Fostering innovation in area-based initiatives for deprived neighbourhoods: a multi-level approach

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Fostering innovation in area-based initiatives for deprived neighbourhoods: a multi-level approach

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ABSTRACT
The paper proposes and tests a framework for the analysis of innovation dynamics in urban regeneration by combining established frameworks from the field of urban studies with a model known as Multi-Level Perspective. This allows the acknowledgement of socio-technical dimensions of innovations besides the socio-political one and contributes to overcome a linear perception of innovations by emphasising a co-evolutionary and multi-level perspective. The framework is applied to the analysis of an extensive policy promoted since 2006 by the Apulia regional government, Italy, aiming to improve the quality of life in deprived neighbourhoods. The policy, which involved more than one hundred municipalities, tried to introduce a new integrated and participatory area-based approach into a (weak) tradition of urban renewal policies centred on physical and functional aspects. A discussion of its achievements and failures sheds light on innovation dynamics as well as on key leverages and barriers to change.

KEYWORDS
Innovation; area-based and integrated actions; multi-level perspective; rehabilitation of deprived neighbourhoods; urban Governance

Introduction

The area-based and integrated approach has grown in importance on the European and many national agendas for over thirty years as a means to rehabilitate deprived neighbourhoods (Couch, Sykes, and Börstinghaus 2011; van den Berg, Braun, and van den Meer 1998). Such an approach aims at improving social, economic, housing and urban conditions by concentrating on specific (deprived) geographic areas rather than focusing on individuals or households with low incomes and specific needs.

That approach to urban rehabilitation assumes wide and variable meanings according to different European, national and regional policies. Also the terms used change in relation to specific problems emphasized. Regeneration, for example, is a term used recently at the EU (and Italian) level to indicate urban policies aiming at improving the 'quality of life', in the broadest sense, in deprived areas (European Union [EU] 2015), although that term implies different approaches. While some consider local communities or neighbourhoods as the very object of regeneration, others use various policy instruments to improve the urban economy to the benefit of inhabitants' economic well-being (Cochrane 2007). Some approaches are physical, property-led or business driven, some others focus on urban form and design, on cultural industry or health and well-being, and some others emphasize community-based, social economy (Colantonio and Dixon 2010). In addition, the outcomes of urban regeneration in continental Europe appear to be rather indeterminate if compared with the Anglo-American context (Rossi and Vanolo 2013).

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The focus of this paper are area-based and integrated initiatives aiming to rehabilitate deprived urban areas. Typically, these initiatives include 'hard' measures, such as physical restructuring or upgrading, and 'soft' measures, such as fostering skills, social capital, and building capacity of people (EU 2015). The analysis of the impacts on the areas where they were implemented highlights the difficulty to deal with the complex causes of deprivation, which relate to processes of differentiation, segmentation, and urban segregation as structural elements of the socio-spatial dynamics (Harvey 2012). In many cases spatially targeted urban policies were unsuccessful to lessen poverty and improve neighbourhoods in the worst areas. The property-led approach to urban rehabilitation, on which important urban programmes focused (Porter and Shaw 2009), was unable to fight social exclusion and contributed to increased inequalities. Changes often implied that refurbished areas became gentrified; thus, problems and people were shifted to other areas, and it was not the poorest people who got the advantages (Atkinson 2000; Uitermark and Loopmans 2013). However, denouncing distortions of the area-based approach is not a reason for terminating community capacity-building and local-level initiatives, as even critical literature argues (Swyngedouw, Moulaert, and Rodriguez 2002). The dismantling of universalist social policies, which paralleled the shift to spatially targeted and place-focused approaches, may have overburdened these policies with excessive expectations.

The European experience of area-based initiatives suggests that there is a need for an approach that combines aid to both 'people and places', that is mainstream economic and social protection policies which complement and reinforce more specific urban policies (Atkinson 2001). At the end of the first decade of 2000, the economic and financial crisis revived interest in place-based integrated policies for urban regeneration (EU 2015). Increasing inequalities in European cities make it a crucial challenge to improve deprived neighbourhoods. This challenge is supported by the new European cohesion policy (Barca 2009), and requires the ability to link interventions coming from different government levels (supranational, national, regional and local) (Subirats 2016). After decades of experimentation, this approach is still to be considered a powerful and innovative method of public action. However, there is a consciousness that it is not an easy one. It requires learning from experience and keeping channels open for innovation (EU 2015).

How to trigger and support innovation in area-based and integrated actions for rehabilitation of deprived neighbourhoods is the focus of this paper. This is a key issue both for countries and regions that lack a long run experience in this field, and for those where, in the last decades, a property-based approach to urban regeneration prevailed.

The paper is divided into the following sections. Section 2 provides a summary of researches on frameworks for the analysis of innovation dynamics in urban governance. Section 3 describes the framework known as Multi-Level Perspective (MLP) for the analysis of innovations in socio-technical systems and proposes a revised MLP framework to investigate key leverages and obstacles to change in the case study. Section 4 then deals with the description of urban rehabilitation policies for deprived neighbourhoods in the Italian context and in the Apulia region, while the following section deals with the analysis of performances of the design and implementation of an extensive area-based integrated initiative promoted in 2006 by the Apulia region in Southern Italy[1] for the rehabilitation of deprived neighbourhoods. The concluding section draws on some lessons learned to support innovation in the design and implementation of this kind of initiatives in order to reduce perverse outcomes and make them steadily penetrate into everyday practices.

Analysing innovation dynamics in urban governance

The analysis of innovation processes in urban planning is a core issue in social innovation studies (Moulaert et al. 2013). Although there is not a single definition of social innovation, this concept is mainly associated with the improvement of the quality of life in neighbourhoods and local territories through renewed social relations at the community level. It includes three main dimensions: a product dimension, i.e. the satisfaction of human needs as they are perceived by local communities; a

process dimension, i.e. changes in social relations linked to governance issues; an empowerment dimension, i.e. an increase in the socio-political capability and access to resources by local people (Moulaert and Nussbaumer 2005). In general, social innovation scholars maintain the need for specific innovation episodes to challenge established governance discourses in order to produce wider alternative social actions, and recognize the need to connect episodes of social innovation to formal institutional systems to sustain them and increase their impact on higher scales (Moulaert et al. 2010). In these processes, the 'agency' of innovation is usually considered to be at the local level, while higher levels have a path dependent role in innovation dynamics (Moulaert et al. 2007).

