

# TeMA

Journal of  
Land Use, Mobility and Environment

The special issue collects the proceedings of the Session "Smart and Resilient Cities: Ideas and Practices from the South of Europe" of the European Conference On Climate Adaptation (ECCA), held in Copenhagen in May 2015. The contributions shed light on the relationships between the emerging paradigms of Smart City and Resilient City, providing hints for developing integrated strategies in the face of climate change.

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## SMART AND RESILIENT CITIES IDEAS AND PRACTICES FROM THE SOUTH OF EUROPE

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## SMART AND RESILIENT CITIES

IDEAS AND PRACTICES

FROM THE SOUTH OF EUROPE

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# TeMA

Journal of  
Land Use, Mobility and Environment



**European Climate Change Adaptation  
Conference (ECCA) 2015**

*Copenhagen, 12-14 May 2015*

## EDITORIAL PREFACE:

### SMART AND RESILIENT CITIES. IDEAS AND PRACTICES FROM THE SOUTH OF EUROPE

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Climate change is nowadays largely recognized as one of the main challenges of the XXI century and its impacts are already severely threatening people, cities, natural and rural ecosystems all over the world. As clearly remarked also in the influential Encyclical "Laudato Si" by Pope Francis, climate change is a global problem with serious environmental, social, economic and political implications.

For a long time European climate policy has been focusing on mitigation and it was only in the last decade that the growing frequency and consequences of climate-related events pushed the EU to devote larger attention to adaptation, by involving national and local governments in the development of National Adaptation Strategies and more recently of Adaptation Plans at city level. The EU Adaptation strategy was issued in the April 2013 and in October 2014 the Commission launched the Covenant of Mayors Initiative on Climate Change Adaptation, to engage cities in taking action to adapt to climate change. So far, only 134 European cities have joined the initiative and most of them are still at an early stage in the development and implementation of an Adaptation Plan.

The growing relevance of climate issues led to the organization of the first European Climate Change Adaptation Conference (Hamburg, 2013), with the aim to bring together scholars, policy makers and practitioners for developing methods and tools capable to integrate climate into Action. After two years, in May 2015, the Aarhus University and the City of Copenhagen hosted the Second European Conference on Climate Adaptation (ECCA) promoted, among the others, by the European Commission, the European Environment Agency and some European adaptation research projects (BASE, RAMSES and TopDad). The Conference covered a broad range of issues related to climate change adaptation, placing large emphasis on the need for the integration of climate adaptation in science, policy, practice and business.

Due to the congruence with the topics addressed in the last two years by the Tema Journal of Land Use, Mobility and Environment, the Editor in-Chief and Editorial Advisory Board agreed to publish a Special Issue of the Journal collecting the proceedings of one of the Sessions organised in the framework of the second

European Conference on Climate Adaptation (ECCA 2015), focused on “Smart and Resilient Cities. Ideas and practices in the South of Europe”.

The session was addressed to highlight whether and how the emerging paradigms of Smart City and Resilient City may contribute to a better framing of climate strategies at city level and to explore research outcomes, best practices and existing barriers to the development of integrated climate strategies in Southern European Cities.

In respect to the first point, it has to be outlined that so far in Europe numerous Smart City initiatives have been funded in order to reduce GHG emissions and energy consumptions, whereas the Resilient City initiatives have been mainly focused, among others, on adaptation strategies addressed to reduce urban vulnerability to the heterogeneous impacts of climate-related phenomena. Thus, although public safety is one of the main areas of interest of Smart City initiatives and the potential of ICTs for enhancing the cities’ ability to prepare for and adapt to changing climatic conditions is widely recognized, the scientific debate as well as policy developments related to these paradigms are still far apart and very few experiences have been addressed to develop integrated approaches and practices to enhance smartness and resilience in urban areas and, in so doing, to integrate mitigation and adaptation strategies.

The prevailing sectoral approach to mitigation and adaptation issues is clearly conflicting with the more and more shared idea that it is “(...) no longer a question of whether to mitigate climate change or to adapt to it. Both adaptation and mitigation are now essential in reducing the expected impacts of climate change on humans and their environment” (IPCC, 2007). Moreover, in the last decade numerous scholars have stressed the potential for developing synergies between climate change mitigation and adaptation (Klein et al., 2005) and the need to analyze climate change in the wider framework of the Disaster Risk Reduction, placing the latter as “a subset of wider development and sustainability processes” (Kelman et al., 2015). The still on-going debate has paved the way to the growing awareness that several research projects and on-field experiences, by looking at climate mitigation, climate adaptation, disaster risk reduction and sustainability as separate issues, will multiply the efforts, disperse energy and lead to the proliferation of planning tools (Sustainable Energy Action Plans, Adaptation Plans, etc.), scarcely coordinated among each other and hardly embedded into current urban planning processes.

The focus on the South of Europe arises from the awareness that the Mediterranean area is subject to major impacts of climate change that will likely worsen in the next future. Nevertheless, despite the urgent need to promote adaptation strategies capable to enhance cities’ capacities to cope with climate-related events, so far very few Southern European cities have started an adaptation process. Moreover, even though numerous researches and initiatives addressed to increase urban “smartness” have been undertaken in Europe, only 8 Southern European cities out of the 70 European Smart Cities are placed in the smart cities’ ranking, with a very low position.

