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Brief



The pre-disaster recovery plan - a tool for climate-proofing Southern Europe

Mattia Bertin
EPiC | FEEM@iuav

Abstract

FEEM Policy Brief

The climate change is increasing the need of planning tools able to produce great territorial transformations. The urban configurations in Southern Europe, especially the late modern and contemporary neighbourhoods, are frequently situated in very dangerous hydrogeological areas. The local effects of the climate change process act as drivers on these areas, increasing the number of catastrophic impacts. On the one hand there is a need for a capacity to reduce the effects of the disaster in the social, physical and economic dimensions of local communities; on the other hand, there is a need to build tools for territorial adaptation, in order to avoid future impacts. It is more necessary than ever to develop a new urban planning tool to bridge the current risk with future climate-proof transformations.

01

A strongly affected European Region

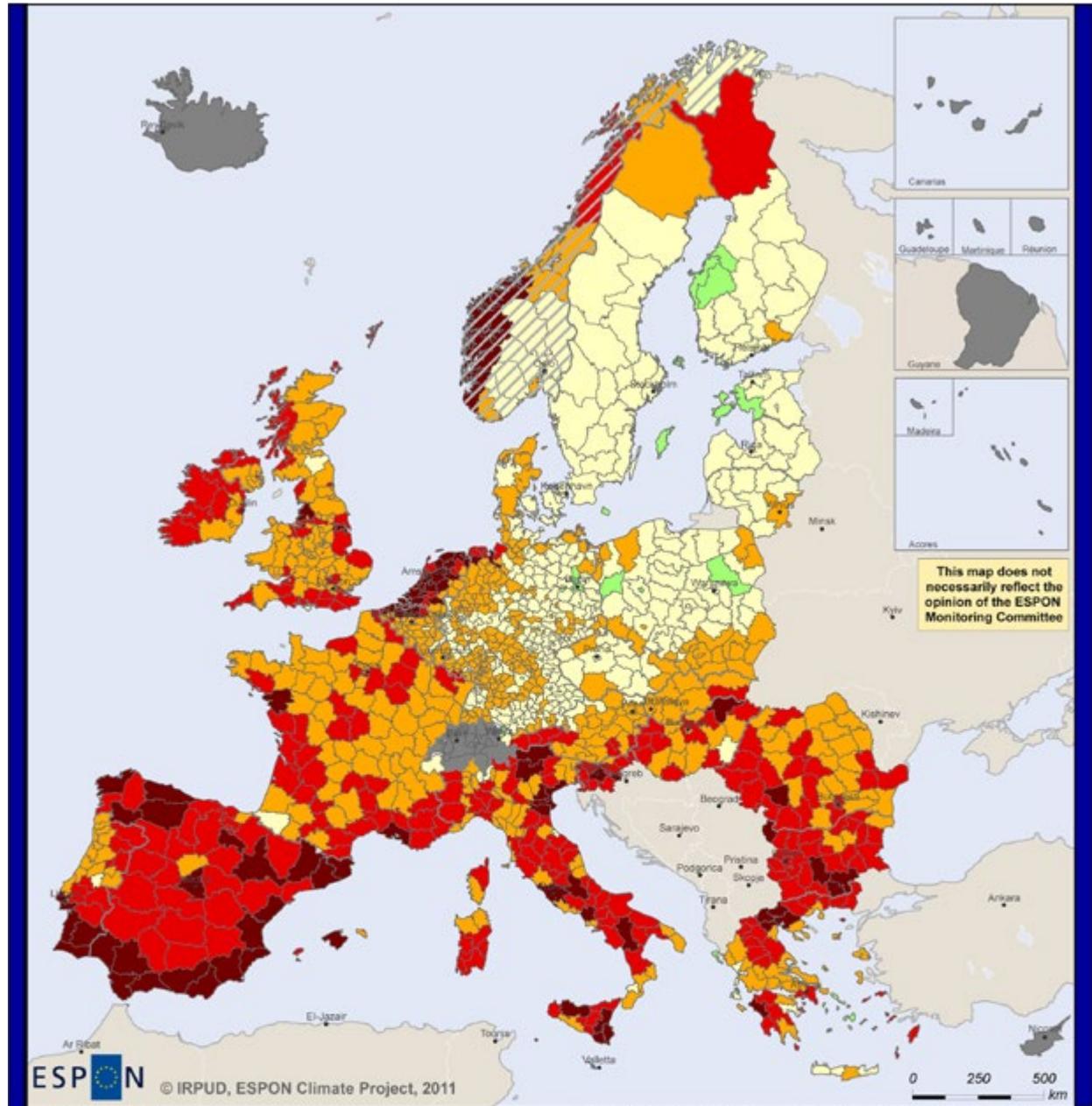
After every disaster comes the challenge of the physical, social and economic recovery for a local community. If we know that a recovery is a great opportunity to settle historical difficulties of a territory, (Vale and Campanella 2005) it is also true that this opportunity is often wasted. Without a prior planning it is very difficult to really build back better. Citizenship is often conflicting between two perspectives: the impossibility to get everything back the way it was and where it was; the opportunity to develop a new territory more suitable for that local risk. National and local political leaders with little thought to the consequence often promise to rebuild how it was where it was. The promise of a quick reconstruction in the same place and with the similar characteristics condemns a community to potential recurrence of a comparable tragedy. (Levine *et al.* 2005) Moreover, due to the rapid post-disaster times, recovery is often carried out top-down, without the involvement of the population. The population therefore suffers a second trauma, being excluded from the recovery processes while its own territory changes radically for a second time. (Blakely, 2012)

