



Catching on “Urban Resilience” and Examining “Urban Resilience Planning”¹

Zeynep Deniz Yaman Galantini²

ORCID: 0000-0002-7731-5540

Abstract

21st century is an era which environmental and urban systems triggered complexity and eventually urban planning processes started to be chaotic. Hence, 2000s can be described as a period in which complexity science developed and the capacity for planning and management needed to be improved to solve the rapidly changing urban problems. The main concern is finding out a principal contribution to urban planning processes to address this complexity dilemma and urban vulnerabilities. Since planning the future of an entire community may seem like a devastating challenge based on these challenges, urban planning should comprise conscious choices about the future and it has to be a rational way for getting prepared for the future. In this regard, “continual development and adjustment to the changing circumstances” is surely vital for all urban systems. This is parallel with resilience concept, which refers to understand addressing the uncertain changes and challenges. From this point of view, this paper aimed to clarify how resilience can be positioned in urban planning paradigms. In depth literature review and qualitative analysis were the base. Moreover, the development of urban planning paradigms from 1950s to today and the content of urban resilience were analyzed in details.

Keywords: *Urban planning paradigms, complexities, uncertainties, urban resilience, urban resilience planning.*

¹ This paper is produced from the PhD Thesis of the author which is titled “Urban Resilience as A Policy Paradigm for Sustainable Urban Planning and Urban Development: The Case of Istanbul”. I thank Prof. Dr. Azime Tezer, the supervisor of my thesis, for her valuable guidance in the development of the thesis.

² Dr., Istanbul Technical University, E-mail: yamanzed@gmail.com



“Kentsel Dayanıklılığı” Anlamak ve “Kentsel Dayanıklılık Planlanmasını” İrdelemek³

Zeynep Deniz Yaman Galantini⁴

ORCID: 0000-0002-7731-5540

Öz

21. yüzyıl, fiziksel çevrenin olumsuz etkilere ve kentsel sistemlerin beklenmedik değişimlere maruz kaldığı, buna bağlı olarak karmaşıklığın ve belirsizliklerin arttığı, nihayetinde de kent planlama sürecinin kaotik bir hal aldığı dönemdir. 2000’li yıllarda karmaşıklık biliminin gelişmesine ve kentsel sorunların gün geçtikçe büyümesine bağlı olarak, hem planlama ve yönetim kapasitesinin geliştirilmesi konusu, hem de belirsizliklerin ve karmaşıklığın neden olduğu kentsel kırılmalıkların çözümünde, kent planlama süreçlerinin nasıl bir katkı sağlayabileceğinin açıklanması ihtiyacı günümüzde önem kazanmıştır. Hızla artan karmaşıklık ve dünya dinamiklerindeki hızlı değişimler göz önüne alındığında, bütün bir toplumun geleceğinin planlanması ciddi bir mücadele olarak yorumlanabilir. Bu kapsamda, kent planlama yaklaşımlarının geleceğe ilişkin, yerinde ve sürdürülebilir seçimler içermesi, toplumları geleceğe hazırlanmak için mantıklı bir yol haritası çizmesi gerekmektedir. Bu bağlamda, “değişen koşullar karşısında sürekli gelişim ve uyumu” korumak, tüm kentler için hayati önem taşımaktadır. Bu perspektif, belirsiz dünyanın değişim ve zorluklarıyla nasıl başa çıkılabileceğini açıklamaya çalışan “dayanıklılık” kavramıyla örtüşmektedir. Bu açıdan, bu çalışma, şehir planlama paradigmasında dayanıklılığın nasıl konumlandırılabileceğini netleştirmeyi amaçlamaktadır. Derinlemesine literatür taraması ve nitel analiz bu çalışmanın temelini oluşturmuştur. Ayrıca, 1950’lerden günümüze kentsel planlama paradigmasının gelişimi ve kentsel dayanıklılığın kapsamı detaylı bir şekilde analiz edilmiştir.

Anahtar Kelimeler: Kent planlama paradigmaları, karmaşıklıklar, belirsizlikler, kentsel dayanıklılık, kentsel dayanıklılık planlaması

³ Bu çalışma, yazarın “Urban Resilience as A Policy Paradigm for Sustainable Urban Planning and Urban Development: The Case of Istanbul” başlıklı doktora tezi temelinde üretilmiştir. Tez danışmanı Prof. Dr. Azime Tezer’e, doktora çalışmasının gelişimindeki yönlendiriciliği ve değerli katkıları için teşekkür ederim

⁴ Dr., İstanbul Teknik Üniversitesi, E-mail: yamanzedede@gmail.com

Introduction

Due to the uncertain and complex dynamics of the world, cities face long-term social, ecological, economic and governance challenges. These encounters resulted in an important transformation process in cities due to the changing socio-economic conditions worldwide. Kinzig et al. (2006) interpreted that the last three or four decades have fostered a revolution in the way scientists think about the world from orderly and well behaved to complex and uncertain. Alternatively, today, considering the fact that a massive social or environmental failure in one region threatens the entire system in the highly interconnected global system, possibly the all-embracing question for the 21st century is if the current global system adapts and survive the highly interconnected problems it now faces (Costanza et al. 2007). In other words, Hordijk and Baud (2011) explained that by way of uncertainty, unpredictability and change have become key characteristics of today's interdependent world.

Surely, change and crisis are parts of the dynamic development and as Kowalik and Guaralda (2011) mentioned, morphing in cities will always take place, carrying growth, change or the death of city itself. Beal and Fox also contributes to this complex dynamism in "Cities and Development" (2009) explaining development is studied as implying change and concerning with understanding how and why societies change in particular ways, and how change can be consciously catalyzed or directed to serve certain goals. Hence, it is clear that considering a fundamental revising of the development concept, it is obvious that changes are obligatory in both goals and methods.

Actually, the most important problems that cities and urban administrations confront are related to how to manage those changes cities exposed to. Due to the absence of a comprehensive planning framework to manage change and uncertainties, many of the diverse urban development problems will continue to occur, grow and intensify. To draw attention to these upcoming and contrasting challenges, there has to be a new updated urban planning perspective. Definitely, planning theory and models have been evolving over the years (Rhiney, 2012) absorbing new ideas and translating them into its own theories and actualizations (Porter and Davoudi, 2012). However, even though urban planning adopted some innovative evolution in recent decades, such as strategic spatial planning, new land regularization and management approaches, participatory processes and planning for new and more

sustainable spatial forms such as compact cities and new urbanism (UN, 2009), in this context, the ability to continuously adapt to changing conditions is essential for a long-term urban sustainability. In fact, this requires to look at sustainability in a more prospective and adaptive way (Dos Santos and Partidário 2011).