Hence, the session on the one hand has shed light on the relationships between the paradigms of Smart City and Resilient City as a tool for overcoming current sectoral approaches in favor of integrated strategies, capable to counterbalance the emerging environmental challenges (from climate change impacts to the scarcity of energy resources); on the other hand, it has explored the main obstacles to promote and implement effective climate initiatives in Southern European cities.

Based on the contributions of scholars coming from different disciplinary backgrounds and different areas of Southern Europe, the session has provided at least two significant outcomes: methodological and operational tools for embracing a systemic perspective capable to grasp the complexity of urban areas and to face climate challenge on the city level pursuing a better integration among mitigation and adaptation strategies; a state of the art on mitigation and adaptation practices in Southern European cities, mirroring the significant delay that characterizes the South of Europe.

In detail, the first papers provide a state-of-the-art of mitigation and adaptation policies in some Mediterranean countries: Turkey, Spain and Italy.

The paper “Lessons for a Resilient Future: Roadblocks to Climate Change Adaptation in Turkish Cities”, presents the current level of climate change adaptation efforts in Turkey – which is among the Southern countries that will be seriously affected by the impacts of climate change – highlighting the major barriers that hinder the widespread implementation of adaptation strategies and policies in Turkish cities. It clearly remarks that, despite the importance of adaptation for Turkey, the progress towards adoption of climate change adaptation goals and strategies is very limited both on the national and on the local level. Moreover, it emphasizes that most local governments are taking voluntary actions for mitigating climate change, since a more systematic approach, focused on both mitigation and adaptation goals, has still to be mainstreamed into local governance in Turkey.

The second paper, “Understanding how and why cities engage with climate policy: An analysis of local climate action in Spain and Italy”, investigates the state-of-the-art of urban climate plans in two countries, Spain and Italy, which share numerous similarities, such as cultural and geographical features, climate vulnerabilities, the institutional framework and so on. The research analyses 26 Spanish and 32 Italian cities, focusing on the actions addressed to reduce their contribution to climate change and to increase their resilience to changing weather patterns. The results of the analysis show a trend towards an increasing awareness on climate mitigation (highly focused on energy efficiency and the promotion of cleaner energy sources), while adaptation remains an incipient local policy area in both countries.

Then, the paper “Policies of resilience in the new kind of institutional process by local administrations. The case of Siracusa” analyzes projects and actions undertaken in Sicily over the past few years, with a focus on the Municipality of Syracuse in comparison with that one of Palermo. The paper highlights that, despite the wide range of on-going initiatives, a circular, active, flexible and versatile approach to local development – which is crucial to enhance urban smartness and urban resilience – is still missing.

The second group of contributions is mainly addressing conceptual and methodological tools for empowering cities in the face of climate issues.

The fourth and the fifth papers – both of them developed within the Project “Smart Energy Master for the energetic governance of territory” - focus indeed on the relationships between the smart and the resilient city paradigms and on their potential to enhance cities capacities to cope with climate issues. Namely, the paper “Smartness and Urban Resilience. A Model of Energy Saving” provides a significant contribution to the current debate about energy consumption in urban areas. The Urban Saving Energy Model, based on a systemic approach, allows identifying the physical and environmental elements that mostly influence energy consumption in urban areas and provides policy-makers with an effective tool to fit the relationship between the urban built environment and energy in a more efficient way.

The paper “European Cities Dealing with Climate Issues: Ideas and Tools for a Better Framing of Current Practices”, provides an overview of the state-of-the-art of the mitigation and adaptation initiatives in Italian metropolitan cities. Then, focusing on the concepts of the “smart” and the “resilient” city – as key concepts for reducing CO<sub>2</sub> emissions and improving the ability of cities to adapt to climate impacts – and with reference to a conceptual framework for building up a smart and resilient urban system carried out in previous research works (Papa et al., 2015), it analyzes the case studies of Rotterdam and Barcelona, highlighting how this framework may improve our understanding and contribute to better framing the fragmented on-going strategies and initiatives.

Then, the paper titled “Ecotone. The potential of Periurban areas for the resilience of metropolitan region” presents the outcomes of different researches and consulting activities developed by the author in the time-span 2011-2015. In detail, the paper discusses the “Ecotone” metaphor as a conceptual tool for moving



towards a new approach to the development of peri-urban areas, capable to significantly contribute to enhance urban resilience.

The next paper, “Public Private Partnerships for Resilient Communities”, focuses on the role of local institutions in mitigation and adaptation to climate change, considering learning experiences in promoting public-private partnerships into resilient actions. In detail the article, based on some best practices, highlights the close relationship between Public Private Partnerships and participatory processes and how such a relationship may lead to win-win climate responses.

Finally, the article “Exploring issues limiting the use of knowledge in Disaster Risk Reduction” focuses on knowledge, which is crucial for enhancing urban resilience in the context of Disaster Risk Reduction. In detail, it highlights issues that appear to have hampered the development and use of knowledge and discusses what these imply for applying (or not) the concept of smart cities in different contexts.

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