

The Province of Potenza #weResilient multiscale and multilevel holistic approach in downscaling local Resilience and Sustainable Development: the case of the Province of Potenza and its Municipalities of Potenza and Pignola

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1. Introduction

The present work describes the state of art of the experience made by the Province of Potenza (an Italian local authority of subnational level) in accomplishing the recent UN global agreements goals and targets and in particular illustrates:

- progresses made in implementing locally the #weResilient strategy (TCP, 2013), a risk-informed sustainable development policy-making action at territorial/local levels based on a structural combination of environmental sustainability, territorial safety and climate change contrasting policies;
- coherence of the multiscale and multilevel approach in integrating risk informed and sustainable development pathways;
- inclusive approach due to strong community involvement;
- results obtained in supporting and coordinating the municipalities of the provincial territory for creating local conditions to manage hazard, mitigate risks and improve local sustainable development with a multiscale and multilevel holistic ¹ approach based on a wide-area (super-municipal) outlook and so contributing directly to the Sendai Framework Target E, SDG 11 and SDG 13 and indirectly to the other goals and targets. City of Potenza (as an example of a larger city) and Municipality of Pignola (as an example of a smaller settlement) cases studies are described in terms of specific actions performed and results recorded so far;
- effectiveness of the *governance-accountability* system on which the approach is based and that is a powerful mean to the knowledge acquisition and sharing for creating the conditions that contribute to change.

The key elements of the ongoing institutional action (#weResilient, Province of Potenza TCP, 2013) are:

- a government led action built on a long-term *vision*, a defined *strategy*, an effective *plan* and subsequent concrete *actions* and based on a strong governance with a multi-stakeholder and community engagement;

¹ The “holistic approach” concept is widely used in modern development policy-making issues. In specific, in regional/territorial/urban development policy-making, it refers to the wider, cross-government/authority/institution/agency/stakeholder sharing of goals, objectives, information and data as well as the intent to take a broader perspective on related multiscale and multilevel planning and implementation.

- the interdisciplinary nature of risk: DRR is considered in all decisions at all scales and in all dimensions;
- enhancement of local resilience: an essential pre-condition for achieving any sustainable social and economic development;
- multi-stakeholder engagement in decision-making: it allows local authorities to tap into wider perspectives and potential solutions to improve decisions and actions;
- community engagement in decision-making: it provides the basis for productive relationships, improved dialogue and increased sense of belonging and ownership;
- downscaling the experience to the urban context: it is made by performing and coordinating participatory urban planning paths;
- identifying and implementing ways to provide local communities with the right leading-role in performing sustainable and resilient growth.

The aim of this work is to illustrate a concrete example of translation of *words* (deriving from commitments, such as the global goals) into *actions* (localization of the commitments) so to provide guidance and inspiration to other worldwide governments (at all levels) in performing similar path. At this regards, as specific contribute to the Sendai Framework for Disaster Risk Reduction target E and to the 2030 SDG Agenda Goal 17, the Province of Potenza (UNISDR world Role Model for “Inclusive Resilience and Territorial Safety by acknowledgement in 2015) has committed to provide its institutional support in assisting those governments in outlining and implementing local Resilience² strategies and actions.

1.1 Brief description of the context

The Province of Potenza is an Italian Local Authority of super-municipal and sub-regional level. In its territory there are 100 Municipalities, most of them very small-sized. It is exposed to relevant natural and man-made hazards that resulted in disasters with serious losses in the recent and ancient history.

² In the context of disaster risk, Resilience is the ability of a system, community or society exposed to hazards to resist, absorb, accommodate, adapt to, transform and recover from the effects of a hazard in a timely and efficient manner, including the preservation and restoration of its essential basic structures and functions through risk management (<https://www.preventionweb.net/risk/resilience>). Anyway, in this work the concept of Resilience is linked to the need to identify principles and measures to protect local *development* from *shocks* and *stresses* and sustainably react to them.

In the last twenty years much work has been done at local level (in coordination with the National level) in disaster risk reduction from an operative point of view.

Its massive engagement in DRR has started since early 2000 when the Province of Potenza decided to build and implement its Provincial Civil Protection System (2004), by working with Municipalities, all relevant stakeholders and major groups of the local, regional and national civil protection framework. The main goal was to provide an organizational structure for disaster management (with a specific focus also on disaster risk assessment and reduction, also according to the Italian legislation in force at that time) to be performed at that subnational scale in a coordinated manner both in ordinary and in emergency.

But, some implementation difficulties - deriving from an existing not-binding regulatory system that didn't allow to provide adequate support to the municipalities in performing similar improvement paths - pushed the Province to reshape a different and most effective/efficient strategy, with the goal of effectively implementing DRR policies and actions throughout all the territory and at all levels.

This change of strategy was felt as necessary for ensuring the territory, as a whole, being involved more actively and concretely in disaster risk reduction policies and actions, both at territorial and local levels.

A long period of analysis and assessment has been performed, even on a global scale, to shape and develop a different, unique and most effective strategy: transforming DRR and Resilience to disasters into real "structural" policy-making and actions to be implemented by coordinating territorial and urban development and land-use.