Nevertheless, social innovation scholars do not develop a comprehensive framework to analyse evolutionary pathways of innovations. In most cases, innovations, mushroomed in the interstices of established institutional settings in radical opposition to them, are unable to challenge hegemonic forces (Novy and Hammer 2007). In other cases, a gradual transition of grassroots experiences can be observed from an initial radical approach to their formalization, professionalization and possibly co-optation within the institutional boundaries set by new public management models (Christiaens, Moulaert, and Bosmans 2007). Finally, in other cases the inclusion of partners from outside the local context sustains the operation of socially innovative initiatives in different ways (Moulaert et al. 2010).

Additional insights on innovation dynamics in urban governance come from researchers from sociological institutionalism in planning (Cars et al. 2002; Fainstein 2000; Gualini 2001; Healey 1997, 2007). They apply a social constructivist approach and a relational view of social action to understand institutional dynamics, thus contributing to connect the phenomenology of micro-practices to wider structuring forces. In particular, Healey et al. developed a framework to analyse the institutional relations of governance dynamics (Coaffee and Healey 2003; Gonzales and Healey 2005; Healey 2006). This was built on the conception of Luke's three levels of power elaborated by Dryberg (1997) and on Giddens' conception of the interaction of structure and agency (Bryson and Crosby 1992; Giddens 1984). The framework expresses the three levels in terms of: the level of specific episodes of interactions, which are characterized by power dynamics of interpersonal relations; the level of governance processes, with power relations embedded in organized institutional practices and deliberately manipulated by strategic actors; the level of governance culture, with a deeper level of taken-for-granted assumptions, culturally embedded habits and routines (Coaffee and Healey 2003).

According to this framework, transformation in urban governance cannot be claimed unless all three levels change significantly (Coaffee and Healey 2003; Gonzales and Healey 2005). Transformative effects are produced only when the learning experiences and mobilization capacity, developed in episodes of governance, accumulate the power to shift 'mainstream' politics and administration. To endure, specific episodes have to become institutionalized in the routines of governance practices and change governance culture. The core question is thus to find the way in which innovations in particular episodes can transform mainstream practices and lead to quite different relations and power dynamics (Coaffee and Healey 2003).

Although some cases showed how local episodes of institutional change were jointly prompted by top-down and bottom-up forces (see e.g. Coaffee and Healey 2003), the framework in its initial version considered the 'agency' of innovation to be at the local level. It furthermore disregarded the importance of wider 'opportunity structures', in which episodes of innovations are situated, and of exogenous forces in forcing change in embedded urban governance cultures (Gonzales and Healey 2005). These are added in subsequent versions of the model, where Healey tried to combine the initial conception of the levels of governance with the Geddesian relation between structure and agency, by emphasising the reciprocal influence of each level with another through rules, norms, material resources and framing ideas (Healey 2006, 306). In this revised model, transformation initiatives are produced by the interplay of rules, resources and ideas coming from different levels, which may be located across all three levels. This model is thus interesting because it adopts a multi-level approach to innovation dynamics. Nevertheless, it presents some limitations: it does not

identify specific transition pathways across levels and underestimates the importance of the technical dimension of innovations as it focuses only on institutional dynamics. Instead, as shown in this paper, transitions to new approaches to urban rehabilitation include both an institutional and a technical dimension, which should be taken into consideration.

Innovation from a multi-level perspective

Multi-Level Perspective is a framework for the analysis of innovations in socio-technical systems, which has been developed in the broad field of innovation studies. It elaborates insights from evolutionary economics – in particular the concepts of regimes, technological trajectories, path dependency and niches (Nelson and Winter 1982) – from sociology of technology – in particular the idea that technological innovations are socially constructed through interactions between engineers, firms, policy makers and consumers (Bijker, Hughes, and Pinch 1987; Hughes 1987) – and from neo-institutional theory – in particular the idea that actors do not act in a vacuum but are embedded in deep-structural rules, shared beliefs and norms that guide their perceptions and actions (Giddens 1984). The MLP framework addresses the study of innovations at the level of socio-technical systems, i.e. systems encompassing not only technological dimensions but also changes in user practices and cultural meanings, institutional structures, policy, markets, scientific knowledge and infrastructures (Elzen, Geels, and Green 2004; Geels 2004; Kemp, Schot, and Hoogma 1998). In these systems, transitions are considered co-evolutionary processes involving many actors and social groups and taking place through complex dynamics.

Urban rehabilitation can be considered a socio-technical system; its technical dimension is made of different types of planning instruments at different scales (including strategic plans and programmes, regeneration initiatives, …). Innovations in the technical tools used to develop rehabilitation interventions interact with user practices and cultural meanings (how local communities frame rehabilitation interventions, which involvement is required from them in the development of such interventions, …), institutional structures (which governance frameworks can enable new regeneration plans to be developed and carried out, how they interact with existing government structures, …), policy (which regulatory, normative and strategic actions are developed to orient territorial transformations), markets (how private firms can be partners of the regeneration initiatives, …), scientific and technical knowledge (which skills and competencies professionals involved in plan making have and how they can develop new scientific and technical competencies required by innovative rehabilitation interventions) and infrastructures (how changes at neighbourhood level relate to infrastructural networks at the urban scale e.g. in terms of utilities' connection, mobility, etc.).

