contribute to emergency management and damages prevention, (vii) the foundation *Istitut Cerdá* was responsible, among other projects, for leading since 2010 (for more than 5 years than) a board for enhancing crisis prevention and management involving different big or utility companies across the region and utility, while (viii) Opticits, a small start-up created after the 2009 Barcelona vulnerability assessment, introduced how Hazur, the software they framed in order to assess the interdependencies among critical infrastructures, could help planning and management for a more resilient infrastructure and city services (attendance to the workshop and personal interviews with all the enterprises and research centres, 2015). Those specific tools, activities or public works contributed to the background experience related to resilience which lead to the emergence of the Barcelona partnership for urban resilience, and allowed the Municipality to leverage these expertise for framing a governance model centred on resilience. However, in the next section we explore the challenges of making this model a truly integrated governance process, with a long-term sustainability approach.

6.6 Discussion: Challenges of Enabling an Integrated Governance Model for Urban Resilience

The case of Barcelona illustrates how an integrated, multisector and long-term public-private partnership framed around the concept of urban resilience can be operationalized, resulting in a governance model. When asked during the interviews, policy makers and industry partners taking part in the Barcelona Partnership for urban resilience revealed their enthusiasm to collaborate for “doing things better in order to improve city infrastructures and services” (interviews, 2015). As an example, the technicians from water supply and management utility company reported that after been working during these previous years within the Resilience Unit through the resilience boards, now they are better informed about the underground conditions and specific requirements of other companies and better networked to other partners which could frame synergies in current and future projects. Those “invisible improvements” in the short term are part of the new governance model which could enable a more integrated perspective in building urban resilience for the long term, as suggested from different scholars addressing the integration of resilience to planning practices (Eraydin and Tasan-Kok 2012). The synergies have actually existed, but not always exploited, between a variety of plans, ambitions, networks and projects led by different city departments. Such synergies represent the opportunity for framing such integrated governance

approaches. For instance, in Barcelona, the head of the Smart City World Expo, is part of the Barcelona Partnership for Urban Resilience, mentioning that resilience and the municipality workshops could be done in synergy with the global Expo, sharing the audience, networking and business opportunity rather than organizing events for promoting resilience autonomously (interview Antevertiq 2015). Quantitative information and recent policies justify these synergies, since Spain for example has recently framed in 2015 a National Plan for Intelligent Cities, having a budget of 152.9 Million euros. Barcelona already in 2012 signed an agreement with CISCO to wire Barcelona for becoming a “global model for urban sustainable development and an economic motor for Southern Europe” (Cisco 2012). Such an initiative, again aiming and promoting Barcelona as “a model for something” is in line with the entrepreneurial capacities of the city, which since 1992 make Barcelona to become a branded destination offering history, leisure, the post-modernities of star architects and cosmopolitan buzz (McDonogh 2011). Nowadays Barcelona has become a regular centre for global meetings in rotation with other cities like Paris, London and few other European capitals, but at the same time, emerging critics accompanied such a stride toward the global success, since the city was leaving back locals’ social needs, as reported from different scholars in the last decades (Casellas 2006; Casellas and Pallares-Barbera 2009; Delgado 2007; Morató 2005). Following this tradition, the Barcelona Resilience model has indeed the very same characteristics of previous governance models. The deputy mayor of Barcelona reminded in 2014 that the city resilience strategy “more than on infrastructures it is centred on peoples’ needs, and hinges upon three core ideas: its social dimension, the long-term thinking and the importance of establishing solid partnerships” (Deputy Mayor Interview 2014). Wishing to emphasize its social approach, one year later (maybe also because of the policy turnover from right to again left wings parties chairing city government), during the International Workshop Barcelona Experience in Resilience the head of the Resilience Unit highlight that a new resilience board was created, named *Xarxa Barcelona Resilient* (Barcelona Resilience Network). This initiative, gathering a group of local entities, mutual support groups, public and private institutions, has the mission to provide support to the victims of critical incidents, and rescue vagabond people during frozen nights in winter providing them emergency shelters. Such a “façade”, respect to the meanings and possible strategies related to enhancing social and community resilience (Mulligan et al. 2016), uncovers the business as usual and very mission of the Resilience Unit, standing on the public-private partnerships enhancing the investments in infrastructures and public works, while internationally promoting the Barcelona city resilience branding, better than serving local or social needs. Indeed, it’s interesting to notice that Barcelona Municipality itself boasts a very innovative social program called PLA BUIITS, consisting in two competitive calls for public spaces co-management opportunities, through which more than 25 spaces (public un-used, vacant plots in the city centre) have been left for 3 years to a consortium of citizens in order to self-manage the spaces with the purpose of organizing public activities (Urbá 2014; Brody and Chelleri forthcoming). Organized from the Public Participation Unit of the Municipality, this very successful experience of public

management of city spaces truly contributed in building community and social resilience, thanks to the self-organization, learning about regulations and procedures and people networking activities. However, PLA BUIITS program, running since 2012, has been never mentioned or included within the resilience boards, or mentioned from the Resilient Unit when presenting the Barcelona Resilience Model. Through the interviews conducted, this paradox has been revealed: the Resilience Unit has been always led by the infrastructure and public works department, having much of their relationships consolidated with construction and utilities companies, rather than with public participation activities and department. When asked why PLA BUIITS was not part of the Barcelona Resilience Plan, the responsible of PLA BUIITS said they have never been invited to be part of the meetings, while the resilience unit said it was already very complex to manage such a consortium of partners (referring to the Barcelona Partnership on Urban Resilience) and they could not include easily, in the short terms, other interesting initiatives (interviews with the responsible person from the Resilience Unit and Public Participation department, 2015). Beyond speculations and hypothesis about how and which social aspects of resilience have, or haven't, been included within the Barcelona resilience model, this case study illustrated an example of how critical infrastructure resilience projects could be managed in an integrated way, and how leveraging on these projects a new governance model could be framed.

6.7 Conclusion

This chapter explored Barcelona experience in resilience, by analysing the recent paths ranging from addressing some critical infrastructures failures to the international awards for the framing of an innovative model of urban resilience centred governance. Resilience has been mostly related to risk reduction measures and policy making in the last decades, but emerging integrated perspectives are including also economic, social and planning aspects within the need of framing urban resilience governance beyond risk reduction. The case of Barcelona is showing how such a framing is not only possible, but also positive because it indirectly creates business and internationalization opportunities for the city. In the discussion section this chapter provided some critical reflection about the mechanisms of inclusion or exclusion of aspects related to social (or community) resilience. However, the overall learning of this case study is that from one hand framing public-private partnerships and managing them through some kind of long-term integrated boards, in which institution departments, stakeholders, industry partners can interact and address common problem, is a success factor in operationalizing resilience in cities. From the other hand, the details about the management of those partnership revealed that framing such an integrated governance model has its limitations, which go beyond the context and inertia of Barcelona Municipality, but are embedded within the structure of any public administration. The scope of such public administrations is often extremely vast and

complex, due to the need to run hundreds of activities a day, behind each of which there are public and private interests making any integration challenging. Notwithstanding the difficult and sometimes conflictive dichotomy between policy discourses and practices, this book chapter contributes to build through the Barcelona case an example for any other city, of how an urban resilience governance framework could be used to leverage more integrated city management and planning practices.

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