From a sustainable development perspective, the responsibility is on today's generation not to compromise the ability for future generations to meet their own needs (World Commission on Environment and Development - Brundtland Report, 1987). If future needs are not known, the challenge for people of today is determining whether they are compromising the ability of future generations. Moreover, systems are vulnerable to externalities over which they have little or no control and they must hence be able to respond to unexpected disturbances that affect their internal functioning. To remain sustainable, the systems must continually reinvent itself, adapt and evolve. The fundamental parameters that serve to define the structural capacity of a systems' sustainability are subsequently its potential to determine what it is capable of, its connectedness to determine to what extent it can control its own destiny and finally its resilience to determine how vulnerable it is to unexpected disturbances (Egger, 2006).

Therefore, although sustainability was a major focus for policy linking of interactions between the environment, society and economy for many years; nevertheless; since sustainability literature expanded after 1990s and also 2000s, there was already a shift in the concerns about it considering the urban development policies from static view to dynamic models as well as the realization that things change. Pike et al. (2010) state that the focus of policy interest, according to uncertainty and rapid change, is about how places can "rebound". This means as Fiksel (2006) defined, there is an urgent need for a better understanding of the dynamic, adaptive behavior of complex systems and their resilience in the face of disruptions, recognizing that steady-state sustainability models are simplistic. In this context, studies of sustainable urbanization could benefit from the employment of "resilience" concept which is the new notion for understanding complexity, uncertainty and rapid dynamics, nonetheless the capacity of complex social-ecological systems to cope with, adapt to, and shape changes (Lang, 2011). Clearly, resilience is effective, under its both social and ecological perspectives, as a crucial tool for the sustainability of urban development and resource utilization, not the least as a

comprehensive strategy for urban sustainability, in sight of increasing working hypotheses about urban and regional systems, widening the interest to the whole aspects of human life (Surjan et al. 2011).

Considering the fact that although there is a growing interest about resilience in literature, there is not sufficient research to clarify its relation with urban spatial planning and there is not a precise framework to provide the applicability of resilience in cities. Considering the fact that cities are planned to last for long periods, then, continuation of functions ensures resilience in cities even in times of crises, unexpected changes or stressed spatial configurations (Surjan et al. 2011). It is evident that resilience may be lost in the urban systems (Folke et. al. 2002) due to the growing complexity (Ernstson et al. 2010) and the global integration of economic, social and physical processes putting in evidence the fragility of urban areas in order to be sustainable over significant periods of time. With this respect, it is worthy to discuss how urban planning processes have shaped to embrace new notions.

Correspondingly, there are no guaranties that cities will last indefinitely (Bogunovich, 2009), even though urban sustainability refers to maintain a city as a livable place for humans indefinitely. Therefore, resilience can be a desirable attribute of cities. However, principally, it is more relevant to analyze resilience more in details to find out its characteristics. Accordingly, first of all, this paper aims to clarify “urban resilience” concept and then to focus on urban resilience and urban planning integration through in-dept literature examination of the relevant literature. During the research, contemporary urban planning approaches (in three temporal stages as, before 1950s, 1950s-2000, after 2000) has been analyzed. As a result of this review, it has been discovered that contemporary urban planning approaches are grounded on the basic need for stability; there is lack of considering the unexpected changes and aren’t dealing with improving capacity to manage change. In this sense, the integration of urban planning and urban resilience can fill these gaps of the contemporary urban planning process.

Clarifying the Urban Resilience Concept

Resilience refers to a dynamic and multi-dimensional concept, which raises the notion of the capacity to “manage change” (Yaman-Galantini, 2018b) constantly through understanding, adapting to and surviving from complexity. This promotes a passage from static, equilibrium position toward a dynamic, non-equilibrium position. So, it is crucial to define the attributes of resilience

both to identify its dynamism related characteristics and to relate it with other concepts. Parallel to this, the attributes of resilience can be grouped as more stability related and dynamism or action related attributes. This means, there are two options to manage change; keeping the system work/stable or making the system transform. Considering this dual character, Yaman-Galantini and Tezer (2018b) suggested three categories of resilience characteristics which are “State” (the properties which explains what makes a system resilient); “Response” (the properties which refer to the actions oriented to a resilient state) and “Dynamism” (the attributes that a resilient system should generate against unexpected changes).

Cities are always subject to change both internally and externally which means they decline or expand, develop new form and functions and deal with various difficulties. There is never stability for ever and the complex system of cities are characterized by nonlinear behavior, self-organization and emergent properties, which is permeated by uncertainty and discontinuities. Consequently, these characteristics can be useful to identify how a resilient city has to be and has to react. Furthermore, dynamism attributes of resilience should be related with the institutional resilience and should refer to governance success, since the strength of the administrative level is fundamental in order to create effective planning tools such as plans/strategies, laws and procedures for enhancing those characteristics.

In the last several years, the concept of urban resilience has inspired a substantial number of academic studies. In Thomson Reuters Web of Science, urban resilience key worded publications are increasing more and more through the years (Figure 1).

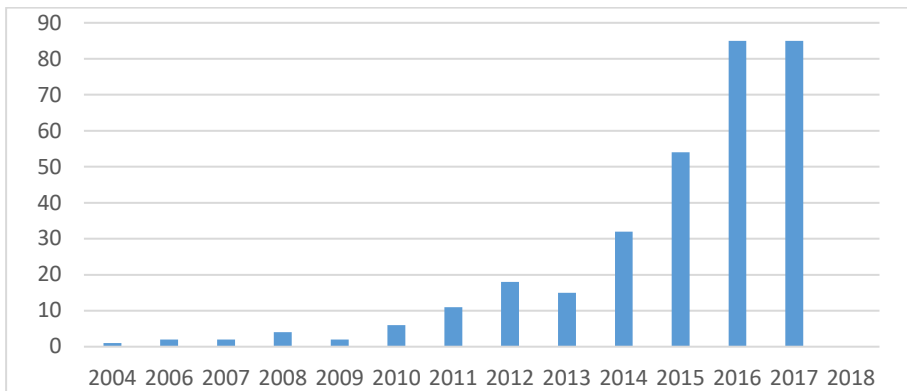


Figure 1. “Urban Resilience” Key Worded Publications (Reference: Url-1)

Considering “urban resilience” literature, Ernstson et al. (2010) identified the distinction between “resilience in cities” and “resilience of cities”. “Resilience in cities” addresses the continuity of ecosystem services in cities provided by locally and regionally; while “resilience of cities” means the functioning of cities as a set of cities linked with each other through relations of exchange in the form of trade, migration or others that sustain the flow of energy, matter and information among them. Furthermore, Arefi (2011) explains urban resilience concept in relation to form, function and flows. He divides the concept into three types of city models, which are “fixed city, good city and kinetic city”. Additionally, Gleeson (2008) suggests the “resilient urbanism” via three principal branches: first, the acceptance of the inevitability of evolution and the necessity of adaptation; second, an orchestration of activities (zoning, infrastructure, services, design, etc.), all of which converge in the best set of major improvements for urban well-being and efficiency and third, promoting equity. Correspondingly, Newman et al. (2009) show cities' strain to endurance, to react to crises and adapt, and how they are compelled to re-shape and grow. Cities do not need only strong physical infrastructure and built environment, but also require their own inner strength and resolve. Thus, it should be determined that cities cannot avoid being resilient (Novotny et al. 2010). In order to become more resilient, cities and regions are supposed to adapt multipurpose planning and design strategies and able to foresee the economic, social, and physical stresses that they may face (Yaman-Galantini and Tezer, 2018a). Therefore, resilient city promotes the ability not only to return to previous state after any kind of disturbance; but also to adapt and transform using the disturbances as advantage. Many authors defined the characteristics of the resilient city as shown in Table 1.