The main results in terms of Challenges (Gaps/Barriers) existing at the urban level in resilience and Identified Solutions that have been used as reference to build up the new #weResilient strategy is provided by the following table:

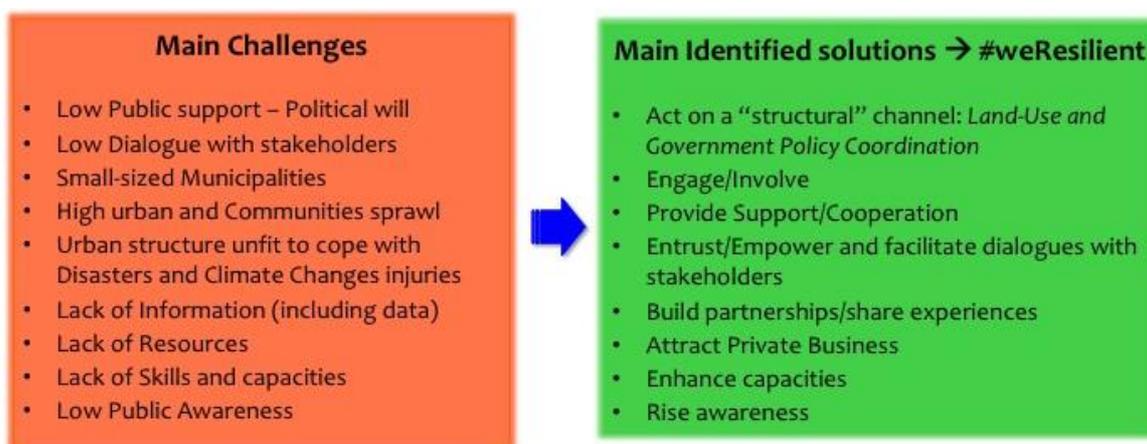


Fig 1.1 Main challenges and proposed solutions for Province of Potenza's #weResilient strategy (TCP, 2013)

A comprehensive description of what has been performed is provided in literature and specifically in the Province of Potenza's contribute to the 2015 Global Assessment Report: "*Implementation of the "resilience of communities" policy in land use planning on the provincial territory of Potenza*" (Attolico, 2014).

2. The #weResilient strategy

Based on the previously described remarks, the necessity of an extremely codified but innovative institutional action emerged. As a result, the Province of Potenza outlined the #weResilient strategy aimed at pursuing *territorial development* through a structural combination of *environmental sustainability*, *territorial safety* and *climate change* contrasting policies.

2.1 The Vision and institutional commitment

The reshaped #weResilient strategy derived from a long-term vision that meets with an intuition: making Advocacy towards Municipalities, relevant stakeholders, major groups and communities for implementing local development policies by integrating them with DRR and territorial/communities resilience to disasters.



Territorial safety
 +
 Sustainable development
 +
 Climate change
 =
#weResilient

Fig 2.1 The Province of Potenza's #weResilient strategy (TCP, 2013)

Its implementation path consists in both a territorial/urban planning coordination activity (here regulated by a binding national/regional legislation) and in a complementary awareness-rising action with a *supportive* and *subsidiary* process addressed mainly to municipalities, communities and citizens, for pursuing *proper* territorial governance (downscaling the provincial strategy at municipal level, taking into account the local background and

the social economic characteristics with the aim of a tailored municipal strategy) and land-use policies/actions in the local context.

A milestone in the #weResilient *strategy* is represented by the Provincial Territorial Coordination Master Plan (TCP, 2013) (Attolico (coord.), 2014, Attolico, 2014) that has been delivered to the community as an important document for guiding and addressing the provincial territorial development governance and represents a “structural” tool for analyzing needs and driving local governments’ choices with a wide-area strategic point of view and a multiscale and multilevel holistic approach.



Fig 2.2 The Provincial Territorial Coordination Plan influence on urban planning activities (TCP, 2013)

A new concept of territorial governance has been outlined: the structural introduction of “Resilience” to disasters and climate changes into territorial development policies to be implemented through specific actions at local and urban levels.

An integral aspect of the governance and the strategy outlined by the Province of Potenza is *accountability*: by networking with Municipalities, relevant stakeholders and major groups, and also for monitoring the effectiveness of the whole action, the Province of Potenza is adopting a wider accountability system including, but going far beyond, the mere financial one.