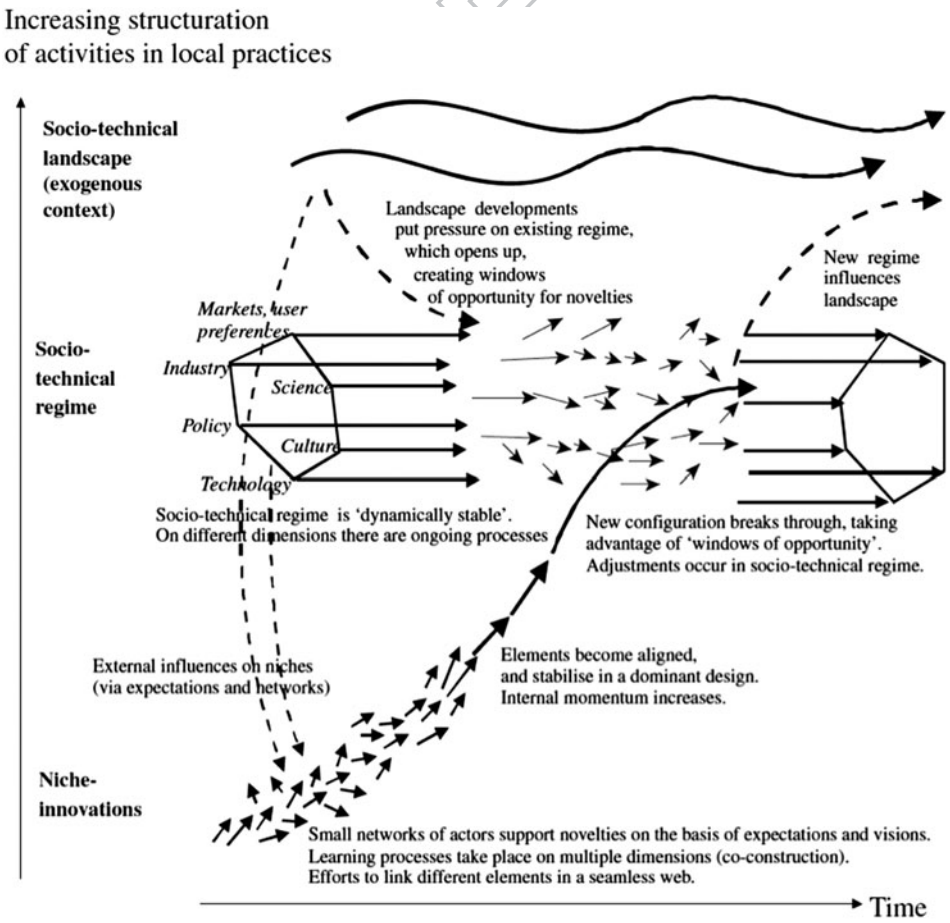
According to MLP, transitions are the results of co-evolutionary and non-linear dynamics of change taking place within and across three levels (Geels 2002, 2005; Rip and Kemp 1998). The lower level is the level of niches, which act as 'incubation rooms' for radical novelties and protect them from normal market selection (Schot 1998). Niches may be R&D laboratories, small market niches for special demands (e.g. the military) or subsidized demonstration projects (some area-based and integrated initiatives mentioned in section 1 fall in this category). The literature on strategic niche management usually identifies three important niche-internal processes (see e.g. Hoogma et al. 2002; Kemp, Schot, and Hoogma 1998). In the first place, niches provide location for learning processes to happen in relation to various dimensions: technological components, organizational issues, market demand, user behaviour, infrastructure requirements, policy instruments, symbolic and cultural meanings, scientific and technical knowledge. Learning takes place through cycles of actions (experimentations), sensemaking and adjustment of cognitive frames like in the enactment-selection-retention model proposed by Weick (1995). According to this model, actors first do something in the world on the basis of existing cognitive frames, then they interpret outcomes of actions, and finally retain meaningful data within cognitive frames through data accumulation or frame alteration. Learning of this type thus happens during co-construction of niche-innovation experiments and is socially developed among different actors involved (Raven and Geels 2010).

Secondly, niches provide the locus for the articulation of expectations or visions, which give direction to internal innovation activities and to learning processes. Finally, niches are the places where social networks are built and strengthened to expand the social and resource base of niche-innovations and to increase their legitimacy (Hoogma et al. 2002; Kemp, Schot, and Hoogma 1998).

The meso level in MLP is the so-called 'socio-technical regime'. This concept builds on the notion of technological regime (Nelson and Winter 1982) that refers to cognitive routines, beliefs, norms and heuristics shared by engineers and designers in a technical community. In socio-technical regimes, the deep-structural rules that coordinate and guide actors' perceptions and actions in a Giddensian manner (Giddens 1984) do not belong to engineers only, but they also shape perceptions and actions of other social groups like users, policy makers, civil society, scientists, capital banks, public authorities, etc. In MLP the notion of regime thus introduces a structuralist element, which is used to explain several lock-in and path dependence mechanisms (Geels 2004) as well as the dynamic stability of socio-technical systems in their evolution.

Finally, the macro-level is called 'socio-technical landscape'. It represents the wider exogenous context, which influences niche and regime dynamics. It refers to several aspects like macro-economic trends, deep cultural patterns, macro-political development, etc. The socio-technical landscape represents the greatest degree of structuration, which is beyond the control of individual actors.

According to MLP, innovations in socio-technical systems come about through the interplay between dynamics at multiple levels, which are represented in Figure 1. After a stage of



AQ7 **Figure 1.** Dynamics of socio-technical transitions according to MLP. Source: Geels and Schot 2007.

experimentations of different designs in niches, which may be externally influenced by the meso- or the macro-level through expectations and networks (Geels and Schot 2007), niche innovations may at some point build internal momentum, as rules and user preferences become stabilized in a dominant design. At this point, if 'windows of opportunity' are opened up at the regime level thanks to pressures put by landscape development, new configurations emerging from niches may break through (Geels 2002). This may create changes in the socio-technical regime, which may eventually influence landscape development. On the other hand, failures in transitions may occur when niche-innovations fail to build sufficient momentum or suffer setbacks, or when windows of opportunities for niche innovations do not materialize due to insufficient tension in existing regimes. In this way, this framework is able to deal with the core analytical puzzle of transitions, namely the oscillation between stability (due to several lock-in and resistance mechanisms) and change. At the same time, it succeeds in identifying links among apparently disjointed dynamics happening at different levels.

