

# TeMA

Journal of  
Land Use, Mobility and Environment

The fragile/resilience city represents a topic that collects itself all the issues related to the urban risks and referred to the different impacts that an urban system has to face with. Studies useful to improve the urban conditions of resilience are particularly welcome. Main topics to consider could be issues of water, soil, energy, etc..

Tema is the Journal of Land use, Mobility and Environment and offers papers with a unified approach to planning and mobility. TeMA Journal has also received the Sparc Europe Seal of Open Access Journals released by Scholarly Publishing and Academic Resources Coalition (SPARC Europe) and the Directory of Open Access Journals (DOAJ).



THE RESILIENCE CITY / THE FRAGILE CITY.  
METHODS, TOOLS AND BEST PRACTICES.

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## THE RESILIENCE CITY/THE FRAGILE CITY. METHODS, TOOLS AND BEST PRACTICES

2 (2018)

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Cover Image by Maria Rosa Tremiterrera of Am Sandtorkai, one of the main streets of HafenCity, a new district located on the waterfront of the City of Hamburg. HafenCity can be considered "a city in the city" and one of the most resilient urban areas in the world to the flooding events thanks to its urban redevelopment strategy.

TeMA. Journal of Land Use, Mobility and Environment offers researches, applications and contributions with a unified approach to planning and mobility and publishes original inter-disciplinary papers on the interaction of transport, land use and environment. Domains include: engineering, planning, modeling, behavior, economics, geography, regional science, sociology, architecture and design, network science and complex systems.

The Italian *National Agency for the Evaluation of Universities and Research Institutes* (ANVUR) classified TeMA as scientific journal in the Area 08. TeMA has also received the *Sparc Europe Seal for Open Access Journals* released by *Scholarly Publishing and Academic Resources Coalition* (SPARC Europe) and the *Directory of Open Access Journals* (DOAJ). TeMA is published under a Creative Commons Attribution 3.0 License and is blind peer reviewed at least by two referees selected among high-profile scientists. TeMA has been published since 2007 and is indexed in the main bibliographical databases and it is present in the catalogues of hundreds of academic and research libraries worldwide.

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Journal of  
Land Use, Mobility and Environment

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## CALL FOR PAPERS: TEMA VOL. 11 (2018)

### The Resilience City/The Fragile City. Methods, tools and best practices.

The fragile/resilience city represents a topic that collects itself all the issues related to the urban risks and referred to the different impacts that an urban system has to face with. Studies useful to improve the urban conditions of resilience (physical, environmental, economical, social) are particularly welcome. Main topics to consider could be issues of water, soil, energy, etc.. The identification of urban fragilities could represent a new first step in order to develop and to propose methodological and operative innovations for the planning and the management of the urban and territorial transformations.

The Journal also welcomes contributions that strategically address the following issues:

- new consideration of the planning standards, blue and green networks as a way to mitigate urban risks and increase city resilience;
- the territorial risks and fragilities related to mobility of people, goods, knowledge, etc.;
- the housing issue and the need of urban regeneration of the built heritage;
- socio-economical behaviour and the "dilemma" about emergency and prevention economy;
- the city as magnet of the next future's flows (tourism, culture, economy, migration, etc.).

Publishing frequency is four monthly. For this reason, authors interested in submitting manuscripts addressing the aforementioned issues may consider the following deadlines

- first issue: 10<sup>th</sup> January 2018;
- second issue: 10<sup>th</sup> April 2018;
- third issue: 10<sup>th</sup> September 2018.

## CALL FOR PAPERS: GENERAL CALL.

### Papers in Transport, Land Use and Environment

The Journal welcomes papers on topics at the interdisciplinary intersection of transport and land use, including research from the domains of engineering, planning, modeling, behavior, economics, geography, regional science, sociology, architecture and design, network science, and complex systems



# TeMA

Journal of  
Land Use, Mobility and Environment

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## REVIEWS PAGES

### THE RESILIENCE CITY/THE FRAGILE CITY. METHODS, TOOLS AND BEST PRACTICES 2(2018)

Starting from the relationship between urban planning and mobility management, TeMA has gradually expanded the view of the covered topics, always remaining in the groove of rigorous scientific in-depth analysis. During the last two years a particular attention has been paid on the Smart Cities theme and on the different meanings that come with it. The last section of the journal is formed by the Review Pages. They have different aims: to inform on the problems, trends and evolutionary processes; to investigate on the paths by highlighting the advanced relationships among apparently distant disciplinary fields; to explore the interaction's areas, experiences and potential applications; to underline interactions, disciplinary developments but also, if present, defeats and setbacks.

Inside the journal the Review Pages have the task of stimulating as much as possible the circulation of ideas and the discovery of new points of view. For this reason the section is founded on a series of basic's references, required for the identification of new and more advanced interactions. These references are the research, the planning acts, the actions and the applications, analysed and investigated both for their ability to give a systematic response to questions concerning the urban and territorial planning, and for their attention to aspects such as the environmental sustainability and the innovation in the practices. For this purpose the Review Pages are formed by five sections (Web Resources; Books; Laws; Urban Practices; News and Events), each of which examines a specific aspect of the broader information storage of interest for TeMA.

#### 01\_WEB RESOURCES

The web report offers the readers web pages which are directly connected with the issue theme.

author: Rosa Morosini  
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#### 02\_BOOKS

The books review suggests brand new publications related with the theme of the journal number.

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#### 03\_LAWS

The law section proposes a critical synthesis of the normative aspect of the issue theme.

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#### 04\_UBAN PRACTICES

Urban practices describes the most innovative application in practice of the journal theme.

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#### 05\_NEWS AND EVENTS

News and events section keeps the readers up-to-date on congresses, events and exhibition related to the journal theme.

