

## TOWARDS RESILIENT REGIONS: SOME CONCEPTUAL AND POLICY ISSUES

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### Abstract

In recent years resilience has somehow been rediscovered and introduced into the discussion on development and planning while it has its roots in environmental sciences. Ecosystem ecology once again constitutes the origin of this newly introduced concept, as it did with the concept of sustainable development. In its primary meaning, resilience of ecosystems is perceived as their ability to adjust to changing environmental conditions and survive. Lately, the concept of resilience is metaphorically used as a term which characterizes countries, regions, and cities as well as the various subsystems operating within them. The pursuit of resilience tends to take the place of the pursuit of sustainable development and competitiveness, which prevailed during the 1990s and 2000s respectively. Thus the question arises as to what resilience means if transferred to the context of spatial development. More particularly, from the viewpoint of spatial development policies and spatial planning a twofold question arises: first, what the specific content and relative importance is of this concept in view of the current economic crisis and the other challenges regions face; and second, what its implications for spatial planning are, especially in areas most exposed to current threats. This paper draws evidence from current experience in Greek metropolitan areas which are going through a process of updating of their strategic planning documents, and aims to consider the above-mentioned conceptual and policy issues.

### 1. Introduction

As contemporary societies face the challenges of globalization, climate change, and economic crisis, previous certainties about spatial development and spatial planning in terms of both theory and policy are being tested or even questioned. The role of factors pertaining to environmental threats seems to be crucial in this respect, first and foremost regarding their impacts on ecosystems, the economy and society. It is worth noting that despite the fact that these phenomena and their impacts are of a global nature, they have indispensable territorial dimensions thus leading to a transformation of spatial policies, namely spatial development policy and spatial planning, primarily in the context of supranational organizations such as the EU. Even in the UN context, which in principal addresses both climate change and developmental problems on a global basis, a strong territorial

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approach has been developed. The UN has initiated the ‘Down to Earth: Territorial Approach to Climate Change (TACC)’ Programme with the aim to promote collaboration among UNDP, UNEP and eight associations of regions, and more particularly, to assist regional and local governments in developing countries with formulating integrated strategies and action plans, integrating climate change into sustainable development planning, enhancing the relevant institutional capacity of local governments and so on (UNDP 2011).

Growing consciousness about climate change and an acknowledgment of the need to address the problem of greenhouse gas emissions from various sources as well as to prepare communities and territories for coping with its results that is to promote mitigation and adaptation measures respectively, has brought the issue of resilience to the fore. According to the UN Intergovernmental Panel on Climate Change (IPCC 2007) resilience is “the ability of a social or ecological system to absorb disturbances while retaining the same basic structure and ways of functioning, the capacity for self-organization, and the capacity to adapt to stress and change”. It is within the UN context that the World Conference on Disaster Reduction (WCDR), in 2005, adopted the ‘Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters’ with the aim to “promote a strategic and systematic approach to reducing vulnerabilities and risks to hazards” (UNISDR 2005, 1). In practice, hazardous events with severe territorial impacts such as hurricanes, tsunamis, earthquakes, floods, volcanic eruptions, and wars have led the UN to launch a strategy towards precaution and recovery from such phenomena. For instance, tools on “good recovery practice” were drafted in the context of the International Recovery Platform which was conceived at the WCDR as a key pillar for the above ‘Framework for Action’. These tools offer guidance on recovery on the following themes: Shelter, Livelihood, Environment, Gender, Public Infrastructure, Governance, Health, Psycho-social, and Climate Change (IRP 2011).

## **2. Conceptual issues**

The concept of resilience goes in tandem with a variety of other concepts, all of which fall under the heading of ‘planning for risk prevention’. In this context, concepts such as vulnerable and vulnerability as well as resilience and resilient, which are interrelated with the concepts of risk and hazard, have been introduced in the study of the impacts of the dramatic changes which have been caused or are expected to emerge from the above hazardous phenomena. On the basis of the assumptions and definitions adopted by the ESPON Hazards Project (Schmidt-Thomé 2006) these concepts and their relationships can be schematically described as follows:

Risk is “a combination of the probability (or frequency) of occurrence of a natural hazard and the extend of the consequences of the impacts. ... Risk = hazard potential x Vulnerability...