Table 1. Characteristics of a Resilient City

Author	Resilient City Characteristics
Godschalk, 2003	Redundant, Diverse, Efficient, Autonomous, Strong, Interdependent, Adaptable, Collaborative
Ahsan, 2013	Flexible, Redundant, Resourceful, Safe failure, Responsive, Capacity to learn, Dependent on local ecosystems
Lu and Stead, 2013	Attention to the current situation, Attention to trends and future threats, Ability to learn from previous experience, Ability to set goals, Ability to initiate actions, Ability to involve the public

While considering the characteristics of resilient city, another identical criterion is to assess urban resilience through how well a city can simultaneously

balance ecosystems and human functions (CSIRO, 2007). From this point of view, it is necessary to emphasize the definition of urban resilience from different aspects regarding to the balance between ecosystems and human functions. In this sense, social-ecological perspective is a very proper way to begin. As Folke et al. (2010) explained social-ecological resilience evaluates people and nature as interdependent systems. Ecologic resilience is related to the development of territorial systems (Colucci, 2012) and social resilience is the ability of groups or communities to cope with external stresses and disturbances as a result of social, political and environmental change (Adger, 2000).

Additionally, spatial resilience has to be another important aspect of urban resilience referring to the provision of infrastructural necessities for socio-economic resilience. Gibberd (2011) defined spatial resilience as infrastructural resilience, which refers to the vulnerability of built structures including property, buildings and transportation systems. Accordingly, Briguglio et al. (2008) defined economic resilience, which can be interpreted as another perspective for urban resilience. Based on their definition, economic resilience refers to the policy-induced ability of an economy to recover from or adjust to the negative impacts of adverse exogenous shocks and to benefit from positive shocks. Rose (2009) made a more detailed definition of economic resilience including the notions of static economic resilience (maintain function when shocked) and dynamic economic resilience (speed to recover from a severe shock to achieve a desired state). Finally, institutional resilience has to be provided for urban resilience since a city or region's ability to manage resilience resides in actors, social networks, and institutions (Gotham and Campanella, 2010). The provision of institutional resilience fosters the dynamism of the urban systems.

Parallel to all these aspects, The Resilience Alliance aimed at generating new insights and approaches for addressing many challenges urban areas facing around the world, through a four domains framework, which are the components of metabolic flows, built environments, governance networks and social dynamics (Figure 2). The metabolic flows concern the production, supply and consumption chains in an ecosystem, transcending the boundaries of the city. This is directly linked with the capacity of producing energy, goods, and services to be sufficient for the wellness and the life-quality of the whole community. On the other hand, production systems' interconnection, interdependency, diversity and efficiency are meaningful to test their own resilience. Governance networks are composed of institutions and organiza-

tions leading and managing urban settlements. The relations among them affect the regional, national and international levels. Governance relates to the management of finance, public services (sewer, water, education, etc.) as well as emergency services (police and fire departments).

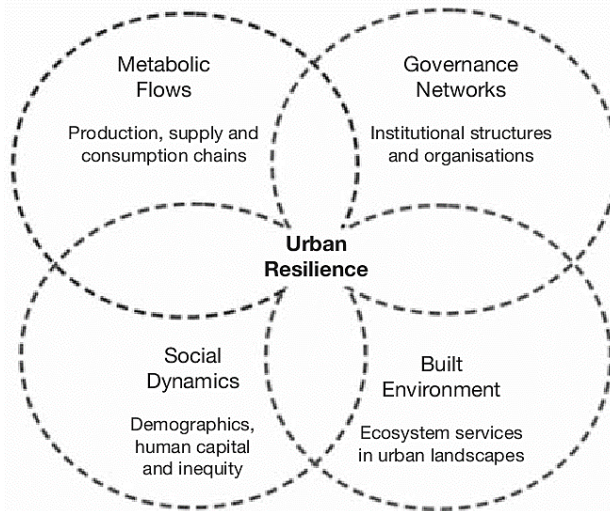


Figure 2. Urban Resilience Components (CSIRO, 2007)

Social dynamics include such as the features of demography, human capital and inequity characteristics of the population. Finally, built environment category represents ecologic and urban landscapes, and habitats. Ideologies, policies, building laws and transportation, affect the way of built environment may develop (CSIRO, 2007; Normandin et al. 2009). Urban resilience derives from the intersection of these areas. Considering all, the paper highlighted those five important aspects - spatial, social, economic, ecologic and institutional – and in order to construct the theoretical basis of urban resilience, these aspects are interpreted through the state, response and dynamism related attributes of resilience (Table 2).

Each specific attribute of urban resilience explained as shown in the Table 2 actually defines “what urban resilience means” for each individual city they are identified and assessed. So, they should be taken into consideration to measure and eventually to provide and sustain urban resilience. With this regard, if all the indicators and the policies are developed from these aspects, then they help to formulize urban planning process to create resilient cities and also to enhance urban resilience or at least to preserve it. As Gleeson

(2008) confirms, planning must look to navigate change, mould it in search for urban resilience. Then the resilient city can be the goal of urban planning and it can put the metaphor into practice. The next part explains how the integration of resilience into urban planning process can be designated.

Table 2. Attributes of Urban Resilience (Adapted from Yaman-Galantini, 2018a)

Resilience Attributes	Ecologic	Social	Economic	Spatial
Resilient State	<ul style="list-style-type: none"> -Strengthening the capacity of ecosystems -Preventing and reducing the division of habitats -Preserving the links between species 	<ul style="list-style-type: none"> -Strengthening A community's ability to adapt to change -Continued service provision -Alternative means of providing community needs -Problem solving capacity of a society 	<ul style="list-style-type: none"> -Enhancing the performance of structures, infrastructure elements, and institutions in reducing losses from a disaster -Stronger local economy -Having a large network of collaborating businesses -Overall economic viability 	<ul style="list-style-type: none"> -Creation of physical assists in an appropriate way -Spatial arrangement of system components, especially relevant system properties -Back up resources to sustain operations (alternative sites, etc.)
Resilient Response	<ul style="list-style-type: none"> -Functioning of the system and the ability to maintain a steady ecological state 	<ul style="list-style-type: none"> -Post-disaster recovery of communities -Plans and resources to cope with damage -Rapid reorganization of a system -Creating opportunity for technological innovations and economic policies 	<ul style="list-style-type: none"> -Informing economic decisions based on the information and skills from previous experiences and knowledge -Creating new stability domains for development -Efficient use of resources over time for investment in repair and reconstruction; -Conservation of critical inputs; efficient allocation of resources 	<ul style="list-style-type: none"> -Minimize time needed to restore services and perform key response tasks -Running durable and adaptable design practices and preservation and restoration activity to affect all forms of capital
Dynamism	<p>Institutional</p> <ul style="list-style-type: none"> -The capacity of administrative units to meet the community needs through creative interactions and continuous learning -The capacity to bridge links to diverse stakeholders and to promote collaborations -The economic, ecologic, social and spatial capacity within a system to identify problems, establish priorities and mobilize and apply resources in face of disruption -The capacity of a system to preserve knowledge, information, experience and values 			

Integrating Urban Resilience and Urban Planning

In order to evaluate if resilience can address the bottlenecks of contemporary urban planning, indeed, it is necessary to answer where to locate resilience in planning paradigms. Therefore, the evolution of urban planning paradigms from the first half of the 20th century to today were analyzed.