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## 评述页：

### 提高城市系统对自然及人为变化顺应能力的方法、 工具和最佳实践

TeMA 从城市规划和流动性管理之间的关系入手，将涉及的论题逐步展，并始终保持科学严谨的态度进行深入分析。在过去两年中，智能城市（Smart Cities）课题和随之而来的不同含义一直受到特别关注。

学报的最后部分是评述页（Review Pages）。这些评述页具有不同的目的：表明问题、趋势和演进过程；通过突出貌似不相关的学科领域之间的深度关系对途径进行调查；探索交互作用的领域、经验和潜在应用；强调交互作用、学科发展、同时还包括失败和挫折（如果存在的话）。

评述页在学报中的任务是，尽可能地促进观点的不断传播并激发新视角。因此，该部分主要是一些基本参考文献，这些是鉴别新的和更加深入的交互作用所必需的。这些参考文献包括研究、规划法规、行动和应用，它们均已经过分析和探讨，能够对与城市和国土规划有关的问题作出有系统的响应，同时还对诸如环境可持续性和在实践中创新等方面有所注重。因，评述页由五个部分组成（网络资源、书籍、法律、城市实务、新闻和事件），每个部分负责核查 TeMA 所关心的海量信息存储的一个具体方面。

#### 01\_WEB RESOURCES

网站报告为读者提供与主题直接相关的网页。

author: Rosa Morosini  
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#### 02\_BOOKS

书评推荐与期刊该期主题相关的最新出版著作。

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#### 03\_LAWS

法律部分提供主题相关标准方面的大量综述。

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#### 04\_URBAN PRACTICES

城市的实践描述了期刊主题在实践中最具创新性的应用。

author: Gennaro Angiello  
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#### 05\_NEWS AND EVENTS

新闻与活动部分让读者了解与期刊主题相关的会议、活动及展览。

author: Andrea Tulisi  
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THE RESILIENCE CITY/THE FRAGILE CITY. METHODS,  
TOOLS AND BEST PRACTICES 2 (2018)

## REVIEW PAGES: WEB RESOURCES

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In this number

### SOIL CONSUMPTION: DATA COLLECTION AND ANALYSIS

Soil depletion has now become a key issue in many disciplines in terms of environmental, economic, urban and social implications and it is certainly linked to the phenomenon of urban sprawl. The large number of issues involved reflects the difficulty of planners, technicians and political decision makers in addressing, defining and above all measuring the impact of such depletion. In fact, researchers are clearly concerned about the extent of the phenomenon. For this reason, they have shifted their attention to the tools used for measuring land consumption, and to monitor developments in the phenomenon (Munafò et al., 2013; Mazzeo & Russo, 2016). The monitoring phase is therefore extremely important in the analysis of soil consumption phenomenon.

To this aim, in 1985 the Corine program was implemented by the Council of the European Communities, which primary purpose is to verify the state of the environment over time. In particular, the Corine Land Cover project is intended for the detection and monitoring of land cover (Gardi, 2013). It involves the creation of a land cover map at a scale of 1:100,000, with a legend consisting of 44 entries and a minimum mapping unit of 25 hectares. This mapping unit limits the use of the same data to the national scale as they would not find monitoring or planning application at the local scale (Gardi, 2013).

In Italy, ISPRA research center – also part of the Copernicus program – has launched a plan for the implementation of Land Monitoring services, which provided for the acquisition of a European satellite coverage in 2012 and the production of 5 high-resolution layers relating to sealing of soil and built-up areas, forests, meadows, wetlands and water bodies (Munafò, 2013).

Another service provided by Copernicus is the Urban Atlas project, a powerful cartographic database with 20 categories of coverage and use relating to 32 Italian urban centers. This figure has a maximum resolution of 0.25 hectares.

These are just some of the projects that clearly express the will and the need to resolve the critical issues related to the measurement of land consumption at both European and Italian level. Moreover, knowledge about land use is of considerable interest in order to make the necessary assessments for protection, development and transformation of the territory. It is of particular importance the possibility of identifying with adequate accuracy the areas intended for agricultural crops and the areas characterised by the presence of more or less natural features in addition to the urbanized areas.





## Corine Land Cover

<http://land.copernicus.eu/pan-european/corine-land-cover>

CORINE LAND COVER, a project started in 1985, is an inventory of land cover organized in 44 classes and in 3 hierarchical levels. Born at European level, its use is specific for the detection and monitoring of land cover and use, with particular attention to the environmental protection requirements. The first realization of the Corine Land Cover project dates back to 1990, while the subsequent updates were produced in 2000, 2006, 2012. Corine Land cover is a section of the Land Copernicus website, where it is possible to download the land use maps on a European scale produced in the years 1990, 2000, 2006, 2012. In addition, in the same section, Land Cover Change (LCC) maps are available with reference to the periods 1990-2000; 2000-2006 and 2006-2012. The LCC maps report changes in land use with reference to a specified time interval. Attached to these maps, a legend is available on the website for the correct reading and interpretation of the data. The use of Corine Land Cover Change is preferable for the changes between two surveys, because of its higher resolution than Corine Land Cover.

From the home page of the Corine Land Cover section, by clicking on the map of interest you can access the page where the following three subsections dedicated to the map of interest are displayed (on the left side):

- Map View;
- Metadata;
- Download.

By clicking on "Map View" will be displayed the land use map on a European scale, which can be consulted for a qualitative evaluation thanks to the zoom tool and the information reported in the legend. The subsection "Metadata" reports various information, such as data identification, classification of spatial data, geographic and temporal reference, as well as information about the quality and validity of the map. Lastly, in the "Download" subsection, you can access the area to download all the data. Corine Land Cover products are available in both raster (100 and 250 meter resolution) and in vector (ESRI and SQLite geodatabase).

Moreover, at the top of the Corine Land Cover section, you can easily access to several pages of the Copernicus website where you can consult other data, projects and information on the use of the territory. On the same page, on the right side, there is the user corner that gives access to the following sections:

- Contract opportunities;
- EAGLE;
- Use cases;
- Publications;
- Technical library;
- Looking for national products?

Lastly, at the top right side it is possible to connect to social media like Instagram, Facebook, Twitter and slideShare.



ISPRA

<http://isprambiente.gov.it>

ISPRA is the Italian National Institute for Environmental Protection and Research which deals with several environmental issues, including the phenomenon of soil consumption. By accessing the ISPRA portal, in the section Projects, it is possible to view all the projects in which the institute is involved – including those related to soil protection – financed by European Union Programmes related to research activities.

On the right side of the ISPRA home page there is a list of all the sections of the portal for an easy consultation of all the contents of the website. Examples of sections in this list are:

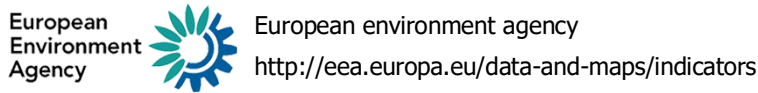
- Projects;
- Databases;
- Cartography;
- Publications;
- Copernicus program;

In the section Databases, ISPRA aims to facilitate the access to the databases implemented and managed by the Institute. In fact, by clicking on this section you can access to the different environmental issues the institute deals with. In this page you can also find the subsection "soil and territory" which provides the links to access the various databases available on the Portal of the Geological Service of Italy as the Geophysical database, the ISPRA indicator database, Territorial database – the Naples' Metro Area Anthropogenic Sinkholes database, CARG, national cave database, [...].