Vulnerability is the degree of fragility of a (natural or socio-economic) community or a (natural or socio-economic) system towards natural hazards. It is a set of

conditions and processes resulting from physical, social, economical and environmental factors, which increase the susceptibility of the impact and the consequences of natural hazards ... Vulnerability = Damage potential + Coping capacity” (Schmidt-Thomé 2006, 11).

Coping capacity “refers to the manner in which people and organizations use existing resources to achieve various beneficial ends during unusual, abnormal, and adverse conditions of a disaster event or process. The strengthening of coping capacities usually builds resilience to withstand the effects of natural and other hazards” (GTK 2003, 17).

It is obvious that coping capacity to a great extent is of institutional nature, in the sense that it represents the level of readiness of local institutions. This is also the case with resilience as it is closely related with coping capacity.

As current threats to the economy, society and the environment grow, resilience along with vulnerability are metaphorically used as terms which characterize countries, regions, and cities as well as the various subsystems operating within them. In addition, these notions have been introduced in studies on the various effects of dramatic economic and social changes pertaining to the global economic crisis on territorial systems. In searching for the way out of crisis-related problems, the notion of regional resilience is accentuated since it represents the ability of regions and territorial systems in general to adjust to changing circumstances and remain stable (Hudson 2010, CJRES 2010). Therefore, resilience is highlighted in the field of spatial development and tends to supplement and even replace widely established concepts such as sustainable development and spatial competitiveness. Thus the question arises as to what resilience means if transferred to the context of the economy and society and more particularly, what its implications for spatial policies are, especially in areas most exposed to current threats.

Several definitions of the term can be referred with their roots being in the environmental and ecosystem approach (Davies 2011), as resilience is linked to sustainable development (Ahern 2011). According to Walker and Salt (2006, cited in Ahern 2011) it is defined as “the capacity of system to respond to change or disturbance without changing its basic state”. Dos Santos and Partidario (2011) describe resilient systems as being “more adaptable to change, ... more able to learn and ... less vulnerable to disturbance and external shocks (e.g. natural phenomena, economic crises or political shifts)”.

Of course, the concept of resilience should not be overestimated. Like other concepts of this type, it could arguably fall into the category of what Raco (2009) has called ‘pseudo-concepts’. As with other notions related to territorial development (flexibility, sustainability, and globalization) it could be characterized as a ‘fuzzy’ concept according to Markousen (1999) and this could in part explain its success. Under specific circumstances the ‘metaphor of resilience’ could serve to shed light on regional changes and facilitate the

elaboration and implementation of various policies (Pentall et al 2010). It could lead to the rethinking of the core assumptions which have prevailed in the last decades and to the emergence of “alternative, less growth-oriented agendas” (Raco 2009).

In order to exploit this approach beyond merely environmental concerns, of particular importance is to identify the whole system of reference (e.g. a city), the type and source of hazards (e.g. economic crisis-related problems), the characteristics of the risk, and of course the “damage potential and coping capacity as the two main sides of regional vulnerability” (Schmidt-Thomé 2006). The very operation of resilience is crucial, as it can have different characteristics, with different focuses. Martin (2012, 5) identifies the following interpretations/types of resilience with different focus for each:

“ ‘Engineering’ resilience: Ability of a system to return to, or resume, its assumed stable equilibrium state or configuration following a shock or disturbance. Focus is on resistance to shocks and stability near equilibrium.

‘Ecological’ resilience: The scale of shock or disturbance a system can absorb before it is de-stabilized and moved to another stable state or configuration. Focus is on ‘far from equilibrium’ behaviour of system.

‘Adaptive’ resilience: The ability of a system to undergo anticipatory or reactionary reorganization of form and/or function so as to minimize impact of a destabilizing shock. Focus is on adaptive capability of system”.

According to Foster (2010), when it comes to policy issues, time and space, among others are of particular importance. Questions arise as to the different recovery times that correspond to different variables and to the time “we give a region to demonstrate resilience” (ibid.).