During the first half of the 20th century, the city was considered as a machine: the control over the city was exerted through deterministic and top-down plans according to the modernist planners' approaches used to deal with the poor living conditions of the industrial cities of the 19th century and the main intervention was to beautify them principally. Hall explains (2005) that as problems were described, solutions were addressed those problems; however, due to the lack of activity of people and the social and political processes, these solutions could not be operated until decades subsequently, when the problem itself had changed in character and possibly also in importance (Hall, 2005).

In the second half of the 20th century, the city was seen as a system (Jacobs, 1961; Berry, 1964; Chadwick, 1971) and as Oliveira and Pinho (2010) expressed, planning became increasingly linked with the rational model. In the 1960s, there was an ambition to achieve "comprehensiveness" (Ferreira et al. 2009). Planning was considered as an instrument of long-term structural change and in this era, the debates were about content versus context, rational versus political, comprehensive versus incremental, substance versus process (Neuman, 1998). Then in this period, systems planning flourished from the beginning of 1960s through the 1970s, resulting from the limits of comprehensive planning to effectively deal with unexpected growth. It promotes a more scientific and analytical view of the city as a set of complex processes, without necessarily aiming to a final, physical plan (Walkers, 2007) and it paved the way for the development of the strategic planning.

The roots of strategic planning were grounded into the need to plan effectively and manage the futures, when the future itself, due to rapid changes and growth, seemed to be increasingly uncertain. By the end of the 1980s, a "gap" in strategic planning capacity emerged in many countries with rising concerns about spatial fragmentation, urban sprawl, and the environmental consequences (Ferreira et al. 2009; Todes, 2012) so called "unexpected" changes and "uncertainties".

In the late 1980s, the concern of human activities on the environment started to raise. The emphasis on natural disasters were getting more in more important in debates. From this perspective, in 1980s, resilience started to be used as a disaster related issue in terms of especially physical infrastructure (Plodinec, 2009). In this period, resilience did not have a broader perspective in urban planning practices but it was just a term related to disaster mitigation.

More commonly, sustainability debate was born to address environmental issues in 1987 with “Our Common Future – Brundtland Report”. Sustainability was a major focus for policy linking of interactions between the environment, society and economy for many years (Cork, 2010) but also it aimed to promote economic development in order to generate new jobs and new wealth to replace the losses that arise from globalization processes, especially deindustrialization; promote social cohesion so as to reduce the problems that arise from concentrated deprivation and social exclusion and promote a more balanced distribution of economic development across national territories, so as to reduce regional disparities (Hall, 2005).

In the meanwhile, in 1990s, the strategic approach implied the development of an adaptive strategic planning capacity and a shift on stakeholders, which were gradually more involved in the planning process based on a joint definition of the situation and of the common interests, aims and relevant knowledge (Albrechts, 2004). The revival of strategic spatial planning in 1990s and 2000s was not just a consequent response to global challenges, but was also an active force to drive changes (Albrechts, 2010; Ferreira et al. 2009). This was firstly through the capacity to know a place in all its complexities and in the fine grain of its social, environmental, political and physical fabric. Secondly, it was through an imaginative capacity to see opportunities that can provide the momentum for future development and keep safe from the many threats to the well-being that emerge in contemporary urban life. Then finally, it was through the insights to imagine future perspectives and selecting specific patterns (Healey, 2009). Nevertheless, to react to the new challenges, a more complex and sophisticated type of strategic spatial planning seems needed (Albrechts, 2012). Even if sustainability and strategic planning became the main focus of the contemporary urban development and the most important tool to tackle with uncertain future in this period, 2000s instead are the periods when the complexity science was developed.

Urban planning systems in many parts of the world are still not equipped to deal with the urban challenges of the 21st century including global environmental challenges, habitat loss and fragmentation, natural hazards, unfair distribution of resources and services, unsustainable way of urban form, spatial segregation based on socio-economic differences of population and unemployment (Yaman-Galantini, 2018a). These complexities causing diverse urban problems make it inevitable to have vulnerable and insecure community and spatial form in urban areas. Additionally, most of the plans tend to fail since;

- they aren't identical to the area that they supposed to refer,
 - they don't reflect realistic strategies,
 - they don't address the core reasons of the vulnerabilities or disturbances,
 - they are not prepared by the right group of stakeholders,
 - they are grounded on basic need for stability or
 - they are not dealing with unexpected change, they are not updated and they no longer respond to the current requirements.
- This means that the traditional paradigm of planning for a predictable future is insufficient.

As Porter and Davoudi (2012) explain, resilience thinking offers a new method for planning to get out of its obsession with certainty and stability. Moreover, it highlights the ineffectiveness of the blueprint type of strategies for complex and dynamic systems. On the other hand, Godschalk (2003) reminds a city without resilient community can be extremely vulnerable. Nonetheless, today, the recognition of uncertainty and complexity leads to a new paradigm in urban planning, comprehending the past, present and future movements.

Surely, urban planning fundamentally necessitates addressing all kinds of weaknesses and defining thresholds for unexpected changes, with a multi-dimensional, multi-scale and process oriented aspect. This means that urban planning should react in a broader perspective. Therefore, urban planning should encourage the emergence of particular development trajectories, this should lead to a deep change in the purpose and fundamentals of urban planning as Healey (2008), and Balducci et al (2011) express. Furthermore, there has to be a perspective of an action planning reshaping, reorganizing and developing new adaptive strategies by being related to both preparations to minimize disturbances/changes and action to deal with disturbances once they have occurred. Based on this realization, throughout the past half century, there has been a growing and continuing demand towards developing more integrated approaches to urban planning in a way to combat the disreputably complex and chronic urban problems (Abukhater, 2009). Over the past few decades, new approaches, which seek to address the problems in contemporary urban planning systems, have emerged. These elements can be classified as;

1. Strategic rather than comprehensive;
2. Flexible rather than end-state oriented;
3. Action and implementation oriented;

4. Stakeholder or community driven;
5. Reflect emerging urban concerns and play an integrative role; and
6. Focus on the planning process (un, 2009).