From the list of sections, it is possible to access the section Cartography, which proves to be very useful for data collection about the use of soil. In this section there are several links through which you can access and download the cartography of interest. The section Publications is very useful for users to find data too. Here it is possible to identify the volume of interest, by browsing the menu on the right side of the page, sorted by Editorial Series or using the "Search Publications" box, from which it is possible to find any publication of the institute by searching the full title or typing only the keywords. After finding the volume of interest, you can download it.

The most interesting publications on the measurement of the phenomenon of soil consumption include the Reports on Soil Consumption in Italy (annual update) and the yearbooks of environmental data. Within the reports on soil consumption in Italy the data are updated to the previous year; they include detailed information on a national, regional and municipal scale, thanks to the monitoring work of the agencies for the protection of the environment of the Regions and the Autonomous Provinces which, together with ISPRA, constitute the National System for Environmental Protection (SNPA). The mapping of land use drawn up by ISPRA is very useful for monitoring at a local scale, as the production of this mapping takes place through the improvement of the geometric and temporal resolution of the Copernicus monitoring services of the territory transformation. These documents also include quantitative data on the change in soil consumption through tables and charts and the measurement of indicators such as the sealing index and the marginal soil consumption.

Lastly, on the right side of the home page, the box "Information from ISPRA" can connect you to different channels such as YouTube, ISPRA TV, documentary, Streaming events and ISPRA pages on social networks such as Instagram, Facebook and twitter.



The European Environment Agency (EEA) is an agency of the European Union dedicated to the establishment of a monitoring network to control the European environmental conditions, including those regarding land use. Within the official portal, you can access a section entitled "Indicators" where the indicators managed by the EEA are listed in reverse chronological order (from the most recent to the oldest). The search for indicators can be done by inserting the full name of the indicator or proceeding by keywords in the box "find indicators". The user can also choose another way to search for the indicators, through the "Topics" list on the right side of the same page. The indicators for measuring the phenomenon of land use can be found in the topics "land use" and "soil". The main ones are four:

- Landscape fragmentation pressure from urban and transport infrastructure expansion;
- Imperviousness and imperviousness change;
- Land take;
- Progress in management of contaminated sites.

By clicking on the icon representing the indicator of interest, you can access to the page where all the specifications of the indicator and the metadata are available, in particular the indicator definition, the units of measurement, the rationale, the policy context and targets, uncertainties about measurements and all the scientific references. Exploring within the same page it is possible to consult indicator data in table and chart formats, i.e. the results obtained by the measurement of the indicator in European countries.

For each indicator, at the top of the reference page, there is the pdf icon you can click to get all the information on that page in one single file to download.

Returning to the page of the section Indicators, below the list of all the indicators of a given topic, there are links to additional articles and to social networks like Facebook, twitter and Instagram.

## REFERENCES

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## IMAGE SOURCES

The images are from: <http://land.copernicus.eu>; <http://isprambiente.gov.it>; <http://eea.europa.eu>

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## REVIEW PAGES: BOOKS

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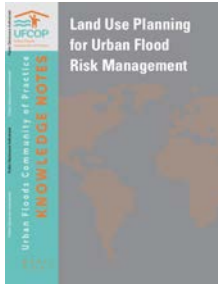


In this number

### STRATEGIES AND POLICIES

The cities and urban areas provide important opportunities for the development of communities and nations. But risks caused by rapid and often improper urbanization compounded by natural hazards create some of the major challenges in the 21st Century. Aside from the negative impacts of improper urbanization on socio-economic development, the risks and humanitarian consequences of rapid urbanization are alarmingly increasing. The disasters in the past decade have created more losses and damages in cities than in other areas. It is well recognized that strengthening resilience to disasters includes disaster management as well as being an essential component of all emergency and development programming. Communities and households with sustainable livelihoods, good levels of health care and access to strong and accountable civil society are less susceptible to hazards and recover more quickly from disasters.

Working towards urban resilience requires multi-dimensional and multi-sector approaches to address the underlying drivers of risk such as migration, violence, climate change and cultural changes. Ensuring that its activities work towards strengthened urban resilience will require the movement to work holistically, encompassing multi-dimensional and cross-sector methodologies which may in some cases require a change in the existing approach. Updated and accurate knowledge and information on the extent of the climate problem at local level, including emissions inventories, climatic risks and vulnerabilities, provide a sound basis for policymaking (Balaban & Şenol Balaban, 2015). One of the best and most appropriate planning tools based on this approach, using the method of restoration of ecosystem services and therefore adaptation to climate change (Salata & Yiannakou, 2016). The frequency and severity of risk events have increased in the last two decades and has begun to affect areas where was once rare. In particular, the flood events are also becoming less predictable due to climate change. Flood risk is comparatively high in urban centers, and the rapid growth of cities, especially those located along rivers and coasts, increases the exposure of people and assets to flooding. Flood risk increases when urban growth compromises natural drainage and storage areas, increases impervious cover, and reduces the infiltration capacity of soils; the resulting acceleration of runoff challenges the capacity of cities to manage drainage infrastructure. According to these themes, this section suggests three books and reports that help to better understand the issue of this number: Land Use Planning for Urban Flood Risk Management; Building urban resilience: A guide for Red Cross and Red Crescent engagement and contribution; and Smart Planning: Sustainability and Mobility in the Age of Change.



Title: **Land Use Planning for Urban Flood Risk Management**  
Author/editor: Jolanta Kryspin-Watson  
Publisher: Urban Floods Community of Practice (UFCOP)  
Publication year: 2017  
ISBN code: -

This note offers policy makers and practitioners an overview of the key aspects of land use planning used to manage flood risks in cities across the world. It includes examples from developed and developing countries to provide insight into what has worked in different contexts. It does not provide prescriptive solutions or step-by-step methodologies since approaches will vary by context. Because the application of correct solutions and methodologies will depend on local land use challenges and institutional capacities, on the scale at which land use planning is undertaken, and finally on the local land use planning culture and land tenure regime, apart from technical and financial capacities.

Cities across the globe are gearing up to address flood risks through land use planning; many are in the initial stages of lobbying for commitment, and many have made significant strides in risk assessment. But the adoption of land use planning for flood risk management remains challenging.

A comprehensive approach to flood risk management combines structural measures that protect against flood risk with non-structural measures that manage flood risk. Historically, cities have chosen structural measures, which are designed for two different purposes: they either safeguard development from an estimated flood risk (through flood defences such as levees and floodwalls) or direct flood waters away from developed areas (by increasing drainage capacity with pipes, canals, and storage basins). However, structural measures alone have proven to be inadequate, for several reasons:

- (i) they are based on finite predictions of risk that may not account for uncertainty due to climate change or unplanned urban growth and expansion;
- (ii) risk may be transferred downstream if the structures do not allow adequate space for the flood volume;
- (iii) high up-front cost of sophisticated engineering design and building materials may not be affordable;
- (iv) such measures induce complacency since communities tend to over-rely on them. Most structural measures minimize damage, but may not prevent damage. There will always be residual risk that needs to be managed with non-structural measures.