Finally, among the issues raised by the regional resilience concept the following question can be argued to be relevant to the fundamental work on Political Economy, ‘the Wealth of Nations’ by Adam Smith (1776/2000), in which the main question is: what are the key parameters behind the ability of some regions or countries to succeed and prosper while others are not able to withstand external shocks and return to their previous state. From this point of view, there are no easy or timeless answers to questions about resilience, as the parameters of time and space are of decisive importance (Foutakis 2012).

In addition, among other problems inherent in the use of the concept of resilience beyond merely environmental issues, it is important to note that resilience-related priorities as set in relation to environmental risks differ from those pertaining to economic development, above all the pursuit of spatial competitiveness. Combating climate change and a transition to an economy free of fossil fuels requires a shift towards greater self-sufficiency of regions (Green New Deal Group 2008). The need for a re-localization of many economic activities, such as energy production, along with the pursuit of securing self-sufficiency by means of exploitation of renewable energy sources at the local level seems to be

inconsistent with several aspects of contemporary policies that aim to strengthen regional competitiveness. For instance, there is on the one side the need to put emphasis on the production of local goods that pertains to environmental resilience, and on the other the effort to strengthen international flows that goes in tandem with the pursuit of regional competitiveness and consequently of the resilience of regional economy. There is thus a tension between the policy priorities arising from the two different options of the concept of regional resilience, namely environmental and socio-economic resilience. In this respect it can be argued that the territorial level of reference is appropriate for addressing questions raised in relation to the concept of resilience.

### **3. Resilience and spatial policies**

In the last few years the situation in several regions and metropolitan areas has been characterized by dramatic changes. In addition to the impacts of environmental threats, since the outbreak of the economic crisis in 2008 a number of parallel crises have come to light or worsened adding new challenges for regions and metropolitan areas. Yet it seems that the pursuit of resilience has lately taken the place of the pursuit of sustainable development and spatial competitiveness, which prevailed during the 1990s and 2000s respectively. Thus the question arises as to what resilience means if transferred to spatial policies. As with sustainable development, planning for resilience seems to be dependent not only on the content but also on the process of planning. In their elaboration of a particular planning model aimed at ensuring resilience, Dos Santos and Partidario (2011, 1529) argue that “Planning for resilience ... is neither about creating new formal plans nor about introducing new orientations, but it is instead about how to raise awareness in relation to a more open-mind-to-change perspective, which is critical to deal under uncertain realities, even in more traditional planning contexts”.

From this point of view, resilience-related planning principles are very close to those of established new strategic spatial planning practices (Albrechts 2011) in a twofold way: first their focus is on planning procedure, given that “resilience is a more strategic than normative concept” (Ahern 2011, 342) and, second, they are thematically structured instead of following an analytical sectoral approach. A third argument could be that as the new strategic spatial planning builds much on the upgrading and exploitation of territorial governance, it can enhance the institutional capacity of territorial systems, which means building territorial resilience. As already mentioned, coping capacity is of institutional nature, in the sense that it represents the degree of readiness of local institutions among which participation in the planning process is important. Some of its benefits are described as follows: “stronger commitment to jointly agreed planning measures, the horizontal and vertical integration of a community (building social capital and concrete response networks), and better public awareness of hazards” (Burby et al 2000, cited in GTK 2003, 96). Irrespective of any criticism of strategic spatial planning, the ‘resilience metaphor’ can provide it with updated planning concepts (Pendall et al 2010).

The above shifts are heavily dependent on the specificities of each individual country and region. In the metropolitan areas of the US, for instance, a new type of degradation of the built environment - and consequently the everyday life of citizens - has emerged, culminating in the 'foreclosure' phenomenon (Swanstrom et al 2009). As a response, specialized planning agendas have been set up, with the objective to promote regions' resilience capacity and to "build and sustain strong metro regions" (ibid).