Critical planning tasks are meant to recognize and give a direction to uncertainty (Christensen, 1985). Therefore, it is compelling for planning theory and practices to embrace incompleteness and uncertainty, forecasts (Balducci et al. 2011) as well as they should be open to a multiple hypothetical views (Hillier, 2003). Therefore, the necessity to provide urban resilience in order to achieve sustainable development becomes more vital. Surely, the management of uncertainties is not the start of the move towards resilience, since uncertainties are already the part of planning (Pizzo, 2015). Moreover, every plan, in the course of its implementation, is liable to come up against unpredicted events or accidents (Taylor, 1998). In this context, Wilkinson (2011) mentions a fundamental issue in planning theory that is “think planning again” in ways of admitting the emergency, unpredictability and inescapability. Accordingly, it can be concluded that the natural evolution of urban planning paradigms leads to the integration of resilience into urban planning (Figure 3).

PERIOD	1900s-1950s	1950s-1990s	2000s
PARADIGM	The city was viewed as a machine	The city was viewed as a system	The city was viewed as a complex system
CORE IDEA OF URBAN	Controlling the city changes through deterministic and top down plans	Strategic planning and long term perspectives were becoming important	Planning is trying to answer complex urban problems of the uncertain future

Figure 3: Evolution of Urban Planning Paradigms
(Adapted from Yaman-Galantini, 2018)

Even if there is not a consensus about how they can be integrated, the idea of positioning resilience in urban planning have been discussed recently (Fleischhauer, 2008; Wilkinson, 2011; Thoidou and Foutakis, 2012; Porter and Davoudi, 2012) with different orientations such as mitigation and adaptation to climate change; disaster planning, management and recovery; energy and environmental security; urban water management and urban design. The

publications in Thomson Reuters Web of Science database show, in the recent years, “urban resilience” and “urban planning” key worded publications (Figure 4) are quickly expanding. Although there is a downward tendency of the number of articles, there can be unpublished accepted papers as some journals are publishing belatedly of 2017’s publications.



Figure 4 : Urban Resilience and Urban Planning Related Publications (Url-1)

In the recent literature, disaster management allowed resilience in urban planning to show up (Yaman and Tezer, 2012), since it was already mentioned as a term in this field of study. Unexpectedness of natural risks, gives resilience the possibility to provide a better guidance to produce effective hazard mitigation approaches in urban settlements. Vale and Campanella (2005) and Berke and Campanella (2006) described it as the ability to survive from future natural hazards with minimum loss of life and property, as well as the ability to create a greater sense of place among residents; a stronger, more diverse economy; and a more economically integrated and diverse population.

Besides, since resilience introduces primary conceptual emphases such as awareness, consistency, transformability or adaptability and it leads to not only concerning the physical domain, but also the actors involved in the socio-ecological dynamics, Servillo and Reimer (2013) suggest that it can be linked with strategic spatial planning. Moreover, Dos Santos and Partidário (2011) pointed out, resilience supports the transition from “command-and-control” and “paper-plan-production-process” to “learn-and-adapt” and “put-people-in-the-process-perspective”. Therefore, urban resilience suggests a forward-looking and dynamic perspective.

It can be interpreted that the novelty of resilience concept for urban planning is that it mentions not only the key logic of sustainability through "stability" but also the way out of "chaos" through "recovery or transformation". This strengthens the concept's view about knowing how to respond based on what is needed in a specific time, place and case, especially during times of crises and uncertainty; so called regaining systems functionality. Response can comprehend to cope, resist, recover, transform or adapt. Or in other words as Wikström (2013) explains resilience doesn't always require that the system will return to its previous state or equilibrium, but rather has the possibility to adapt and transform into a state that will allow it to survive further and future change. With this regard, Shaw (2012) expressed that resilience emphasizes how urban planning should be prepared for an innovative transformation. This can be interpreted as a fundamental questioning of the main principles of contemporary urban planning approaches.

Furthermore, it has to be stressed that it is always path-dependent in order to allow a longer-term understanding of "normality" and "crisis". A high degree of flexibility in the planning process and new innovative means of planning instead of linear planning methodologies (CSIRO, 2007) are necessary for generating dynamism and facing uncertainty with continuous adjustments. Therefore, it can respond successfully to changes. Planning process should be more flexible and analytic to solve the gaps between old-fashioned plans and the new knowledge. Moreover, it has to be multi-dimensional, action and process oriented approach, which can address existing vulnerabilities and possible ones across scales. This means that contemporary urban planning steps has to be upgraded from the "dynamic" character of resilience. It requires an advancement of the basic elements of the urban planning process. Consequently, urban resilience needs to be "planned".

One of the key challenges for urban planning in this respect is to analyze critically what type of process may be used in an innovative and transformative way (Albrechts, 2012). Surely new forms of planning will have to find new ways of responding to the rapid and unpredictable growth. Confidently, in terms of being dynamic, it will not be incorrect to figure out the integration between resilience and urban planning as a "forward-looking- comprehensive - strategic - systems planning approach" (Yaman-Galantini and Tezer, 2016). Successful planning begins with a confront of the problems at hand and determining the conditions of uncertainty, rather than misapplying theories and methods disregarding peculiar issues. With a good match of planning process through characteristic problems, planning can offer a chance to overcome, or at

least reduce, uncertainty (Christensen, 1985). This kind of perspective decisively should include a multi-dimensional scheme referring to all development plan components and sustainability policies with an updated point of view. The following part analyzes how relevant literature described the urban resilience- urban planning integration.

Relevant Literature of Urban Resilience-Urban Planning Integration

In literature, many different planning principles were defined to address resilience. However, there is not a clear unique method to integrate resilience and urban planning. Defining the urban resilience planning process can be a confusing effort, because, as Desouza and Flanery (2013) explained, it has multiple components, processes and interactions taking places within and beyond city boundaries.

Literature is mostly addressing this integration from disaster mitigation perspective. For instance, Normandin et al. (2009), identified strategic resilience indicators for diverse disasters or vulnerabilities such as earthquake, physical and social risk, coastal hazard, earthquake, cyclone, drought and flood. Moreover, Vale and Campanella (2005) explained disaster mitigation based urban resilience for different typologies of disasters. While, Boshier et al. (2007) suggested that resilience should be methodically integrated into planning and design processes and consciousness of natural/human-induced/ and climate change-related hazards are basically the most noticeable issues. In addition to these, Coaffee (2007) outlines resilience as an appropriate concept for politicians as well as policy makers considering the fact that it offers a new policy framework for the security from terrorism challenge. Alternatively, Godschalk (2003) determines that there is a necessity of both natural hazard and terrorist attack threat types of mitigation practices; therefore, the resilient city should be a bridging concept between the two fields. More specifically, in this paper, the literature review studies of resilience-urban planning integration have been categorized in two different groups, which are “the studies defining the process for integrating resilience into planning” and “the studies defining the approach or insights for integrating resilience into planning”. Table 3 and Table 4 summarize some of the examples.

