

MECHANICAL ENGINEERING / PHYSICS /
PRESERVATION OF THE ARCHITECTURAL
HERITAGE / STRUCTURAL, SEISMIC AND
GEOTECHNICAL ENGINEERING / URBAN
PLANNING, DESIGN AND POLICY / AEROSPACE
ENGINEERING / ARCHITECTURE, BUILT
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MATERIALS ENGINEERING / MATHEMATICAL
MODELS AND METHODS IN ENGINEERING



Chair:
Prof. Luca Gaeta

DOCTORAL PROGRAM IN URBAN PLANNING, DESIGN AND POLICY

The PhD Programme in Urban Planning, Design and Policy (UPDP) aims at exploring the significance and impact of contemporary urban changes and understanding the way these processes can be governed through planning, design and policy making activities. The programme pays specific attention to the transition towards new, more sustainable and equitable modes of urban development as well as to pro-active advancements in planning practices and to potential innovations in traditional urban studies, urban design and policy approaches.

The integration between different fields and disciplines of urban research on the one hand, and between theory and practice on the other, distinguishes the approach promoted by the PhD programme.

Objectives

The objective of the UPDP Programme is to provide PhD Students with the analytical and interpretative tools and skills together with research/planning/design methodologies to advance research in the field of urban studies, spatial planning, urban design, urban policy and governance.

PhD Students are encouraged to reflect upon traditional and innovative practices in these fields by participating in research activities concerning cities and regions in both Italy and abroad, paying particular attention to international comparison. By establishing a dialogue with the best European and International schools, this PHD programme is the place for research and innovative approaches to urban studies, spatial planning and urban design dealing, in particular, with the following themes:

Multi-scalar regional urbanization processes: rethinking and reshaping the city on a regional scale and addressing the challenges for the analytical approaches and descriptions, as well as for institutional and governance processes;

Advances and challenges in contemporary planning theory and practice: the reshaping of citizenship, boundaries and collective action in urban arenas and their effects in the urban environment;

Urban transitions towards sustainability: strategies and tools for land and biodiversity preservation, energy conservation, and natural and technological risk prevention and mitigation;

Social and economic changes and their effects on spatial processes: social inequalities and urban segregation; economic specialization and diversification in a global context;

Tools for the evaluation and management of urban projects: feasibility and equity of urban projects, as well as the sustainability and design quality of the physical outcomes;

European cities, urban policies in Europe, the EU urban policy agenda: exploring distinctiveness, convergences and divergences.

Contents and research training

Based on a multidisciplinary approach, the main objective of both the educational programme and the individual research activities is to offer PhD students a challenging environment with space for international debate, research, experimentation and innovation.

Starting from this perspective, the main teaching activities are fed by the members of the PHD Board organized into three research areas:

- **Urban studies.**
Contemporary cities worldwide are confronted with increasing challenges regarding local democracy, sustainable development, management of environmental resources and landscape, social cohesion and cultural diversity. Looking at recent cross-scalar urban changes, the main issues addressed are the following: social, economic, environmental and territorial transformations; governance problems and technological innovations. The main research topics are: forms and processes of the spatialization of social and economic inequalities; urban segregation; processes and institutions of urban governance; spatial impact of social innovation; forms and processes of regionalization and processes of social, economic and territorial development in local contexts.
- **Planning theories and practices.**
Urban planning is not a unitary or self-contained discipline and planning knowledge and activities can be improved by delving into (and jointly considering) both theoretical and practical issues. First, the cultures, ethics, traditions and paradigms of planning are varied and have been evolving differently according to their geographical, institutional and political context. Similarly, planning practice is multiform and can be understood from several perspectives. Studying the characteristics, the peculiar interpretations and the effects of planning practices constitutes a second relevant research field. Thirdly, the selection and discussion of the crossroads between planning and other disciplines (e.g. architecture, environmental sciences, policy studies, philosophy and others) can dramatically innovate planning theories and practices, going beyond traditional approaches and perspectives.
- **Design topics, forms and tools.**
In a scenario of changing socio-economic, environmental and territorial conditions, theoretical and technical issues for the construction of urban projects and the implementation of governance policies are being experimented with as a way to improve the quality of life. Specific research themes are: the role and form of urban projects in leading territorial transformations; innovation in the description and representation of urban environments and landscapes; tools for the evaluation and management of urban projects and policies aimed at mastering the feasibility and equity of

land development, as well as the sustainability and the design quality of the physical outcomes and strategies for land and biodiversity preservation and energy conservation.