The MLP framework has so far been applied to several fields, including water supply and sanitation (Geels 2005), energy (Verbong and Geels 2007), transportation (Geels 2012), organic food and sustainable housing (Smith 2007), urban infrastructures (Maassen 2012). More recently MLP has been applied to urban studies (Coenen and Truffer 2012; Hansen and Coenen 2015; Hodson and Marvin 2010, 2012), in the attempt to highlight the influence of spatial dimensions and place specificities in sustainability transitions at the level of the city.

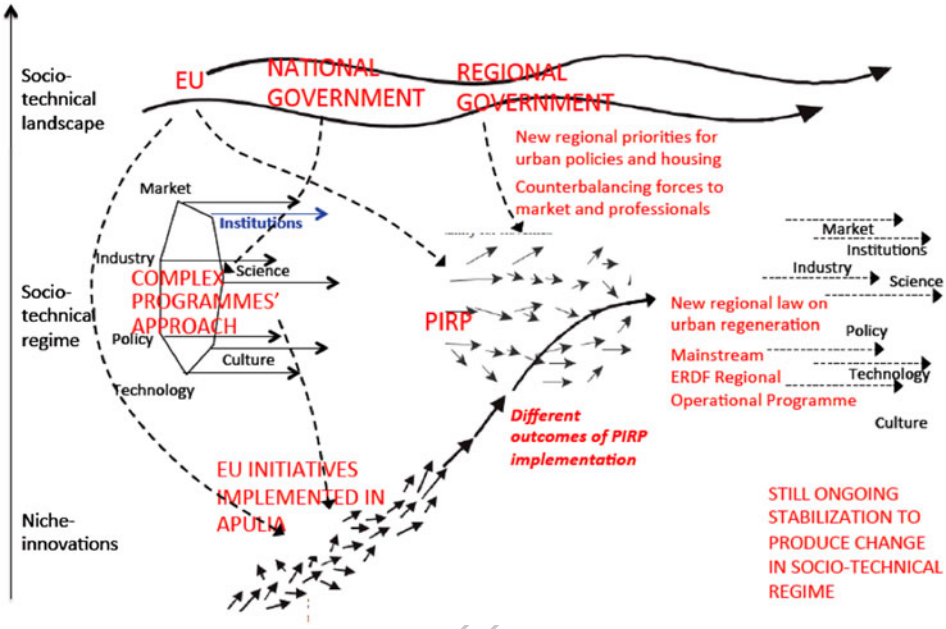
The MLP framework seems particularly relevant to analyse transition pathways in the field of urban rehabilitation and to identify core mechanisms to sustain innovations in this field. This is because it tries to explain transitions in socio-technical systems doing away with simple causality and linear explanations. It employs a co-evolutionary and systemic approach, which acknowledges the existence of meaningful processes at different levels, which link up and reinforce each other in a circular causality. Moreover, the MLP framework emphasises the importance of multiple agencies, as different actors from different fields (market, industry, science, policy, culture, technology) engage with experimentations, trajectories and multi-level alignments, which is the case of innovation dynamics in the field of urban rehabilitation.

In order to apply the framework to this field, the authors of this paper would nevertheless propose a slight adjustment of the MLP model in order to overcome its under-theorization of the institutional and governance dynamics in the transitions. As a matter of fact, the six pillars highlighted in the socio-technical regime, as defined in the MLP literature, encompass only markets/user preferences, industry, policy, technology, culture, science; thus the institutional and governance dimension of innovation is somehow restricted within the policy dimension. As the institutional/governance dimension is a core feature of any innovation in the urban rehabilitation field, a proposal is made to add a seventh pillar to the MLP model by Geels and Schot (2007) specifically encompassing the institutional/governance dimension. Dynamics and core features of this pillar can be understood on the basis of the literature on innovation in urban governance discussed in section 2. The revised framework is shown in Figure 2, where it is used to analyse the case study in the Apulia region.

Urban rehabilitation for deprived neighbourhoods

The Italian context

While in several European countries area-based and integrated initiatives have been long and weighty experienced, in Italy this approach was considered an absolute novelty when introduced by the European Union's initiatives in a limited number of target cities and towns, namely through the URBAN programme (Carpenter 2006; Dühr, Colomb, and Nadin 2010; Parkinson 1998; Seixas and Albet 2012). In Italy, the initiatives for deprived neighbourhoods have developed along with the reduction of welfare and social services, the persistent lack of a national urban policy, and even of a national housing policy after the decentralization of this responsibility to regional governments at the end of the 1990s. State investments in housing have been progressively decreasing since the



Colour online, B/W in print

Figure 2. Dynamics of socio-technical transitions in the case study according to the modified MLP framework.

late 1970s, and the limited available public funds were channelled almost entirely towards the so-called 'complex programmes'. These were new planning instruments that included a variety of area-based initiatives funded by the Ministry of Infrastructures through competitive bids among the cities, adopting different terminologies, approaches and methods. They produced an archipelago of isolated, episodic, uncoordinated local experiences,[2] which nevertheless show some common characteristics: they focus essentially on upgrading the physical environment and largely fail to address wider social, economic and cultural issues, and to give importance to local community participation. These differ from the urban policy initiatives launched by the European Union, namely the Urban Pilot Project (1990–1997) and URBAN programmes (1994–2006), which are concerned with improving the physical, social and economic conditions of target areas.