Regional impacts vary and depend on the specificities of each country, the institutional and policy framework as well as the fiscal context (Davies, 2011, 1). As far as the individual EU regions are concerned, the situation differs from country to country in proportion to the extent that each country's overall system is exposed to the impact of the crisis. Even before the outbreak of the crisis, four key challenges were identified for European regions, namely globalization, demography, climate change, and energy, which determine the vulnerability of each region (CEC 2008). In the context of the preparation of the next programming period of cohesion policy, regional vulnerability to climate change has been given a key role, which is in accordance with the 'Europe 2020' strategy. This is expected to reinforce a shift towards resilience based regional development strategies in the Operational Programmes of the period 2014-2020 (Hjerp et al 2011).

The growing interest in climate change related measures in the context of cohesion policy and consequently on their territorial dimension has accentuated the role of regional spatial planning, which, however, is not in the competence of the EU. The reason is that regional spatial planning is closely related with territorial specificities of individual regions and henceforth to climate vulnerability of regions. The Directive on Strategic Environmental Assessment (SEA) (Official Journal 2001) was the first to influence regional spatial planning towards combating climate change, albeit with no direct reference to the latter.

#### **4. Evidence from Greece**

Evidence from spatial policies in Greece can serve to explore the potential of a resilient-based approach to spatial planning especially in metropolitan areas which are the most vulnerable to contemporary challenges. It is worth noting that both regional development policy and regional spatial planning in Greece are influenced by the EU policy and funding context, albeit to different degrees. Regional development policy has a relatively rigid character as it closely follows EU guidelines. Regional spatial planning, which is not in the competence of the EU, is influenced by developments in Europe and is likely to adopt up-to-date planning tools. When it comes to strategic planning for metropolitan areas this is the case with the 'Regulatory Plans' of the greater areas of Athens and Thessaloniki ('Rythmistiko Schedio' that is city-region plan) (EC 1997). As noted above, planning for resilience is of strategic character and is also closely related to the participatory process. Hence the potential of these two Plans towards a resilience-based approach can be roughly examined in terms of these two parameters. Evidence can also be drawn from the

way the issue of vulnerability is addressed in the relevant documents, which will be based on the case of Thessaloniki.

First, the strategic role of the two 'Regulatory Plans' had not been identified as such since their launch in 1985, as there was undoubtedly a desire for a regulatory role of spatial planning at that initial stage. Nevertheless, these Plans were the only then-existing strategic spatial planning instruments in the country (EC 1997). A renewed interest in strategic spatial planning emerged in the late 1990s that was associated with a similar tendency in Europe. From 2003 onwards the urgent necessity for an up-to-date strategic planning tool for the metropolitan areas found expression through the process of updating the two 'Regulatory Plans'. The relevant studies have been completed and put under public consultation and are expected to be given legal form. The strategic role of the new 'Regulatory Plans' of Athens and Thessaloniki is explicitly spelled out in the relevant texts and confirmed by their content, which includes a preliminary projection of strategic goals. Their strategic role is also evident in that they introduce new ideas and also in that they link process with outcome. More particularly, of the ideas they introduce the adoption of sustainable spatial development can be considered innovatory. As regards the linkage between process and outcome, this is evident in that the draft new Plans provide for an action plan.

Second, regarding the involvement in these two Plans of forms of participation that are considered a prerequisite of resilience-oriented planning, the importance of such an approach is acknowledged at several points in both planning documents. The draft new 'Regulatory Plan' of Athens cites "improvement of the system of spatial planning and governance" as its "number one priority axis", mentioning it along with ten selected thematic axes. In practice the elaboration of the Plans has proceeded in a rather formalistic manner with participation based mainly on public consultation and public debate with socio-economic partners and local and regional self-government. This has to do with the organization of the planning system in the country and especially its centralized character. In this respect it should be mentioned that a new balance between the newly-established institutions of local and regional self-government and the pre-existing central state mechanisms is currently under formation in the context of the 'Kallikratis' administrative reform.