The three research areas reflect the contents and themes of the ongoing research at DAsTU and represent the framework of future proposals. They will be the backbone for PhD Students' educational and research activities.

Professional and research profiles

According to its international orientation, the UPDP PhD Programme intends to train highly qualified researchers and professionals and expects them to work in academic institutions, research centers, public administrations and the private sector in the following fields: spatial planning, design and management of urban projects and policy, urban studies and urban governance.

PhD Doctors with such a profile are qualified to be employed by Italian and International academic institutions, public bodies and research centers, as well as public and private development agencies.

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(HOW) DO FLOOD-PRONE CITIES BUILD RESILIENCE? TOWARDS A LEARNING-SENSITIVE ANALYTICAL FRAMEWORK

Irene Bianchi - Supervisor: Prof. Grazia Concilio

Despite the increasing fame of (urban) resilience, which is almost unanimously identified as an inherently positive guiding principle in the (flood) risk reduction policy field, limited attention is paid to how the resilience of a place is built in practice by actors embedded in complex, polycentric governance structures. In particular, the meaning and role of learning are not clearly framed in urban resilience literature nor in risk governance and management studies, which pay limited attention to how capacities for reflection, collaboration and action develop in the face of risk-related problems.

This research is an attempt to study post-flood reorganisation processes through a resilience-building lens, investigating whether learning dynamics emerge and how they affect risk reduction practices. The study specifically explores institutional actions supporting flood risk reduction within selected flood-prone cities. Accordingly, it discusses how learning dynamics unfold and on how they affect the capacities of institutional actors to cope with flood risk and to enhance mitigation and preparedness. In order to investigate resilience building pathways, the research proposes to look at how risk-reduction oriented strategies and measures emerge, develop and are translated into actions on the ground. In particular,

it focuses on the identification of political, organisational, relational and discursive dynamics that shape spaces for reflection and action. More specifically, the study aims to uncover some of the mechanisms through which risk-reduction oriented processes succeed or fail in enhancing the inherent and adaptive resilience of a place and in producing 'learning loops' that feed-back into policy actions. The research draws on empirical materials collected and analysed through the combination of different qualitative methods, which include semi-structured interviews, longitudinal media analysis, review of policy and planning documents, thematic content analysis and problem frame analysis. Additionally, the thesis proposes a 'learning-sensitive' analytical framework through which resilience-building processes could be observed and deconstructed. This tool is developed through methodological bricolage, i.e. putting together materials discussed in an interdisciplinary literature review and the results of an exploration of post-events reorganisation processes taking place in two flood-prone cities, i.e. Kingston upon Hull and Leeds (UK). Selected contributions from social and organisational learning theories and from interpretative policy analysis complement those insights. The framework is then tested through

the analysis and interpretation of inter-flood reorganisation attempts carried out to face the recurrent flooding of the Seveso Torrent in Milan (IT). Results from the Milanese case highlight the existence of a reflective and operational deadlock affecting risk reduction and resilience building dynamics. The analysis shows that (reflective) action is mainly hampered by the impossibility to amend "historical mistakes" in decision-making and the irreversible outcomes they generated, as well as by patterns of spatial, discursive and governance fragmentation. The thesis takes a social process perspective approach towards flood risk reduction. It contributes to the urban resilience debate, disentangling some conceptual nexuses between resilience building and learning. In addition, the thesis discusses how learning dynamics (eventually) taking place can be captured and framed. It therefore provides methodological insights for the exploration of complex, dynamic and inherently political resilience-building processes.