The concept of 'local integrated action' has been interpreted and applied in very different ways during the experimentation of both the 'complex programmes' (Padovani 2002) and the URBAN Community Initiative (Tedesco 2005). Many regional and local governments still find it difficult to promote integrated actions that go beyond the aims, methods, and achievements of urban renewal, considered as a process of essentially (more or less thorough) physical change. The physical approach is so strongly embedded in the Italian experience of urban rehabilitation, that physical actions prevailed also in the implementation of URBAN.[3] Despite this, literature shows that URBAN led to significant results in terms of governance experiences and learning processes in the involved Italian cities (Frank et al. 2006), in line with the general trend of a more relevant impact on Southern European countries lacking long-standing national urban regeneration policies (Atkinson and Zimmermann 2016). But the explicit objectives of such initiative, i.e. to promote innovative area-based strategies and reinforce and spread knowledge and experience on regeneration and sustainable urban development well beyond individual beneficiary urban areas, needs deeper research investigations.

The empirical analysis: materials and methods

The case study analysed in this paper is about an area-based and integrated initiative promoted by the Apulia regional government in 2006 in order to improve the quality of life in deprived

neighbourhoods. It is an innovative initiative according to the intentions of the regional government as well as the interpretation of the actors involved. The empirical analysis of innovation dynamics is constructed around the conception and implementation of this initiative at the two government scales directly implicated in it: the regional government that promoted the initiative and the 122 Apulian municipalities that developed 129 area-based integrated programmes. This gives the opportunity to compare a high number of municipal programmes in a relatively homogeneous institutional and socio-technical context. This strengthens the rationale for studying the evolution of the area-based and integrated approach in the regional housing policy and in different municipal settings and, even more crucially, innovation dynamics across European, national, regional and local scales.

The empirical analysis does not aim at evaluating area-based outcomes of the different municipal programmes such as people satisfaction and reducing deprivation, segregation, housing deterioration, or degradation of the built environment. It focuses on the evaluation of the propensity to and capacity for innovation expressed by the different regional and local actors involved from different fields (decision-makers, practitioners both inside and outside government organizations, construction companies and other business sectors, representatives of inhabitants), when prompted by a regional initiative that include political objectives and technical devices that require relevant changes in well-established habits and routines. The importance of this perspective lies in the fact that the propensity to and capacity for innovation are preconditions for such initiatives to achieve the desired results, or better, to increase the chance to attain them.

The analysis examines, on the one hand, the initiative as designed and implemented at the regional scale and, on the other, the individual programmes as promoted and implemented by municipalities. As far as the regional scale is concerned, it draws on regional preparatory and official documents, interviews with the regional officials involved in the design and implementation of the initiative, and the active involvement in the process of one of the authors. For the municipal level, the analysis draws on systematic information on the integrated programmes (e.g. the regional multimedia database that shows the main contents and data of each project, regional annual monitoring reports), interviews with key actors actively involved in the design and implementation of the programmes (political representatives as mayors and municipal council politicians, administrative and technical practitioners both inside and outside government organizations, representatives of building companies' organizations and tenants' unions). Key actors were interviewed in all large towns and in a selection of medium-small towns.

The case study: a regional innovative programme

Before 2006, the Apulia regional government had never promoted an urban rehabilitation programme. Thus, until then, the area-based programmes experienced by municipalities were either EU or national initiatives. The Urban Pilot Projects and two rounds of the URBAN Initiative involved a limited number of municipalities, mainly provincial capitals.[4] The national programmes initially involved few municipalities, again mostly provincial capitals. Later, in 2002, the Ministry of Infrastructure launched the *Contratti di Quartiere* II (Neighbourhood Contracts), which financed 15 initiatives in Apulia: 12 in medium-small towns and four in three provincial capitals (one in Barletta and T respectively, and two in Lecce). But they started only in 2008. Actually, the implementation these programmes, which was entrusted jointly to municipalities, the regional government and the Ministry for Infrastructures, encountered difficulties: some never started, others are still under way, and these include also initiatives that were funded in the early 1990s. Moreover, like in most parts of Italy and with the exception of some well-documented local experiences (Governa and Saccomani 2009), national programmes were mainly seen as a way to relax the rigidity of the traditional master plans to make profit instead than a means to improve deprived areas. Therefore, an overall judgement of failure for these programmes in Apulia is not severe.

Against this background a new regional initiative, defined as 'Integrated programmes for the rehabilitation of peripheral neighbourhoods' (hereinafter referred to as the Italian acronym

'PIRP'), was launched in 2006. It aimed at spreading rehabilitation practices in deprived urban neighbourhoods through an area-based and integrated approach. Funded with 93 million euros over the regional budget, the PIRP was part of a large regional plan for public housing, which is to be considered a novelty in a region where traditional regional housing policy had been incapable of meeting the needs of the most vulnerable social classes. This was a policy objective of great importance for the left wing government set up in 2005, for the first time (surprisingly) ruling Apulia Region after decades of centre and right governments, and strongly determined to radically change inter alia the spatial planning and urban governance practices that had been consolidating for decades in the region. The term 'peripheral' does not indicate the neighbourhoods' topographic position and physical distance from the town centre, but their condition of deprivation and marginalization. This is represented through significant indicators of disadvantaged socio-economic situation as well as the shortage or degradation of infrastructure and services. Therefore, also historic cores were eligible areas if they met the criteria for deprivation and marginalization.

Each of the 258 municipalities of the region could apply for funding for one PIRP proposal – with the exception of provincial capital cities that could apply for two proposals. These had to be based on an idea of neighbourhood regeneration aimed at creating (or recreating) place attachment and social space. The regional call required the programmes to be developed with the active participation of inhabitants, in order to meet people needs and expectations, and to improve their well-being. Integration was interpreted both in the physical and functional dimension, in order to avoid land-use separation, socio-spatial polarization and segregation, and in the socio-economic dimension, to activate effective actions against deprivation and social exclusion. Finally, the call asked for projects that could not just reduce their environmental impact but foster the ecological regeneration of neighbourhoods: projects had to demonstrate not only to save environmental resources (energy, water and soil), but also to reuse abandoned areas, to reclaim polluted sites, to restore soil permeability, and to create 'kid friendly neighbourhoods' through the enlargement and improvement of pedestrian and green areas.