Climate change is seriously affecting Southern Europe, with storms, hurricanes, landslides, snowfalls and similar events at a magnitude never experienced with this frequency. Many

territories are experiencing their own historical fragilities, but these emerge significantly more strongly in this scenario. The damages are increasing every year, and some areas are starting to depopulate due to the lack of economic instruments to recover the damages.

Despite in Southern Europe there is a strong experience of rebuilding, due to frequent highly impacting earthquakes and flooding, we still are pending on the recovery and adaptive sides. Countries as Italy and Spain developed a really effective emergency management system and emergency planning is mandatory for every administrative level (municipality, regions, State). Notwithstanding this deep developed intervention system, in Southern Europe the recovery has not a general system of rules for urban planning in area in which the disaster is expected. Every emergency is handled as a brand new case. There is a complete lack of collective technical and political knowledge for post-disaster recovery. We are not able to apply effective lesson learning. In a time of climate change, in areas as exposed as southern Europe, it is necessary to develop innovative tools to cope with this limitation.

Figure 1. Aggregate potential impact of climate change in Europe.



Origin of data: see data sources of the individual impact dimensions

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Aggregate potential impact of climate change

- highest negative impact (0.5 - 1.0)
- medium negative impact (0.3 - <0.5)
- low negative impact (0.1 - <0.3)
- no/marginal impact (>-0.1 - <0.1)
- low positive impact (-0.1 - >-0.27)
- no data*
- reduced data*

Weighted combination of physical (weight 0.19), environmental (0.31), social (0.16), economic (0.24) and cultural (0.1) potential impacts of climate change. Weights are based on a Delphi survey of the ESPON Monitoring Committee.

Impact calculated as combination of regional exposure to climatic changes and recent data on regional sensitivity. Climatic changes derived from comparison of 1961-1990 and 2071-2100 climate projections from the CCLM model for the IPCC SRES A1B scenario.

*For details on reduced or no data availability see Annex 9.

Source: ESPON, espon.eu

02

The hypothesis of a pre-disaster recovery plan

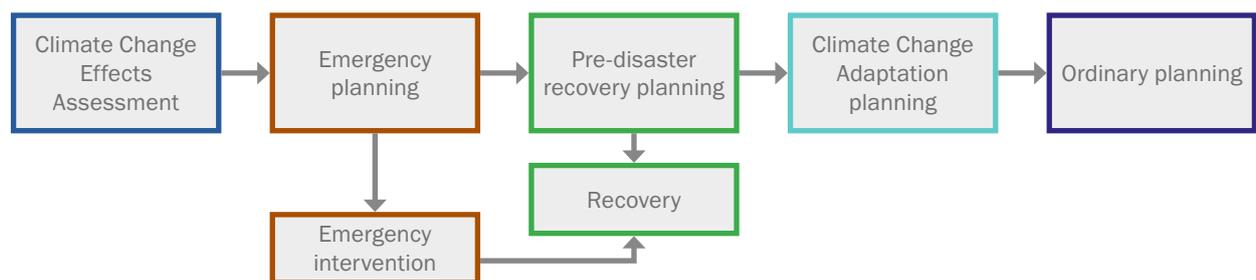
In the USA, a planning process and tool has been developed to respond to these problems: the pre-disaster recovery plan.