Although not expressed as such, the notion of vulnerability of metropolitan areas in Greece is partly evident in strategic spatial planning, particularly with reference to: (a) civil protection and (b) environmental protection. The first one is addressed by a specific nationwide institutional framework which makes provision for competences of local and regional self-government and of metropolitan administrative structures (Dandoulaki 2011). The second one, namely environmental protection of the greater areas of Athens and Thessaloniki respectively, is evident primarily in that the official Plans which were ratified by Laws 1561 and 1515 of the year 1985 respectively have the title 'Regulatory Plan and the Environmental Protection Programme of the Greater Athens [Thessaloniki] Area'. Recently, the need to comply with the EU directive on SEA accentuated the environmental dimension of the draft new Plans.

Besides, according to the EU priorities, specific provision is made in these Plans for climate change-related measures, especially for mitigation purposes. The draft new 'Regulatory Plan' of Thessaloniki among others aims to "Contribute to climate change combating through reducing energy consumption ... and preparing to address its impacts". It specifically provides for "Dealing with natural and technological hazards and disasters" by means of: (a) cooperation among agencies which have the responsibility of planning for civil protection and civil security, (b) planning and management of specialized studies and actions concerning civil protection and civil security and (c) utilizing environmental and spatial planning tools to promote additional mitigation and adaptation measures. Specific provision is made for measures aiming to prevent earthquakes, floods, industrial accidents and fires. In addition, in the 'Environmental Protection Programme', which is incorporated in the draft Plan, there is an entire subject area dedicated to climate change mitigation and adaptation measures with special reference to the relevant 'National Action Plan' (OR.TH. n.d.). However, despite the fact that the Plan's contribution to "sustainable and environmentally compatible development and reconstruction of the economy of the area" is identified as one of its key objectives, no reference is made to vulnerability pertaining to hazards of a socio-economic nature (OR.TH. n.d., Thoidou 2012).

It is evident from the above that the resilience-oriented approach to strategic planning of metropolitan areas in Greece focuses on the protection of the environment and the combat of climate change-related phenomena. This is more important if we consider that from 2008 onwards Greece has been under pressure from the economic crisis it is passing through, and the overall situation in the country's metropolitan areas has seriously changed. There has evidently been a contraction of the public sector's role in promoting metropolitan development through large-scale infrastructure projects. In addition, the competitive city/region strategy that prevailed in the 2000s should now be reconsidered, since it can be argued that "undermines any attempt at welfare planning" (Hadjimichalis 2011, 267-268). These proceed in tandem with the deepening of socio-spatial inequalities and tensions within metropolitan areas – Athens in particular – which in turn necessitates new ways of dealing with problems. Hence it seems reasonable that the whole endeavor of updating the Plans should take into account the new socio-spatial circumstances under the crisis conditions in Greek metropolitan areas.

## **5. Concluding remarks**

As is the case with several concepts in the planning domain, regional resilience draws from an ecosystem approach and thus involves the risk of underestimating socio-economic parameters and complex processes that might cause regional vulnerability. However, its incorporation in the policy agendas of supranational organizations such as the UN and the EU and its further elaboration should not be ignored nor its expansion to regional and local levels, especially in the context of spatial planning. Planning for resilience is gradually being necessitated under current crisis conditions and gains ground as a tool capable of preventing areas from hazards

of various types. Furthermore, strategic spatial planning is considered to be a key parameter towards resilience building, through strengthening the institutional capacity of territorial systems in the sense of their ability to cope with contemporary challenges.

As in the scientific domain the issue of spatial planning in the crisis era seems to gain ground, it is worth considering whether it can be specified in practical terms through its incorporation in the planning documents and processes. The case of metropolitan areas in Greece reveals that the potential for such an approach depends on the characteristics of the plans and the related planning process. Arguably, under specific conditions, the strategic approach to spatial planning has the potential to secure both an adaptable structure of the plans and a genuinely participatory planning procedure that is suitable to serve as a tool of planning for regional/metropolitan resilience. Furthermore, the supranational context can be utilized as a reference basis for policy measures, planning tools and good practices which should be selectively adjusted to each particular territorial area. The sustainable development concept could serve so as to justify an approach to not only environmental but also socio-economic resilience. Above all, the effort towards building territorial resilience can highlight new ways of dealing with problems, new ways of utilizing policy instruments and more generally a rethinking of what has hitherto been taken for granted.

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