The regional government oriented, encouraged and accompanied the design of local programmes for almost a year through thematic seminars on the initiative's innovative key issues and a dedicated online forum to provide ongoing information, exchange of ideas and answers to specific questions. Such intense supportive and interactive activities resulted in the success of the call and in the submission of as many as 129 PIRP proposals. In order to avoid trivialization and distortion of the initiative's results, the evaluation criteria for selecting the municipal programmes to be funded were defined in detail. Precise points were assigned to each aspect of the programme, stressing those that were supposed to be more innovative in the local contexts and coherent with the initiative's crucial objectives. In order not to frustrate such a great design effort and offer all the municipalities the possibility to implement their proposals, the regional government added 327 million euros to the initial 93, which were sufficient to implement only 31 proposals. It managed to combine two financial sources of the programming cycle 2007–2013,[5] that is the European Regional Development Funds – ERDF (122 million) and National Action and Cohesion Plan (205 million). Thus, 99 projects were to be financed according to the improvements agreed – if necessary – in the contractual programme co-signed by the regional government and each municipality.

Despite these efforts in fostering innovation to achieve desired results, both the design and implementation of local programmes show relevant differences among the various involved municipalities. Thus they deserve a deeper examination, which is made in the following section.

Understanding patterns and dynamics of innovation diffusion

The modified MLP framework is used to investigate the different performances of design and implementation of PIRP. This framework helps to grasp the multi-directional dynamics of innovation diffusion in urban rehabilitation initiatives by linking the PIRP initiative to other EU and national area-based and integrated initiatives in a broader perspective (see Figure 2). It is useful

to understand not only whether and to what extent previous experiences left trace in the region, but also which kind of innovation has penetrated into local contexts, if municipalities directly involved in innovative programmes show differences from those that were not implicated, and what can be considered the major catalysts for innovation.

In our case study, two previous urban rehabilitation initiatives launched by the European Commission – namely Urban Pilot Projects and the URBAN Programme – acted as niche-innovations with respect to the design and implementation of the PIRP. Innovation was the key word for Urban Pilot Projects and an explicit goal included in the URBAN Programme (Commission of the European Communities [CEC] 2002). Both these initiatives, in the intention of the European Commission, had a clear demonstrative character. This implies that the URBAN 'core approach' should be 'transferable' from one context to another. As niche-innovations, these initiatives gave direction to two flows of learning processes: a vertical flow, which involved the different levels of government implicated in the initiative, and a horizontal flow, which involved different actors at each level.

Instead, national 'complex programmes' strengthened the socio-technical regime. In Apulia, these programmes had been mostly understood in an opportunistic way: as an additional source of funds not to be missed and as a chance to force 'sclerotic' urban planning rules to make extra-profits. Parallel changes in national laws aiming at relaxing spatial planning rules, which were uncritically applied or transposed at the regional level, strengthened such understanding.

The regional social housing department, at the time when it was entrusted with the PIRP initiative, was a core part of the established regime. This department had managed various phases of the national 'complex programmes' implemented in the Apulia municipalities, while had been excluded from the implementation of EU initiatives. They considered the private sector as being coincident with power groups linked to the construction sector, while ignoring the involvement of local organizations, cultural, social and environmental associations and, above all, the inhabitants of deprived neighbourhoods.

In the design of PIRP, URBAN niche-innovations built up a momentum for spreading their innovative features into regional rehabilitation practices thanks to radical changes in external landscape developments: the establishment of a new radical left regional government, with the consequent enlargement of the decision-making arena to actors usually excluded, and the reinforcement and rejuvenation of the regional social housing department through the recruitment of young professionals and researchers and new policy direction given to the department by the deputy president responsible for social housing. These were aimed to remove probable obstacles to innovation and to overcome established one-sided representation of the private sector as well as lock-in and resistance mechanisms typically affecting public organizations (Tedesco 2009). In the design of PIRP objectives and call for proposals, regional tenants' unions, social housing agencies, representatives of the national association of municipalities, and the most important environmental and welfare associations were involved. This affected the way PIRPs were developed at the municipal level: this was the first initiative in Apulia that involved extensively and consciously, in area-based integrated programmes, local organizations, cultural, social and environmental associations and, above all, the inhabitants of deprived neighbourhoods alongside municipal officials and actors traditionally active in urban development.

Changes in landscape created pressure on the regime and opened windows of opportunity for transitions: niche-innovations were brought into the PIRP regional initiative through two learning flows. One came from the EU level and the other from the local level: on the one hand, the URBAN approach inspired an interpretation of area-based and integrated approaches emphasising public participation and socio-economic dimensions over the physical one; on the other hand, what had been learned by the implementation of the URBAN Initiative at the local level gave suggestions for improving the PIRP initiative. In particular, in order to avoid opportunistic criteria guiding the choice of target areas, i.e. the selection of the most central and visible areas rather than the most disadvantaged ones, more than 30% of the PIRP evaluation score (60/170) was assigned to area-based

indicators of socio-economic and physical degradation and deprivation. Moreover, the acknowledgement that the implementation of the URBAN programme in Apulia historical centres had provoked the rise in real estate values and the consequent eviction of inhabitants (Palermo and Savoldi 2002), suggested the need to introduce specific provisions to protect local residents from the risk of displacement. This was done through the definition of a specific financial support in favour of low-income inhabitants of the historical areas to be used to restore their houses or in favour of owners wishing to rent the vacant houses to low-income categories for 8–15 years. Such a focus on the protection of inhabitants avoided the economic-functional specialization and consequent segregation that impoverish many historical areas and make these neighbourhoods renewed for being visited and not for daily living.