In particular, this note reviews how land use planning is used to manage flood risks identifies challenges in implementation and offers recommendations for including land use planning in an integrated approach to flood risk management.

- Section 1. outlines the key land use principles that guide land use planning for flood risk management;
- Section 2. presents an overview of land use solutions for managing flood risk;
- Section 3. describes entry points for incorporating flood risk in the land use planning process with case studies;
- Section 4. identifies the challenges to developing and implementing flood risk-sensitive land use plans and highlights common barriers faced by decision makers and practitioners;

Finally, the note ends with conclusions and offers recommendations for policy makers and practitioners.





Title: **Building urban resilience: A guide for Red Cross and Red Crescent engagement and contribution**

Author/editor: Partnership on Urban Disaster Risk Reduction and Management

Publisher: International Federation of Red Cross and Red Crescent Societies

Publication year: 2017

ISBN code: -

The International Federation of Red Cross and Red Crescent Societies (IFRC) and its members have always been present in cities to respond to crises and disasters and provide relief and humanitarian assistance. But rapid urbanization and the increasing complexity in urban contexts require a better understanding of risk factors and sources of vulnerability and exploring innovative ways for effective disaster risk reduction and response and cooperation with other stakeholders. Developing community resilience in relation to disasters in cities has also been a new challenge for the Red Cross and Red Crescent Movement in view of the multifaceted and new causes of vulnerability in urban environments. There is a clear role for National Societies in supporting urban communities to achieve resilience both through integrated Red Cross Red Crescent programming on community preparedness, health and first aid, food security, and livelihoods and also by influencing local development and urban planning through advocacy, strategic alliances and active partnering. Working towards urban resilience requires multi-dimensional and multi-sector approaches to address the underlying drivers of risk such as migration, violence, climate change and cultural changes. Ensuring that its activities work towards strengthened urban resilience will require the Movement to work holistically, encompassing multi-dimensional and cross-sector methodologies which may in some cases require a change in the existing approach. Within this context, there are a number of operational challenges in the design of urban risk reduction programmes and the delivery of the humanitarian response. These challenges include:

- The complexity of undertaking urban risk assessments due to a number of factors including multiple and secondary hazards such as big fires and interruption in lifelines;
- The need to ensure awareness and coverage of multi-sector needs;
- The presence and involvement of multiple stakeholders with different mandates and approaches.

This guide is one of the outcome documents of the Partnership on Urban Disaster Risk Reduction and Management and has been prepared to share the key findings of the partnership and to contribute to the effective engagement of National Societies in responding to urban risks and enhancing urban resilience.

This document aims to highlight potential approaches to be taken into account to build resilience and highlights some of the key challenges hindering effective National Society engagement for the planning and the actions on urban. Examples of different approaches to the five thematic areas covered in the guide (context and engagement, capacity strengthening, awareness-raising, programme implementation, and advocacy) will be provided and tips for more effective engagement are featured where possible. Based on the understanding that there is an existing urban knowledge gap on urban resilience this guide has been developed in order to achieve the following:

- Highlight key issues for National Societies to consider when engaging in urban resilience discussions and activities;
- Pinpoint a number of the key challenges identified in relation to urban resilience;
- Provide tips to be taken into account when National Societies are planning to engage or engaging in urban resilience activities;
- Showcase lessons learned from the five pilot city projects and regional workshops;
- Promote the essential elements for Red Cross Red Crescent urban resilience building.



Title: **Smart Planning: Sustainability and Mobility in the Age of Change**

Author/editor: Rocco Papa, Romano Fistola, Carmela Gargiulo

Publisher: Springer International Publishing

Publication year: 2018

ISBN code: 978-3-319-77681-1

This book is a collection of twenty-one contributions on a subject of considerable interest in the ambit of studies on managing urban change by the main research groups active in the field of urban sciences from the various schools of engineering operative in Italy. The objective of the research publications collected in this book is to show that smartness in managing urban and territorial changes may be implemented with interventions which ultimately aim at sustainability, implemented by solutions on the mobility of people, goods, and information. This consideration provides to divided the contributions published in this book within two large thematic areas: sustainability and mobility. In particular, the contributes published in this book offer an overview of sustainability by urban planning Italian scholars and provides an up-to-date review of urban mobility approaches in the context of urban planning. Including contributions by urban planning scholars, this book provides an up-to-date picture of the latest studies and innovative policies and practices in Italy, of particular interest due to its spatial, functional and social peculiarities. Sustainability and mobility must form the basis of "smart planning"- a new dimension of urban planning linked to two main innovations: procedural innovation in managing territorial change, and technological innovation in the generation, processing and distribution of data (big data) for the creation of new "digital environments" such as GIS, BIM, models of augmented and mixed reality, useful for describing changes in human settlements in real time. The contributions are structured as follows: the innovative methodology is first described, and procedures and tools are then proposed for urban interventions with specific reference to real cases within the Italian context. As already highlighted in the volume entitled: "Smart Energy in the Smart City", published in the same series in which this publication represents a natural evolution, the Italian context represents, also in this case, a test bench of major interest due to such specific aspects as geography, socio-economic variability between the North and South of the country, differentiated local development potential, climate and exposure to various conditions of risk for urban systems.

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 THE RESILIENCE CITY/THE FRAGILE CITY. METHODS,  
 TOOLS AND BEST PRACTICES 2 (2018)

## REVIEW PAGES: LAWS

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 In this number  
 INCREASING THE FLOOD RESILIENCE IN THE EU  
 MEMBER STATES

In the last ten years, climate change impacts have been very severe and intensive (Papa et al, 2014). In particular, flood events have become very frequent, hitting mainly cities, especially ones near to the coastline or rivers. Moreover, the scale and frequency of floods are likely to increase not only for the climate change phenomena (with consequent higher intensity of rainfall and rising sea levels) but also for the inappropriate river management and the lack of areas capable to absorb flood waters. Considering also that the number of people and economic assets located in flood risk zones is increasing, European Union sought a strategy to deal with flooding with the awareness that not all floods can be prevented or avoided with physical infrastructure but their impacts can be reduced (De Gregorio Hurtado et al., 2015).

As a consequence, the European Union defined the Directive 2007/60/EC, known as the “Floods Directive”, aimed at “*reducing the risk of adverse consequences, especially for human health and life, the environment, cultural heritage, economic activity and infrastructure*” (art.1), thus increasing the urban resilience to flood events. According to this Directive, the EU Member States are required to adopt prescriptions included in this document. In particular, three main steps need to be carried out by EU States:

- the preliminary flood risk assessment to identify the river basins and associated coastal areas at risk of flooding;
- the development of flood risk maps for the zones subjected to the risk of flooding;
- the establishment of flood risk management plans focused on prevention, protection and preparedness.