GOVERNING LOCAL WELFARE AT THE URBAN EDGES. ISSUES, CHALLENGES AND PERSPECTIVES: AN INVESTIGATION IN ITALY

Lorenzo De Vidovich - Supervisor: Prof. Alessandro Balducci

Co-supervisor: Prof. Roger Keil - Tutor: Prof. Massimo Bricocoli

Over the last years, in Europe and not only, suburbanization has gradually turned into a key topic of analysis, whereas welfare has faced a significant retrenchment, finding a reconfiguration into the local scale of provision. Combined in a such way, these two statements few tell us,⁴ and they look separated from one another, without any relation. This dissertation builds the analytical and research interplays between these two topics. In so doing, this thesis addresses the governance and the planning of local welfare services in the areas located at the urban edges, by also observing land patterns and infrastructural provision. The analysis faces the uneven socio-spatial polarizations that are currently emerging in the constantly changing urban areas, through an identification of the issues at stake as far as the governance of welfare and services is concerned. The research bridges a gap among the unevenness of the (sub)urban growth and the provision of local welfare services, according to its contemporary changes, the disposal of public provision, the raising role of third sector and private actors, and its unequal spatial distribution across the constellation of towns located around an urban core. In this respect, referring to a wide literature on “suburban governance”, the suburban is therefore a perspective, an analytical lens, rather than an analytical concept

when assumed referring to the Italian settlements at the urban edges. Such analytical perspective enables to study a specific policy field: the welfare and its development on the local scale with a particular focus on the suburban scale. The thesis aims at responding to the following research questions: what are the main issues, the further challenges and perspectives for governance of welfare at the urban edges embedded within metropolitan areas? What kind of governance meets and responds to the need of welfare services in an uneven constellation of towns at the urban edges? What suburban ways of living take place and how to cope with them in terms of welfare provision? Indications are provided from the outcomes of three case-studies, selected to investigate on three specific areas located within the metropolitan areas of Milan, Naples and Rome. According to these premises, after an introduction the present the thesis structure and contents', the dissertation is divided into two parts. The first part is organized in three theoretical chapters: first, it deals with suburban governance, second, it grounds the reflection on the Italian debate about urban transformations, in order to legitimize the inadequateness of “suburb” as a concept to observe the Italian context, and third, it analyses welfare provision on the local scale.

In this view, post-suburbia is the comprehensive global framework to observe shapes and transformation of the “non-suburban” Italy. The second part is dedicated to the empirical findings from the three case-studies, followed by a discussion of such threefold investigation. The cases have been carried out in three different towns: Pioltello, at the eastern edges of Milan, Villaricca, at the northern outskirts of Naples, and the towns of Fiano Romano and Capena, in the (former) rural surroundings of Rome. The three researches unfold the diversity of suburban ways of living and suburban governances across the edges of the main Italian metropolitan node, by addressing the governance of social services, the forms and features of the transformed built environment, and the infrastructural provision of public utility services, depicted with three analytical maps. The main research findings revolve around the weaknesses of an agenda for welfare provision targeted for the suburban constellations of a metropolitan area. In other words, governance and planning activities deputed to the delivery of basic services do not fully meet the suburban ways of living, making the life at the urban edges highly dependent from the urban cores. In this respect, suburbs are therefore unevenly fragmented into wealthier and poorer areas. From the

theoretical and research viewpoints, the thesis points out the importance to focus on urban edges to grasp the contemporary complexities faced by local welfare policies, towards a comprehensive understanding not only of the social demands in suburbs, but also of the societal issues in the 21st century urban world, where suburbs play a pivotal role. Yet, the thesis does not provide the ripostes to the main issues affecting local welfare in Europe, such as the identification of who actually governs the planning of welfare services, the increasing neoliberalization, the trans-scalar relationships crossing suburban constellations in financial, economic and governmental terms. Rather, the comparison resulted from the three qualitative-led investigations acknowledges the diversity of welfare implementation across Italy. In particular, the case of Pioltello, at the edges of Milan, reveals how the main economic node of the country “offloads” a number of welfare issues to the hinterlands, where the policy innovations enacted in Milan are less visible and slightly reproduced according to the governmental interests and the financial local resources. The case of Villaricca, at the outskirts of Naples, highlights the difficulty of organizing and delivering welfare services in a context where long-standing and emerging inequalities and fragilities overlap within a

scenario of low-planning and diffused poverty. Yet, amid such difficulties, the case of Villaricca shows the existing potentialities of a “suburban future” to improve livelihood in a densely populated area. The cases of Fiano Romano and Capena, at the edges of Rome, points out the existence of emerging suburban ways of living in the constantly urbanized towns of the Metropolitan area of Rome, where infrastructural provision is weak, albeit people moved to the investigated target-areas over the past three decades. The diversity of such trajectories steers further analysis about governance and infrastructures in heterogeneous suburban landscapes, towards the configuration of a “post-suburban” Italy for the future governance agendas.