URBAN programme thus acted as niche-innovation but its capacity to re-orient socio-technical regime was puzzled by some failures. This emerged by the examination of the PIRP implementation in the capital cities that had experienced the URBAN programme before. One could expect some horizontal learning flows coming from the success of previous experiences, at least in terms of organizational capacity and process innovation.[6] On the contrary, capital cities had great difficulties in starting and implementing the proposed programmes. This revealed the inability of the Urban Initiative to build sufficient momentum to spread innovation even in the municipalities that had experienced it. This was because well-established socio-technical regimes dominating larger cities were an obstacle for innovation. Cognitive routines, beliefs, norms and heuristics shared by technical actors together with economic interests, supported or at least not opposed by local political power, gave rise to implementation processes that tended to replicate the opportunistic attitude assumed in the 'complex programmes' experience. The huge participation of construction companies, sometimes competing for the leadership of the programme, at other times assuming the guidance, distorted the selection of target areas and monopolized the decision-making process. This caused a slowdown and even a stop in the implementation of the programmes, which did not start until the market conditions became favourable or the companies' commitments did not make them feasible. A landscape level event exacerbated these problems: the economic and financial crisis started in 2008, which is still on going in the local housing market, heavily affected these initiatives, to the point that some of them have vanished.

The systematic inquiry into the implementation of PIRP programmes brings to the fore that socio-technical transitions were easier in small and medium sized towns, which were more able to grasp the potential of key innovations activated by the regional initiative both in the design and implementation stages. In most of these contexts we observe a process innovation, i.e. changes in social relations linked to governance issues, an empowerment dimension, i.e. an increase in the socio-political capability and access to resources by neighbourhood communities and, as far as product innovation is concerned, an orientation of programme design and implementation towards the fulfilment of inhabitants' needs (Moulaert and Nussbaumer 2005). The greater 'proximity' and denser interactions between decision-makers and inhabitants allowed these latter to make their voice heard, to become an active part of the process, and to exercise control over the implementation of the programmes. In the design stage, this stimulated engineers and architects to innovate their techniques, get out of their professional routines, and find low cost technical solutions to help inhabitants to manage and maintain facilities and common areas. In some contexts significant technical innovations were implemented, aiming to improve urban biodiversity and air quality, save non-renewable resources, recycle materials, reduce flood risk, and enhance urban social-ecological system. Small towns were much more dynamic also in PIRP implementation. Their smaller and simpler organizational structure avoided the problems of lack of coordination and cooperation that occurred in larger cities, where the integrated approach made it necessary to combine skills and financial sources from various municipal departments, with consequent more cumbersome procedures and longer implementation times.

In general, the political discourse, which for the first time in Apulia attributed centrality to the rehabilitation of deprived neighbourhoods in connection to the right to the city, found greater

room for penetration in small and medium towns. The main reasons for this surprising outcome seem to be the robustness of socio-political ties and the lack of strong economic interests able to oppose resistance to change and to direct rules, resources and ideas to their advantage (Healey 2006).

The regional government considered the PIRP initiative as an important, extensive and long cycle of experimentations, which triggered social, institutional and technical learning processes that should be fostered to steadily penetrate into everyday practices. The main attempts to stabilize the PIRP experience into a new socio-technical regime include the following initiatives: the approval of a regional law on urban regeneration (No. 21 of 2008), and the adoption of the approach and devices provided by this law in the mainstream ERDF Regional Operational Programme for 2007–2013, and then in the Programme for 2014–2020, as well as in regulations and guidelines that direct ordinary regional and local planning practices.

In developing these instruments, the regional government took into account both the positive and negative impacts of PIRP experimentations. Some issues are worth mentioning for their importance in the Italian debate on area-based initiatives. First, a negative aspect of the choice of target areas, especially in the larger cities, was the lack of any government strategic vision at the city level, aiming to ensure the achievement of the overall objective of combating spatial inequalities and social exclusion in the most disadvantaged areas. This lack of city-wide strategy accentuated the partial and incremental nature of the area-based programmes, not only in the Apulia region (Governa and Saccomani 2004), and represented an obstacle for the continuity of neighbourhood regeneration processes. Second, notwithstanding the high rank assigned to area-based degradation and deprivation indicators, in capital cities interest groups had succeeded in influencing the selection of target areas for the PIRP regional call for their own benefit, that is, the areas with conditions for greater profitability of real-estate investments or easier feasibility. To overcome such critical issues, the regional law No. 21 of 2008 requires the selection of target areas to be based on a citywide 'urban regeneration strategy'. This must be designed with active citizen participation and approved by the City Council, comprise a detailed examination of deprivation and degradation conditions in the different city districts, and influence the choice of neighbourhoods where regeneration actions are to be developed. The approval of such strategy came to be a prerequisite for applying for funds to the priority axis for 'urban development' of the Apulia ERDF Operational Programme 2007–2013 (320 million euro), which was entirely devoted to urban regeneration. Moreover, this programme included a negotiation phase, which took place after the selection of projects to be financed. It involved the regional department and the municipal offices and aimed at improving the project so that it achieved the desired objectives. This did not completely eradicate opportunistic attitudes, but induced municipal officials and local communities to understand that their old land use plans had deeper limitations than rigidity, and opened up spaces for civic participation and increased awareness about urban degradation and deprivation problems. The approval of the 'urban regeneration strategy' later became an essential prerequisite for applying for funds under the 'urban development' priority axis of the Apulia Operational Programme 2014–2020, too. This decision tends to stabilize such innovation at the regional level.

Conclusions

This paper analysed innovation dynamics in urban rehabilitation of deprived neighbourhoods by combining frameworks developed in the field of social innovation and sociological institutionalism with the MLP framework developed in innovation studies, so far applied to several fields including urban infrastructures, food and housing, and sustainability. The use of such a revised MLP framework contributed to the investigation of the complex socio-technical processes of design and implementation of area-based integrated programmes for deprived neighbourhoods and led to a wider conceptualization of drivers and barriers for innovation and change in such initiatives.