Specifically, the European Commission shall evaluate the implementation status of the Floods Directive and, as it arises from the EU Report “EU overview of methodologies used in the preparation of Flood Hazard and Flood Risk Maps”, in 2015 most of the EU Member States have presented information on their flood hazard and flood risk maps.

However, even though “*the Flood Directive obliges to take into account flood risks as all the EU territory is supposed to be likely flooded, in some EU countries, flood risk is even now not clearly addressed*” especially with regard to urban planning policies and practices (Serre et al., 2018).

Therefore, in this number, it will be illustrated how three states – the Netherlands, England and France – are implementing the provisions of the EU Floods Directive and if and how they are integrated in the urban spatial planning.



## THE NETHERLANDS – WATER ACT



The Netherlands is one of the most vulnerable countries with regards to flooding since past times, considering “its long and eventful history of dealing with and recovering from changing physical circumstances, especially regarding floods” (Wiering & Winnubstb, 2017). However, considering the increasing flooding events, a new strategy has been developed grounding on the cooperation between spatial planning and flood management. In particular, with regard to the flood risk management and spatial planning there are four main levels of government, which share responsibilities (Slomp, 2012):

- the European level, where the issue of floodings is addressed with the Floods Directive and the Water Framework Directive;
- the national level, where the Ministry of Infrastructure and Water Management is responsible for spatial planning (National Spatial Strategy) and environmental management (Environmental Management Act), and where the Rijkswaterstaat (executive agency of the Ministry of Infrastructure and Water Management) is responsible for flood protection and water management (National Water Plan and National Flood protection program);
- the provincial level, where 12 provinces are responsible for land-use planning (Spatial Planning Act) and flood protection (Provincial Water Plan);
- the municipal level, where 400 municipalities are responsible for local spatial planning and building permits through the Spatial Planning Act. At the same level, there are 25 water boards, which are the regional water authorities responsible for water management and flood protection in all minor waterways (Water Management Plan). This legislative framework aimed at the cooperation between spatial planning and flood management was set in 2010 thanks to the Water Act – the Dutch law for the adoption of the EU Floods Directive – that is accompanied by a number of legal instruments summarized in the Water Decree.

Specifically, the Water Act, the Spatial Planning Act and the Environmental Management Act allow municipalities and regional authorities to have the possibility to use set of policy instruments that enable them to deal with the effects of climate change, in accordance with the higher provincial, national and European legislative framework. In particular, municipalities have three main duties of care: to collect and process rainwater (Art. 3.5 Water Act), to prevent “a structurally adverse influence by the groundwater level” (Art. 3.6 Water Act) and to effectively collect and transport urban wastewater (Article 10.33 Environmental Management Act). As an instance, in order to respond to these duties of care, the municipality of Rotterdam has identified the following areas of responsibility for each department involved in urban planning and water management:

- Department of Municipal Works as responsible for drainage systems, public spaces, urban infrastructure and groundwater management;
- Department of Urban Planning as responsible for spatial planning, housing and urban functions;
- Department of Economic Development and Project Development as responsible for project development, economic development, real estate management and development

By means of the collaboration among these three departments, Rotterdam developed a climate adaptation strategy based on water-sensitive urban development, thus integrating water and spatial development since the early stages of urban planning.



## ENGLAND – FLOOD AND WATER MANAGEMENT ACT

After the widespread flooding that took place in England in June and July 2007, in 2010 the “Flood and Water Management Act” was introduced in England and Wales. It represented a response to the need to develop better resilience to climate change effects, to reduce the vulnerability of critical infrastructure, as well as to enhance the emergency response, emergency planning and the recovery phase.

In particular, the Flood and Water Management Act consists of four main parts:

- Flood and Coastal Erosion Risk Management, that set the basis for introducing strategies for flood and coastal erosion risk management for England and Wales;
- Miscellaneous part, related to several aspects such as the need to include in the Building Act 1984 the statement that building interventions shall be realized in accordance with the purpose of increasing the resistance and the resilience in respect of flooding, or the guidelines for the development of regulations about the provision of infrastructure for the use of water undertakers or sewerage undertakers;
- General disposition about the legislative framework related to flood and coastal erosion;
- Schedules, which contain documents about the amendment of other acts, the introduction standards for the design, construction, maintenance and operation of new drainage systems and the introduction of novel reservoir safety rules, among others.

What is interesting to note is that the Lead Local Flood Authorities are established to “develop, maintain, apply and monitor a strategy for local flood risk management”, thus recognizing the need for a local-based approach. In addition to this, in the Flood and Water Management Act, it is stated that “the Environment Agency must develop, maintain, apply and monitor a strategy for flood and coastal erosion risk management”. Therefore, in 2011 the National Flood and Coastal Erosion Risk Management Strategy for England has been published as the reference for management authorities and communities to understand their different roles and responsibilities (Defra and EA, 2010).

In detail, it arises the key role of spatial planning, that shall ensure that “new developments take flood and coastal erosion risk fully into account, and are safe from, do not increase, and where possible reduce risk over their lifetimes” (section 2.3). Indeed, the possibility to reduce flooding impacts during the planning stages for new developments or infrastructure is recognized as a great opportunity.

This is also declared in the National Planning Policy Framework (NPPF), where it is stated “when determining planning applications, local planning authorities (LPAs) should ensure flood risk is not increased elsewhere”. However, when urban development needs to be realized in areas characterized by the risk of flooding, LPAs and developers should ensure the following points, which are described in the NPPF:

- perform an appropriate assessment of flood risk;
- “ensure policies steer development to areas of lower flood risk as far as possible”;
- “ensure that any development in an area at risk of flooding would be safe, for its lifetime taking account of climate change impacts”;
- “be able to demonstrate how flood risk to and from the plan area/ development site(s) will be managed, so that flood risk will not be increased overall, and that opportunities to reduce flood risk, for example, through the use of sustainable drainage systems, are included in the plan/order”.





## FRANCE - NATIONAL COMMITMENT FOR THE ENVIRONMENT ACT

After the publication of the EU Floods Directive in 2007, the existing policy for flood risk management, that was previously incorporated in the national disaster risk reduction policy, has been renovated and included in the national legislation under the Environmental Law of 12 July 2010, finalized definitively only in 2014. In detail, the main objectives of the national strategy are: (i) improve the safety of the exposed population, (ii) to reduce the cost of flood damages in the medium term, and (iii) to shorten the recovery period for the areas subjected to flood. Under the governance perspective, flood risk management is at three levels: National level, with a Joint Flood Commission (CMI) which consists of representatives of the state, local authorities and civil society; River basin level, with a Flood District Commission (CIB); and Local level, with the Local Public River Basin Establishment (EPTB) and Local Public Water Management Establishment (EPAGE).