Table 3. Literature Referring to the Process for Integrating Resilience into Urban Planning

Author	Defining the process for integrating resilience into planning
Walker et al. 2002	1. Description of system; 2. Exploring external shocks, plausible policies, exploring visions; 3. Resilience analysis for better integrated theories; 4. Stakeholder evaluation for policy management and actions
Sessa, 2009	Phase 1 – Resilience Analysis Phase 2 – Assessing and managing alternate states Phase 3 – Resilience management
Novotny et al. 2010	1. Ecosystem services goals and assessment; 2. Resilience factors; 3. Resilience planning strategies; 4. Develop scenarios considering goals, assessments, conflicts, resilient planning strategies and transdisciplinary evaluation of alternative scenarios; 5. Urban resilience-sustainability plan; 6. Plan implementation-adaptation
Dos Santos and Partidário 2011	1. Understand the system; 2. Analyze trajectory; 3. Rethink the future; 4. Plan for change
Arnaud et al. 2013	1. Method Framework (identify and involve stakeholders); 2. Resilience Assessment (identify weakness and strength of the territory); 3. Issues priorities (choose major issues to be tackled); 4. Actions plan definition (identify and define actions responding to issues); 5. Implementation and assessment of actions (launch actions and monitor results); 6. Evaluation and perspectives (capitalize and set new objectives)
Lu and Stead, 2013	1. Assessment; 2. Readiness; 3. Response; 4. Recovery.

Table 4. Literature Referring to the Approach or Insights for Integrating Resilience into Urban Planning

Author	Defining the approach or insights for integrating resilience into planning
Renschler et al. 2010	Methodological approach is defined as "PEOPLES": P (population and demographics) E (environmental/ecosystem) O (organized governmental services) P (physical infrastructure) L (lifestyle and community competence) E (economic development) S (socio-cultural capital)
Wilkinson, 2011	Four basic strategies: assume change and uncertainty; nurture conditions for recovery and renewal after disturbance; combine different types of knowledge for learning; create opportunities for self-organization
Desouza et al. 2012	2X2 matrix: a relation between the four elements – plans, planning, designing, and physical artifacts
Jabareen 2012	Four components and thirteen sub components: 1. Vulnerability analysis matrix (uncertainty, informality, demography, spatiality); 2. Prevention (mitigation, restructuring, alternative energy); 3. Uncertainty oriented planning (adaptation, planning, sustainable form); 4. Urban governance (equity, integrative, economics)
Alberti, 2013	Four elements: "drivers, patterns, processes and functions".
Collier et al. 2013	Twelve components: pressures, socio-economics, political will, demographics, community capacity, policy drivers, infrastructure, geographical location, ratio of neighborhood to city size, social capital networks, history and ecosystem services

The basic urban planning frameworks described in literature are mutual like; problem definition, policy design, policy application or evaluation. This process is already parallel with contemporary urban planning process. So, clearly application needs to be put forward more noticeably. In the meanwhile, the case studies addressing resilience-urban planning integration are reflecting “disaster mitigation” or “climate change” perspectives, parallel with the birth of resilience in urban studies. Certainly, resilience cannot be an approach only for disaster mitigation but also it has the tools in a larger scale in promoting economic, spatial, environmental and social enhancement. It is clear that integrating resilience into urban planning requires comprehending of all city components and the interdependencies among the system elements. Therefore, this integration needs comprehensive and complementary framework.

Evaluation

Since 1960s, planning paradigms such as comprehensiveness, systems planning, sustainable development or strategic planning all expected to fight with the disorders of cities and preserve their existence for long term. Analyses of the changing nature of planning theory could not cope with the unexpected changes or their implications. Some theorists did attempt to develop new typologies or perspectives, however, as Balducci et al. (2011) express even if planning analysts used plans to beat uncertainty, they increasingly recognized the complex world and they don't appear to prefer a traditional conception of strategic planning any more. It is clear that in order to react to the new challenges, a more complex and sophisticated type of urban planning seems needed (Albrechts, 2012). So, today, resilience is at the frontier of contemporary urban planning promoting the capacity to manage change.

Considering the dynamic character and the goal of urban resilience, it has to be emphasized that contemporary urban planning process requires an advancement of the basic elements of the process through the urban resilience lenses. This resilience based updated process can be called “urban resilience planning process”. With this regard, it is important to start focusing on three main questions; resilience “to what (what are the most crucial vulnerabilities that needs to be addressed urgently)”, “where (where should resilience be provided)” and “how (what should be the core components of the “urban planning for resilience” framework)”. Therefore, urban resilience planning

process should start with the clarification of "to what resilience has to be developed". This component is firmly related with how to interpret the key urban vulnerabilities. This step provides the description of "urban resilience" for the city and what the city should expect from the provision of resilience. This surely helps not only to cope with the existing vulnerabilities and the risks but also to manage possible future disturbances through appropriate urban resilience planning tools. This interpretation can be made by the planning executives, public and national administrators and also citizens collaboratively. Hence, who is responsible to define the vulnerabilities in the face of turbulent times to orient and respond successfully is the basis. Accordingly, participation to the urban resilience planning process requires identifying the "stakeholders, their roles and resources" which is related with how "institutional resilience" can be constructed.

The second question justifies "where resilience has to be improved". This is related with the identification of the "scale" of the process. The actors and their interpretation vary in different "scales" so as the degree and the context of the problems. A forward-looking and comprehensive urban planning approach should definitely take this into consideration and calculate the negative cross scale impacts. This assuredly necessitates to understand the "interdependencies" between various urban aspects. The interdependencies certainly promote comprehensiveness and systems approach. After bearing in mind these, what it needed is to interpret the challenges from a "resilience viewpoint". At this point, the "attributes" of resilience provides this reading. The attributes of resilience can be considered as the criteria to define case specific indicators or urban resilience.

Finally, there is the third question discussing how resilient "urban planning tools and policies" can be shaped. Two different ways can be determined for the generation of the planning tools; creating new policies, plans, strategies, programs-and accordingly formulizing a new system, or enhancing existing policies, plans, strategies and programs.

The core idea lying under this process is to describe an ideal comprehensive urban planning process scheme, from national scale to local scale, and at the same time to define the optimal management scheme-an ideal actor-mapping. The important issue of this framework is that it has the logic of a basic urban planning process but at the same time, it comprehends essential components with an updated interpretation. At the point, it will be relevant to implement this process in a defined continuous time schedule, which makes

it up-to-date and eventually react to the expected circumstances. Moreover, this process should have a relevant legal basic.