It is beyond the scope of this paper to evaluate area-based outcomes of such programmes. Our work is limited to grasping innovation dynamics and transition pathways in the design and

implementation stages of the PIRP initiative and the individual municipal programmes, some of which were not completed or even started. A more encompassing evaluation would have to take into account their ability to improve the quality of life in the built environment and people satisfaction in the neighbourhoods, and require investigation on what is happening in places and to people in places. We focused on the criticalities that caused distortions in previous area-based initiatives in the Apulia context and therefore required innovation in the design and implementation stages of a new initiative in order to remove or at least reduce them. The possibility of examining a large number of programmes in a specific social, institutional and cognitive context made it possible to grasp some requirements in carrying out the programmes, which cannot be adequately addressed by researches focused on a single or a limited number of case studies or aimed at comparing different national or regional contexts (van den Berg, Braun, and van den Meer 1998; Couch, Sykes, and Börstinghaus 2011; Palermo and Savoldi 2002).

The application of the revised MPL analytical framework to the field of urban rehabilitation revealed three main advantages for the analysis of innovations compared to established models.

First of all, it helped understanding the non-linear and multiple transitions pathways of innovation. The PIRP initiative took place in a context where the national approach to urban rehabilitation had strongly contributed to stabilize existing regional and local socio-technical regimes by meeting the expectations of most powerful actors, while EU niche-innovations found it difficult to break them. In this situation, some landscape events that destabilized the regime at the regional level created windows of opportunity for spreading URBAN niche-innovations into regional rehabilitation practices. On the other hand, thanks to the PIRP initiative, URBAN niche-innovations came out of the embryonic state and created pressures on the socio-technical regime both at the regional level and in some municipalities. The acknowledgement of the bi-directional influencing dynamics of change may help to overcome a perception of innovation as simply proceeding from bottom-up, grassroots practices to subvert higher-level structures and governance systems.

Secondly, the application of the framework allowed the recognition of the broad range of actors and processes involved in the innovation process, as well as the levels to which they belong and act for transformative practices. The technical and production sectors assumed relevance not only as part of the urban governance sphere and related power asymmetries, but also as part of the cognitive and experiential processes that induce individual actors to replicate certain tasks within a particular sociocultural and technological setting and to continue to use the skills that they learned over time.

Thirdly, our case study revealed the influence of place specificities on innovation dynamics and demonstrated the importance of investigating the places where niche practices find barriers for their penetration, and those where innovation unfolds. In our case, larger towns were mostly unable to incorporate PIRP innovations, notwithstanding their previous experience in the URBAN innovative-niche and the more robust and sturdy technical skills of the municipal staff as compared with smaller towns. This rises a crucial issue. A pillar of the area-based approach to urban rehabilitation consists of the possibility to reach integrated solutions that balance community needs and stakeholder interests. These include private business stakeholders in order to use their financial resources to improve deprived areas. This leverage on private funds is likely to produce undesirable effects when the balance leans in favour of such coalitions of interest and weakens both the key role of the public government and the voices of the local community. However, this is not enough to dismiss the area-based integrated approach and revive sectoral approaches, as even critical literature highlights (Swyngedouw, Moulaert, and Rodriguez 2002). The heightened unevenness of spatial development and the intertwined physical, social and economic character of deprivation in urban neighbourhoods give validity to the area-based and integrated concept. Rather, our empirical findings show the importance of generating input for learning from experience, distinguishing the criticalities coming from structural causes of social deprivation and spatial segregation from those related to cognitive and organizational issues, and extending and deepening the exploration of new procedures, tools and devices. This leads us to formulate a final comment.

Innovation is not neutral as it underlies a political stand and involves different values. The URBAN approach was not transferred uncritically into the PIRP regional initiative. This was clearly based on the values of equity and social inclusion. The mechanisms of protection of residents from the risk of displacement as well as the provision of training and social services aimed to empower disadvantaged communities were derived from these values. Both these needs required to contrast the privileged position, among the stakeholders involved, of the powerful groups linked to the construction sector through the opening of the regional social housing department to new actors and skills in the PIRP initiative design, and in the evaluation of municipal proposals.

The mechanisms through which the regional level acted to destabilize the existing regime and to create a window of opportunity for niche-innovations included a reflective scrutiny of previous experiences aimed to correct past mistakes and avoid their perverse outcomes, as well as a strong push to refresh usable knowledge and expertise in programme design, evaluation and implementation at the regional and local level. The regional government opened and strengthened the department organization, favoured exchange of experiences, and approved specific constraining and enabling regulations. This might help a new socio-technical regime to establish. But there is no guarantee of this, as the MPL analytical framework suggests by doing away with simple causality and linear explanations (Geels and Schot 2007).

Notes

1. Apulia is one of the fifteen ordinary-statute regions that together with five special-statute regions cover all Italy, with a population of 4.1 million people, an area of 19,347 sq. km, 258 municipalities, eight municipalities with the role of provincial capitals.
2. On the evolution of urban renewal policies in Italy see Governa and Saccomani (2004).
3. Ex-post evaluation of this Initiative highlights that physical/environmental regeneration accounted for 62% of expenditure in Italy, as opposed to just 10% in Denmark. Expenditure on employment and entrepreneurship ranged from 52% in the Netherlands to just 18% in Italy (Carpenter 2006).
4. Brindisi was the only municipality that benefited from the Urban Pilot Programme (Second Phase, 1997). URBAN I (1994–1999) was implemented in Bari, Foggia and Lecce, URBAN II (2000–2006) in Mola di Bari and Taranto. In Bitonto and Brindisi was developed Urban Italia, a special national initiative that funded the twenty municipalities that had been ranked after the ten admitted to the funding of URBAN II.
5. This combination was necessary since the ERDF does not allow housing to be financed.
6. In particular, the URBAN Initiative was considered very successful in Bari and Lecce; it had a significant positive impact on the target area in Foggia, while it showed implementation failures only in the city of Taranto.

Disclosure statement

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