Apart from the main objectives, the national strategy does not provide information for the effective implementation of flood risk policies. Indeed, only the local flood risk management strategies developed for the Areas with Potential Significant Flood Risk (PSFR) included operational indications, together with the Flood Risk Management Plans and the Flood Prevention Action Programs. In addition to this, also the municipalities have a role because through the Flood Risk Prevention Plan they have to take into account flood risks in planning (Morel et al., 2016).

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 THE RESILIENCE CITY/THE FRAGILE CITY.  
 METHODS, TOOLS AND BEST PRACTICES 2 (2018)

## REVIEW PAGES: URBAN PRACTICES

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In this number

 PLANNING FOR RESILIENCE IN TWO  
 MEDITERRANEAN CAPITALS

With a greater concentration of people and assets in urban areas, cities need to address an increasingly complex range of shocks and stresses to safeguard development gains and well-being. Managing disaster risk and the impacts of climate change have long been an important focus of urban resilience (Galderisi, 2014; Galderisi, Mazzeo & Pinto, 2016), but recent examples have shown how economic crises, health epidemics, and uncontrolled urbanization can also affect the ability of a city to sustain growth and provide services for its citizens, underscoring the need for a new approach to resilient urban development. In response of these concerns, in the last few decades, researchers from different disciplines have started investigating the meaning, aspects and elements of urban resilience, suggesting that resilience is a complex and multifaced concept with wide implications for planning practices (Salat and Bourdic, 2012), also arguing that achieving resilience in urban areas requires a strong partnership between local governments, research centres, the non-profit sector, businesses, and communities (Stumpp, 2013). Within this context, several initiatives involving both public and private stakeholders have been created in the last few years, aimed at fostering resilience in urban areas. A notable example in this direction is the *100 Resilient Cities* initiative, pioneered by the Rockefeller Foundation. The initiative represents one of the most remarkable effort to helping cities around the world become more resilient to the physical, social and economic challenges that are a growing part of the 21<sup>st</sup> century. The *100 Resilient Cities* programme defines urban resilience as “the capacity of individuals, communities, institutions, businesses, and systems within a city to survive, adapt, and grow no matter what kinds of chronic stresses and acute shocks they experience”. Based on this definition, and in partnership with the global design firm Arup, a “City Resilience Framework” (CRF) has been established. The framework provides an innovative model for the local authorities to develop a holistic city strategy in collaboration with adjacent municipalities, local academic institutions, private stakeholders, and communities of the city and represents the foundation for the developments of a city resilient strategy. The programme has been established in 2013, in honour of Rockefeller’s 100th anniversary and had initial funding of \$100 million (although the level of funding support has grown since the programme was launched). Since then, 102 cities worldwide have joined the programme, and 37 Resilience Strategies (with nearly 1,900 concrete actions and initiatives) have been developed.

This contribution presents two relevant Resilient Strategies, developed in two Mediterranean capital cities, within the 100 Resilient Cities framework: i) the Rome (Italy) Resilient Strategy and ii) the Athens (Greece) Resilient Strategy. The two case studies have been selected according to the following criteria: i) they

represent two notable example of historical cities ii) they pertain to the same geographic area (i.e. Mediterranean Europe); iii) they share a great portion of physical, social and economic challenges, including: a) a rich cultural heritage that requires intense preservation efforts; b) increasingly aging urban infrastructures; c) serious difficulties in managing climate-related risks; d) a lack of employment opportunities combined with a general cut in public services; e) a fragmented government structure.



ROME

Rome is the capital city of Italy and has an urban population of 2,872,800 inhabitants. This city is struggling to reverse decades of poorly regulated development, inadequate infrastructure provision, and urban sprawl. These activities have made Rome highly vulnerable to flooding and other disruptions, which threaten to undermine social cohesion and prosperity in this city. In order to face these and other relevant urban challenges, on June 2018, the city of Rome released its Resilience Strategy with the support of the *100 Resilient Cities* initiative. The strategy is based on 4 main pillars, 18 goals and 58 tangible actions:

- *Pillar I: An efficient city at the service of its citizens.* This pillar deals with making the administration of the city more efficient, transparent and participatory, while incentivizing centralized governance actions. A number of coordinated actions are proposed to meet this goal. These include: i) revisiting the mechanisms that regulate the formation of the annual program and budget in order to ensure consistency between project costs and funding for project implementation ii) intervening on the municipal “Macrostructure” to improve administrative workflows and facilitate communications between different municipal offices and iii) creating a one-stop information desk in order to facilitate the two-way communication between the city administration and its citizen and business. Another important part included in the first pillar concerns with the implementation of different technological initiatives, such as the creation of an open-data platform, investments in free Wifi in public areas, the creation of squares of innovation and new public access points throughout the region.
- *Pillar II: A dynamic, strong, and unique city.* This pillar focuses on promoting the cultural life of the city, improving its attractiveness and safety, while preparing, at the same time, the city for the impacts of the changing climate. This pillar is supported by different initiatives, ranging from the relaunch of the River Tiber areas to the reorganization of the management of the cultural sector. A quite interesting aspect concerning the second pillar is the interdisciplinary approach undertaken, i.e. an approach able to address different challenges in the same holistic intervention. For instance, in the case of the relaunch of the River Tiber area, a combined mix of action will address at the same time: i) the urban regeneration of the costal part of the city; ii) the implementation of hydraulic engineering work aimed at preventing flooding iii) the redevelopment of a number of parks along the banks, as well as iv) the establishment of cultural and social hubs along the river.
- *Pillar III: An inclusive, open city, that shows solidarity with everyone.* This pillar addresses the social dimension of urban resilience and it is aimed at making Rome a city that respects diversity and promotes the cultural growth of the vulnerable population. To reach this aim, a specific program to strengthen and extend the support network for vulnerable communities has been envisioned. Furthermore, the city plans to increase the economic efforts devoted toward the realization of social housing project. Another

interesting part of the strategy is the assignation of public spaces under concession to NGOs, associations and organizations that promote social inclusion, education and sustainability.

- *Pillar IV: A city that protects and enhances its natural resources.* This pillar focuses on protection of the ecological system and the restoration of the value of water resources. It also addresses the promotion of the use of renewable energy sources and the implementation of a zero-waste circular economy. Actions associated to the fourth pillar include: i) the implementation of a sustainable urban forestry masterplan aimed at protecting biodiversity and enhancing parks and nature reserves; ii) the acquisition of new electric buses to satisfy the increasing travel demand of the population and iii) the implementation of waste-management measures aimed at reducing the volume of waste produced in the city.