References

- Abukhater, A. (2009). Rethinking planning theory and practice: A glimmer of light for prospects of integrated planning to combat complex urban realities, *Theoretical and Empirical Researches in Urban Management* 2 (11), 64-79.
- Adger, W.N. (2000). Social and ecological resilience: Are they related, *Progress in Human Geography* 24 (3), 347-364.
- Ahsan, M.M. (2013). *Resilient cities for the poor or by the poor? A case study from Bangkok Shaikh*. Master of Science Thesis. University of Technology, BERLIN
- Alberti, M. (2013). *Planning under uncertainty: Regime shifts, resilience, and innovation in urban ecosystems*. Retrieved, <http://www.thenatureofcities.com/2013/01/22/planning-under-uncertainty-regime-shifts-resilience-and-innovation-in-urban-ecosystems/>
- Albrechts, L. (2004). Strategic (spatial) planning reexamined, *Environment and Planning B: Planning and Design* 31 (5), 743 – 758.
- Albrechts, L. (2010). More of the same is not enough! How could strategic spatial planning be instrumental in dealing with the challenges ahead?, *Environment and Planning B: Planning and Design* 37, 1115-1127.
- Albrechts, L. (2012). Reframing strategic spatial planning by using a coproduction perspective, *Planning Theory*, 1-18.
- Arefi, M. (2011). Design for Resilient Cities, reflections from a studio. In (B. Tridib, A. Loukaitou-Sideris Eds.), *Companion to Urban Design* (p. 674-685). Abingdon: Routledge.
- Arnaud, J.P., Toubin, M., Come, C. and Serre, D. (2013). The resilience engineering offer for municipalities. In (R. Laganier Eds.), *Resilience and Urban Risk Management* (p. 49-56). London: CRC Press.
- Balducci, A., Boelens, L., Hillier, J., Nyseth, T. and Wilkinson, C. (2011). Introduction, Strategic spatial planning in uncertainty: theory and exploratory practice. *Town Planning Review* 82 (5), DOI: 10.3828/tpr.2011.29.
- Beal, J. and Fox, S. (2009). *Cities and Development*. New York: Routledge.
- Berke, P.R. and Campanella, T. (2006). Planning for Postdisaster Resiliency. *The ANNALS of the American Academy of Political and Social Science* 604, 192-207, doi: 10.1177/0002716205285533.
- Berry, B.J.L. (1964). Cities as Systems within Systems of Cities, *Regional Science* 13(1), 147-163.
- Bogunovich, D. (2009). From planning sustainable cities to designing resilient urban regions, *Sustainable Development and Planning IV* 1, 87-96.

- Bosher, L., Carrillo, P., Dainty, A., Glass, J. and Price, A. (2007). Realising a resilient and sustainable built environment: towards a strategic agenda for the United Kingdom. *Disasters*, 31 (3), 236–255.
- Briguglio, L., Cordina, G., Farrugia, N. and Vella, S. (2008). Economic Vulnerability and Resilience: Concepts and Measurements, *Oxford Development Studies* 37 (3).
- Chadwick, G.F. (1971). *A systems view of planning: towards a theory of the urban and regional planning process*. Oxford and New York: Pergamon Press.
- Christensen, K. (1985). Coping with uncertainty in planning. *The American Planning Association* 51 (1), 63-73.
- Coaffee, J. (2007), *The everyday resilience of the city: How provincial cities respond to threat* (ESRC End of Award Report RES-228-25-0034). Swindon: ESRC.
- Collier, M.J., Nedović-Budić, Z., Aerts, J., Connop, S., Foley, D., Foley, K., Newport, D., McQuaid, S., Slaev A. and Verburg, P. (2013). Transitioning to resilience and sustainability in urban communities, *Cities* 32, 21–28.
- Colucci, A. (2012). Resilient cities: Approaches/strategies comparison towards resilient cities. In AESOP. *Proceedings of the 26th Annual Congress*, METU, Ankara, 11-15 July (CD-ROM).
- Cork, S. (Eds.) (2010). *Resilience and transformation-preparing Australia for uncertain futures*. Collingwood: CSIRO Publishing.
- Costanza, R., Graumlich, L., Steffen, W., Crumley, C., Dearing, J., Hibbard, K., Lee-mans, R., Redman, C. and Schimel, D. (2007). Sustainability or collapse: What can we learn from integrating the history of humans and the rest of nature?, *Ambio* 36 (7), 522-527.
- CSIRO. (2007). *Urban Resilience: Research Prospectus a Resilience Alliance Initiative for Transmitting Urban Systems towards Sustainable Futures*, accessed on <http://citiesforpeople.ca/wp-content/uploads/2014/02/urbanresilience-research-prospectusv7feb07.pdf>.
- Derwent. (t.y). *Thomson Reuters Web of Science*, <https://science.thomsonreuters.com> accessed on.
- Desouza, K.C. and Flanery, T.H. (2013), Designing, planning, and managing resilient cities: A conceptual framework, *Cities* 35, 89–99.
- Dos Santos, F.T. and Partidário, M.R. (2010). SPARK: Strategic planning approach for resilience keeping, *European Planning Studies* 19 (8), 1517-1536.
- Egger, S. (2006). Determining a sustainable city model. *Environmental Modelling & Software* 21, 1235-1246.
- Ernstson, H., van der Leeuw, S.E., Redman, C.L., Meffert, D.J., Davis, G., Alfsen, C. and Elmqvist, T. (2010). Urban transitions: on urban resilience and human-dominated ecosystems, *Ambio* 39 (8), 531-545.
- Ferreira, A., Sykes, O. and Batey, P. (2009). Planning theory or planning theories? The Hydra model and its implications for planning education. *Journal for Education in the Built Environment* 4 (2), 29-54.

- Fiksel, J. (2006). Sustainability and resilience: toward a systems approach. *Sustainability: Science, Practice, & Policy* 2 (2), 14–21.
- Fleischhauer, M. (2008). The role of spatial planning in strengthening urban resilience. In (H.J. Pasman and I.A. Kirillov Eds.), *Resilience of Cities to Terrorist and other Threats* (p. 273-298), Netherlands: Springer.
- Folke, C., Carpenter, S.R., Walker, B., Scheffer, M., Chapin, T. and Rockström, J. (2010). Resilience thinking integrating resilience, adaptability and transformability, *Ecology and Society* 15 (4), 20.
- Gibberd, J.T. (2011). Assessing and Intervening: Urban Resilience Indicators, *Academia*, accessed on, https://www.academia.edu/4400216/Assessing_and_Intervening_Urban_Resilience_Indicators
- Gleeson, B.J. (2008). Waking from the dream: towards urban resilience in the face of sudden threat, *Urban Studies*, 45 (13), 2653-2668.
- Godschalk, D.R. (2003). Urban Hazard mitigation: Creating resilient cities, *the Natural Hazards Review* 4 (3), 136-143.
- Gotham, K.F. and Campanella, R. (2010). Toward a research agenda on transformative resilience: Challenges and opportunities for post-trauma urban ecosystems. *Critical Planning Summer 2010*, 9-23.
- Hall, P. (2005). *Urban and regional planning*. London and New York: Routledge.
- Healey, P. (2008). Editorial, *Planning theory and practice*, 9 (4), 431-434.
- Healey, P. (2009). In search of the “strategic” in spatial strategy making. *Planning Theory & Practice* 10 (4), 439-457.
- Hillier, J. (2003). ‘Agon’ izing over consensus: Why Habermasian ideals cannot be ‘real’, *Planning Theory* 2 (1), 37–59.
- Hordijk, M. and Baud, I. (2011). Inclusive adaptation: Linking participatory learning and knowledge management to urban resilience. In (K. Otto-Zimmermann Eds.), *Resilient Cities: Cities and Adaptation to Climate Change, Proceedings of the Global Forum 2010* (Chapter 11, p.111-121), Netherlands: Springer.
- Jabareen, Y. (2012). Planning the resilient city: Concepts and strategies for coping with climate change and environmental risk. *Cities*, <http://dx.doi.org/10.1016/j.cities.2012.05.004>
- Jacobs, J. (1961). *The death and life of Great American cities*. New York: Random House.
- Kinzig, A.P., Ryan, P., Etienne, M., Allison, H., Elmqvist, T. and Walker, B.H. (2006). Resilience and regime shifts: assessing cascading effects, *Ecology and Society* 11 (1), 20.
- Kowalik, M. and Guaralda, M. (2011). Mapping resilience: A framework for changing cities. In (S. Hoekwater Eds.), *Proceedings of 4th international urban design conference* (p. 102-113), Gold Coast, Queensland, Australia.
- Lang, T. (2011). Urban resilience and new institutional theory- A happy couple for urban and regional studies. (In B. Müller Eds.), *Urban Regional Resilience: How do Cities and Regions Deal with Change?* (German Annual of Spatial Research and Policy). Berlin: Springer.