Berke and his team affirm that «a pre-disaster recovery plan that consider how a community should be redeveloped is a logical first step to support resiliency during high uncertainty and rapid change». (Berke *et al.*, 2014, p. 210) They suggest a methodology in 6 steps not so far from our application, but the crucial difference could be the application of it before the catastrophe. Having a strongly supported plan before, discussed with the community and approved without the anxiety about tomorrow caused by the event could help the community to have a clear route to apply, avoiding some of the difficulties we normally find. (Lewis and

Mioch 2005; Chandrasekal *et al.* 2014)

Also it could help political bodies in promising something really achievable, avoiding the suggestions about how it was, where it was rebuilding. (Brown, Platt, and Bevington 2010) Moreover, in a climate change scenario, we have to expect an increase of extreme event, and therefore to prepare having plans to face uncertainty with complex approach. Developing in advance tools like this can not just assure a better performance in plan application, but moreover can be a tool to help community «to be safer, healthier, and more equitable, and better able to absorb, recover from, and successfully adapt to future adverse events». (Schwab *et al.* 2003)

Figure 2. Rethinking planning hierarchy introducing Pre-disaster recovery planning. Original



A tool of this nature could allow to react to the phases following the first emergency with a reduction of psychological and economic impacts. A tool of this nature could act without the weight of the memory of a dramatically broken territory. This would truly allow to build

back better, without the difficulty imposed by the trauma. Moreover, if developed early, it could be the driver for a climate change adaptation plan capable of coping with the intrinsic limits of a territory.

Conclusion

Do we need a pre-disaster recovery plan?

US experiences in pre-disaster recovery planning, and on it the Berke's and al.'s paper Adaptive Planning for Disaster Recovery and Resiliency, could maybe help in anticipating the social and psychological brakes that make so difficult producing a recovery effective intervention in post-event in Europe. It is still to be verified that this tool is capable of interacting with the heritage level of our territories. All the issues concerning preservation in the Mediterranean European Countries are very complicated. However, it is also true that it could open up a path of innovative experimentation, perhaps the only one capable of avoiding the total abandonment of internal or rural areas at greater risk of meteorological impacts.

In brief

- Traditional post-disaster recovery usually fails its possibility of use recovery as possibility.
- Europe needs a new tool for reduce the disaster impacts.
- Climate Change is affecting Southern Europe with an increasing number of catastrophe.
- A path could be to apply US's pre-disaster recovery plan as a tool for European climate change adaptation
- Is needed to understand if this could be possible with the level of complexity and heritage of the Southern European cities.

References

Blakely, E. J. (2012). *Recovery of the soul: rebuilding planning in post-Katrina New Orleans.* Housing Policy Debate, 22(1), 117-131.

Berke, P. R., Song, Y., & Stevens, M. (2009). *Integrating hazard mitigation into new urban and conventional developments.* Journal of Planning Education and Research, 28(4), 441-455.

Brown D., Platt S., Bevington J. (2010). *Disaster Recovery Indicators: guidelines for monitoring and evaluation,* CURBE, Cambridge University Centre for Risk in the Built Environment, ISBN 978-0-9558384-9-1.

Chandrasekhar, Divya, Yang Zhang, and Yu Xiao (2014) *Nontraditional Participation in Disaster Recovery Planning: Cases from China, India, and the United States,* Journal of the American Planning Association, 80:4, 373-384, DOI: 10.1080/01944363.2014.989399

ESPON - espon.eu/climate-2012



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Fondazione Eni Enrico Mattei

Corso Magenta 63, Milano – Italia

Tel. +39 02.520.36934

Fax. +39.02.520.36946

E-mail: letter@feem.it

www.feem.it