ATHENS

Athens is the capital city of Greece and has an urban population of 655,780 inhabitants. The city is currently facing serious socio-economic problems: austerity measures have indeed cuts essential social services, while employment has recently reached its peak. Furthermore, the city faces risks from ongoing environmental pressures, since, in recent years, heat waves have increased in intensity and frequency, straining healthcare, emergency response services, and the electrical grid. In response, the city of Athens released its Resilience Strategy on June 2017. The Strategy is framed by 4 pillars, 65 main actions and 53 supporting actions:

- *Pillar I: An open city.* The first pillar deals with making the Athens' administrative structure more transparent and accountable, while fostering at the same time citizens' collaboration and engagement. The Athens' city Council and administration are indeed perceived as remote and obscure to the citizens. In order to change this negative image, the city has planned different initiatives such as i) opening new channels of communication; ii) implementing a platform for sharing and analyzing city's data; iii) creating thematic platforms to engage citizens and businesses in different aspect of the decision-making process; iv) improving the collaboration between the city administration and the universities and research centers located in the city.
- *Pillar II: A green city.* Athens suffers from heatwaves, flash floods and poor air quality, and has historically wasted, misused and mismanaged its natural resources. Actions included in the second pillar are thus aimed at providing a response to these issues by integrating natural systems into the urban fabric, promoting sustainable mobility, fostering a sustainable food system and establishing a sustainable and equitable energy system. In particular, the City intends to target investment into green infrastructure and nature-based solutions such as pocket parks, parklets, green roofs and vertical gardens in public, private and abandoned properties. Furthermore, in order to promote sustainable mobility, the City intends to put in place a coordinate mix of actions, such as the development of new bike-lanes, the extensions of some pedestrian zones in the city center, and the establishment of new electric bus lines. A sustainable food system is also envisioned in the strategy and is supported by the development of new local market areas, investments in food logistic and waste management actions. Finally, in order to establishing a sustainable and equitable energy system, the city will lunch different initiatives targeting the reduction of energy consumption in the public sector as well as in the commercial and residential sector.

- Pillar III. A *proactive city*. This pillar focuses on enhancing planning in the face of serious challenges, empowering the municipal representatives as well as the voice of the local community. A main part of this pillar concerns with the development of a crisis preparedness and management plan able to provide a coordinated response in case of natural and man-made disasters. The plan includes the definition of escape routes to open areas and shelters, the installation of a real-time earthquake monitoring system in partnership with the National Observatory of Athens, the development and assessment of mock disaster scenarios. A second part of the pillar deals with empowering the municipal representatives as well as the voice of the local community. This will be achieved through a program of municipal capacity building as well as through the development of structures of participatory governance. Furthermore, legislative and policy making reforms are envisioned in the plan. These include: i) readjusting the municipal taxation system to be able to provide specific incentives or disincentives to local entrepreneurs; ii) providing a legal framework for spatial and temporal land use within the city jurisdiction; iii) provide the right to municipalities to facilitate digital access to labor coupons in order to mitigate the black economy and iv) developing a new participatory budgeting regulatory framework.
- *Pillar IV: A vibrant city*. Actions included in the fourth pillar are aimed at fostering well-being, creativity and entrepreneurship, while creating a new and attractive city identity. Actions included in this pillar will primary focused on the creation of a new city identity by enhancing some underdeveloped city assets. To this end a coordinated mix of action will took place, including: i) the development of a creative economy strategic plan aimed at attracting capital investment as well as improving the global position of Athens as a creative capital; ii) the development of green and walkable urban corridors aimed at creating new cultural and leisure opportunities and increase the dynamicity of some city's neighborhood and iii) the restoration and change of use of vacant building and abandoned train stations that will be converted in creative and cultural hubs.

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## IMAGE SOURCES

The image shown in the first page is from: [100resilientcities.org](http://www.100resilientcities.org). The images shown in the second page is from: [lonelyplanet.com](http://lonelyplanet.com) The image shown in the third page is from: [nashville.com](http://nashville.com).



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THE RESILIENCE CITY/THE FRAGILE CITY. METHODS,  
TOOLS AND BEST PRACTICES 2 (2018)

REVIEW PAGES: NEWS AND EVENTS

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BIG DATA AS TOOL FOR URBAN ANTIFRAGILITY

Resilience is “The capacity of individuals, communities, institutions, businesses, and systems within a city to survive, adapt, and grow no matter what kinds of chronic stresses and acute shocks they experience” (Rockefeller Foundation, 2014)”; the concept is closely connected to the ability to manage an event or any kind of change in an ordinary mechanism although it never happened before; It can be possible thanks to the transmission of collective experience (knowledge) and to the presence of a collective organization able to intervene in case of accident (system structure). Even if you never experienced an earthquake you could know exactly what to do when the shock happens, because for example you learned it at school and because there is a system of intervention on which you can rely; therefore, we could say that a city is as resilient as bigger is its capacity to learn from the collective experience and to recognize the phenomenon to be replied.

However, especially in an age where disruption is going to become the new rule in ways that we can't even predict, it can be possible to have to face with phenomena that have not yet been experienced before or that occur so quickly that the urban system is not able to give the right answer on time.

Therefore, what happens if the phenomenon is unforeseen or it is the result of a concomitance of known phenomena occurred for the first time simultaneously?

A possible solution comes from Taleb theory of antifragility in which the previous dilemma is exceeded with the capacity of being able to live in uncertainty, more than on the intent of being able to prevent disaster: “antifragility is beyond resilience or robustness. The resilient resists shocks and stays the same; the antifragile gets better” (Taleb, 2012).

However, nowadays the intents of using the Taleb theory in the field of urban planning appear still weak; the reason probably relies in the paradox that the Taleb theory, focused on the incidence of individual attitudes rather than on the scientific analysis of phenomena, would go against the same strategic role of urban planning and would question with the responsibility role of those who are designated to take decisions both in case of emergencies and in driving city's development policies.

Is it therefore possible to define policies founded on a solid scientific groundwork able to include the ability of a system to respond quickly to something unpredictable?

A possible answer could lie in the potential of the growing Big Data technology; the ability to collect and process billions of information, many of which geo-localized and acquired in real time by devices spread over the territory, could in fact be used to achieve a double goal:

- reducing the analysis times of an ongoing phenomenon by knowing in real time the reaction of the elements of the system to the shock both in quantitative (eg number of people per territorial unit distributed in the territory) and qualitative (eg spatial distribution of perceived danger) terms;
- Finding solutions to unpredicted event through machine learning mechanisms applied on the analysis of billions of data. The system would be able, in real time, to suggest optimal solutions through different query on a sort of a huge database containing the experiences of billions of “differently analogous” information daily collated over the time.