- Lu, P. and Stead, D. (2013). Understanding the notion of resilience in spatial planning: A case study of Rotterdam, The Netherlands, *Cities*, 35, 200–212.
- Neuman, M. (1998). Does planning need the plan?, *Journal of the American Planning Association* 64 (2), 208-220.
- Newman, P., Beatley T., Boyer H. (2009). *Resilient cities responding to peak oil and climate change*. USA: Island Press.
- Normandin, J.M., Therrien, M.C. and Tanguay, G.A. (2009). City strength in times of turbulence: Strategic resilience indicators In *Proceedings of joint conference on city futures*, Madrid, Spain, 4-6 June.
- Novotny, V., Ahern, J. and Brown, P. (2010). *Water centric sustainable communities: Planning, retrofitting and building the next urban environment*. Hoboken, NJ: J. Wiley.
- Oliveira, V. and Pinho, P. (2010), Evaluation in urban planning: Advances and prospects. *Journal of Planning Literature* 24 (4), 343–361.
- Pike, A., Dawley, S. and Tomaney, J. (2010). Resilience, adaptation and adaptability, *Cambridge Journal of Regions, Economy and Society* 3 (1), 59–70.
- Pizzo, B. (2015). Problematizing Resilience: Implications for planning theory and practice, *Cities*, 43, 133-140.
- Plodinec, J.M. (2009). *Definitions of resilience-An analysis*. Community and Regional Resilience Institute. Accessed on <http://www.resilientus.org/about-us/definition-of-community-resilience.html>
- Porter, L. and Davoudi, S. (2012). The politics of resilience for planning: A cautionary note. *Planning Theory & Practice* 13 (2), 299-333.
- Renschler, C.S., Frazier, A.E., Arendt, L.A., Cimellaro, G.P., Reinhorn, A.M. and Bruneau, M. (2010). Developing the PEOPLES resilience framework for defining and measuring disaster resilience at the community scale. In *Proceedings of the 9th U.S. National and 10th Canadian Conference on Earthquake Engineering* (Paper No 1827), Toronto, Ontario, Canada, July 25-29.
- Rhiney, K. (2012). Planning theory and process, Lecture Notes GG3302: Urban & Regional Planning, February 15, The University of the West Indies, Mona, Jamaica.
- Rose, A. (2009). *Economic resilience to disasters* (CARRI Research Report 8). Oak Ridge: Community and Regional Resilience Institute.
- Servillo, L. and Reimer, M. (2013). Strategic spatial planning and institutional resilience: Theoretical thoughts and some empirical devices. In *Proceedings of AESOP - ACSP 5th Joint Congress*, Dublin, Ireland, 15-19 July.
- Sessa, C. (2009). *Applying the resilience assessing and managing approach as benchmark methodology in the AWARE pilot experiments*. Accessed on www.aware-eu.net.
- Shaw, K. (2012). Reframing resilience: Challenges for Planning Theory and Practice, *Planning Theory & Practice*, 13 (2), 308-312.
- Surjan, A., Sharma, A., Shaw, R. (2011). Understanding Urban Resilience. In (R. Shaw and A. Sharma Eds.), *Climate and disaster resilience in cities (Community, Environment and Disaster Risk Management)*, (Vol. 6, p.17-45). Bingley: Emerald Group Publishing Limited.

- Taylor, N. (1998). *Urban planning theory since 1945*. Thousand Oaks, CA.: Sage Publications.
- Todes, A. (2012). New directions in spatial planning? Linking strategic spatial planning and infrastructure development. *Journal of Planning Education and Research*, 1–15.
- United Nations Human Settlements Programme (UN-Habitat) (2009), *Planning sustainable cities: Global report on human settlements*. UK: Earthscan.
- Vale, L.J. and Campanella, T.J. (2005). *Resilient City: How modern cities recover from disaster*. USA: Oxford University Press.
- Walker, B., Carpenter, S., Anderies, J., Abel, N., Cumming, G., Janssen, M., Lebel, L., Norberg, J., Peterson G.D. and Pritchard, R. (2002). Resilience management in social-ecological systems: a working hypothesis for a participatory approach, *Conservation Ecology*, 6 (1), 14.
- Walkers, D. (2007). *Designing community, charrettes, masterplans and form-based codes*, Burlington: Elsevier Ltd.
- Wikström, A. (2013). *The challenge of change: Planning for social urban resilience: An analysis of contemporary planning aims and practices*. Master Thesis, Stockholm University, Urban and Regional Planning, Department of Human Geography, STOCKHOLM.
- Wilkinson, C. (2011). Social-ecological resilience: Insights and issues for planning theory, *Planning Theory*, 1–22.
- World Commission on Environment and Development (1987). *Brundtland Report, Our Common Future*. Oxford: Oxford University Press.
- Yaman, Z.D., Tezer, A. (2012). Urban Resilience as a New Policy Paradigm for Achieving Sustainability in Istanbul. In *Proceedings of the 26th AESOP Annual Congress*, Ankara, Turkey, 11-15 July.
- Yaman-Galantini, Z.D. (2018a). *Urban Resilience as a Policy Paradigm for Sustainable Urban Planning and Urban Development: The case of Istanbul*. PhD Thesis, Istanbul Technical University, Turkey.
- Yaman-Galantini, Z.D. and Tezer, A. (2016). Urban planning for urban resilience as component of Istanbul's resilient urban development. In *Proceedings of 41st IAHS World Congress*, Algarve, Portugal, 13-16 September.
- Yaman-Galantini, Z.D. and Tezer, A. (2018b). Review: In the complex epoch is sustainability “out” resilience “in”?, *ITU AZ Journal*, 15(3), 41-59. doi: 10.5505/itujfa.2018.77598.