A Big data approach to urban phenomena could than change the attention span from longer to shorter time periods in which interventions can take place, because big data is largely based on massive volumes of data – terabytes – over very short time spans – seconds – at very precise spatial scales – centimeters.

It means theoretically the possibility to receive on time enough information to not be unprepared and accordingly fragile if an unexpected event happens.

In continuity with what has been discussed promoted and implemented in the last years about the concept of resilience and its application in the urban planning practice, the following selected conferences could represent a fertile ground of confrontation on the scientific advances about this topic, contributing to find out methods and tools to reconcile long-term adaptation and mitigation development strategies (Balaban & Balaban, 2015) with new more focused tools for dealing with short terms changes.



## INPUT 2018

Where: Viterbo, Italy

When: 5-8 September 2018

<https://sites.google.com/view/input2018/home>

The 10<sup>th</sup> International Conference on Innovation in Urban and Regional Planning, will take place this year in Viterbo and will be organized by the Tuscia University. The main scope of the conference is to face the complexity of the current socio-ecological systems through the lens of modelling approaches employed in urban and territorial planning. Even if resilience is not explicitly mentioned among the main themes of the conference, its possibility of implementation passes through a full and complete knowledge of urban phenomena that is becoming more and more in-depth thanks also to the integration between urban planning and computational sciences, distinctive feature of INPUT since its inception.

The conference is articulated in 8 main session and 3 special session; the main ones are the following:

- Territorial modelling state-of-art and future development;
- Environment, planning and design: the role of modelling;
- Rural landscapes and well-being: towards a policy-making perspective;
- Smart planning;
- Maintenance, upgrading and innovation in cultural heritage;
- Urban and environmental planners: who is the client? the planners jobs in a new millennium;
- Big data and data mining;
- Ict & models: planning for communities.



## CITYLAB 2018

Where: Detroit, USA

When: 28-30 October 2018

<https://www.theatlantic.com/live/events/citylab-2018/2018/>

Regardless to the tools and methods used other important elements to improve antifragility strategies in urban policies could come from the study of cases in which the response to an external shock occurred very quickly. It is the case of Detroit that in 2013 became the largest American city to file for bankruptcy and with the largest amount of debt in US history; A lot of focus has been put in trying to understand how the city got into its current situation, but few have talked about the impressive advances the city has shown in a little more than two years. Therefore, it is not a case that this year the CityLab 2018 will be held in Detroit where the world's leading mayors, urban experts, business leaders, artists and activists will convene to share ideas and the latest innovations on what makes cities more livable but also able to rapidly change their structure in case of socio economic deep changes.

In fact, nowadays Detroit's inspiring quest for revival captures the imagination of many, and its narrative offers insights and inspiration to urban leaders in both post-industrial and developing cities across the world. As the world's leading mayors, urban experts, business leaders, artists and activists convene to share ideas and the latest innovations on what makes cities more vibrant and livable, the host city provides a rich backdrop for conversation and collaboration across disciplines.



## RESNEXUS 2018 CONFERENCE

Where: Wageningen, Netherlands

When: 7-8 November 2018

<https://www.resnexus2018.org/>

With over half the world's population now living in cities, urban resilience has become one of the leading global challenges as can be seen in the Sustainable Development Goals and the New Urban Agenda. Cities are complex networked spaces where access to key services is often unevenly distributed among city dwellers. In light of projected climate change impacts, resource constraints and growing populations, the provision of basic services and commodities such as food, water and energy is increasingly problematic for many cities. The interactions between water, energy, food and environment within cities (termed the urban 'Nexus') are seen as key for the development of sustainable and resilient cities. Yet these interactions are poorly understood due to the sectoral approaches to water energy and food often taken in most cities. Much of the current discussion on urban resilience and the urban Nexus of water, energy, food and the environment (WEFE) in academic and policy circles focuses on building resilience of 'urban systems' through cross-sectoral initiatives among others. However, such an emphasis on system-level urban resilience leads to a neglect of vulnerabilities at the actor level, especially in poorer and marginalized communities. Urban nexus practices with potential for real contributions to resilience remain hidden and disconnected from urban level policy. Furthermore, even when resilience is conceptualized at the community level, it can often fail to address processes that engender vulnerabilities. This disconnect between resilience approaches and the making of vulnerabilities presents an opportunity for seeking ways of linking up resilience policy instruments with user practices and providers of basic services. Starting from these premises the conference aims to engage a wide range of urban researchers and practitioners from various socio-economic contexts in

rethinking resilience and its application in the context of the urban nexus especially regarding the following questions:

- How are cities tackling the challenges found at the urban nexus?
- What opportunities exist for the integrated management of, and improved access to, water, energy, food and the environment in pursuit of resilient cities?
- What vulnerabilities do the poor face at the urban Nexus and what coping practices do they engage in?



## 11TH INTERNATIONAL FORUM ON URBANISM (IFOU) CONGRESS 2018

Where: Barcelona, Spain

When: 10-12 December 2018

<http://2018reframingurbanresilience.org/>

The conference is organized by the Urban Resilience research Network (URNet), the School of Architecture Universitat Internacional de Catalunya (UIC Barcelona) and the UN Habitat City Resilience Profiling Program (CRPP). Many “resilient city” initiatives are failing to integrate local communities or sustainability goals within their strategies. In some cases, this has induced environmental and climate gentrification, or reinforced ‘business as usual’ and unsustainable patterns of developments, while tackling and reducing specific risks and vulnerabilities. Therefore, experiences of “building resilient cities” remain fragmented, characterized by a variety of resilience trade-offs. These considerations highlight the need for a more integrated and inclusive approach to design and manage urban resilience, addressing climatic, environmental, socio-economic challenges while minimizing trade-offs among them, and maximizing synergies between resilience and sustainability (Papa et al., 2014). On these premises, the conference will tackle issues related to urban resilience theory development, frameworks, principles, indicators and metrics. In particular, the contributions will focus on the following four main aspects of urban resilience:

- Post-Disaster and Post-Conflict Resilience (TOPIC 1);
- Climate Resilience Governance and Planning (TOPIC 2);
- Urban Design and Management: Infrastructures and Services (TOPIC 3);
- Community Resilience (TOPIC 4).

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### IMAGE SOURCES

The image shown in the first page is taken from: <http://www.paginaq.it/2015/01/26/torna-il-master-s- ui-big-data-per-diventare-scienziati-del-futuro/index.html>

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