2.2 The multi-stakeholder and community engagement

In the #weResilient strategy implementation performed so far, most of the efforts have been devoted to setting-up a complex system of progressive *engagement* having the main purpose of entrusting and engaging *key-actors* (relevant stakeholders, such as public and private institutions, civil society organizations, academia and scientific and research institutions, businesses, and social groups and citizen, including women, children and youth, older persons, persons with disabilities, poor people, migrants and ethnic minorities, indigenous peoples, volunteers) in the institutional policy-making regarding territorial and urban sustainable and resilient development. For reaching this goal, many actions have been launched and performed including:

- the setting-up of a permanent network with Municipalities for outlining and development strategies and related actions by assuring adequate subsidiary support and coordination;
- the setting-up of permanent “platforms” with stakeholders and major groups for collecting needs, discussing problems and identify possible solution to be adopted;
- the setting-up of IT communication tools for providing wide evidence of the actions performed and the progresses made (accountability);
- the organization and implementation of specific capacity building activities, mostly addressed to institutional key-actors but with the enlargement also to civil society;
- the implementation of specific awareness-raising and information campaigns;
- facilitating involvement and raising support (not only financial) by the private sector, by means of specific engagement programs and initiatives;
- setting-up of empirical processes of progressive confidence/trust building, outlined and calibrated on the specific and contingent needs of the different social components and on reciprocal cooperation and assistance.

Moreover, since DRR and Resilience building are comprehensive and multidisciplinary processes where the role of the governments (at all level) is pivotal for transforming words into actions, many actions (including evidence activities) have been performed also for building and/or raising the *public support* and *political will* and for maintaining them at the highest level for the upcoming phases.

For reaching this goal, many actions have been launched and performed so far including the setting-up of the permanent network with the municipalities and of a set of politically and institutionally addressed engagement activities.

2.3 Community and people-centered inclusive actions

Engaging community in decision-making processes allows governments to tap into wider perspectives and potential solutions to improve decisions, services and actions. At the same time, it provides the basis for productive relationships, improved dialogue, increased sense of belonging and, ultimately, concrete better democracy.

It is difficult to identify a *community*. It can be defined in several ways, and most definitions include: shared experiences, locality, culture, language and social interests.

Community-based DRR, Resilience and sustainable development are processes within a community and for the community. It means that inclusive activities and actions may vary from one community to another.

For reducing risk in communities, among other solutions, we need to address the root causes of risks that, for this reason, must be faced through a structural combination of local knowledge and proved expertise. In this way, as a consequence of an improvement process that includes also a targeted community engagement, the need for solutions would become a communities' demand and their search and implementation be leaded by communities themselves (EPICURO DG-ECHO, 2016-2018).

The #weResilient strategy has been put in place starting from involving, engaging and even partnering with the communities and citizens, a process that can help contribute to the effectiveness of development interventions, especially with respect to marginalized and most vulnerable group according to the “no one left behind” principle.

The success of development and participatory governance³ depends on both a robust state and an active civil society with healthy levels of civic engagement. This is key to the work of governments (at all levels) in strengthening inclusive, responsive and accountable governance institutions and practices.

For an effective community engagement the following steps have been performed:

- developing a strong community engagement programme;

³ In this context, *governance* is defined *participatory* because puts a specific emphasis on community (democratic) engagement, also through pre-deliberative practices and actions. #weResilient seeks to deepen citizen participation in the governmental processes by overcoming the assumptions and practices of the traditional view that generally hinders the realization of a genuine participatory democracy.

- making analysis and mapping of the community-based actors across all sectors;
- performing risk, hazards and vulnerabilities assessments and analysis;
- defining the *needs* in terms of: resources, policies, strategic planning, leadership;
- putting in place participatory processes to share goals, identify solutions and find the way each actor will be part of these solutions;
- promoting and defining strategic alliances and partnerships (also for co-working on specific initiatives);
- integrating communities while outlining urban/territorial sustainable development strategies and implementing them as a *process*.

In implementation, the #weResilient strategy's downscaling process (in particular its multiscale and multilevel holistic approach) pass through a 'four steps' Community involvement and engagement process:

- *Information*: a one-way relationship in which government disseminates information to citizens and stakeholders (information campaigns, education and awareness activities, etc.);
- *Consultation*: a two-way relationship in which government seeks and receives the views of citizens, stakeholders or communities on policies, programs or services;
- *Active participation or engagement*: recognizes and acknowledges a role for citizens and stakeholders in proposing and/or shaping policy dialogue, program and service options and enable people to raise their own issues with government;
- *Ownership*: citizens and communities contribute by themselves to the whole policy-making cause.

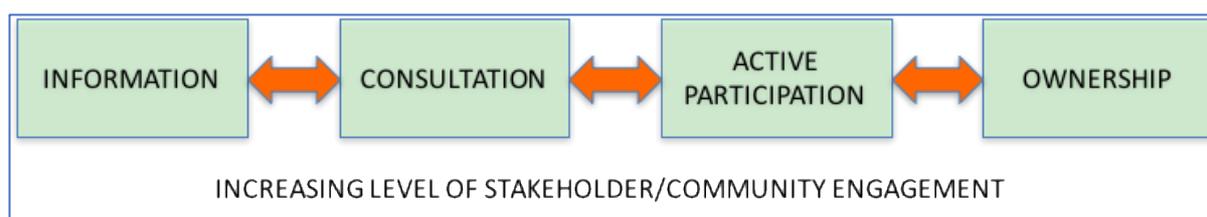


Fig 3.1 The #weResilient four steps community involvement and engagement process

In all the downscaling processes led by the Province in support of its municipalities the previous methodological scheme is followed for improving effective and inclusive community engagement (at this regards, the Province of Potenza has been acknowledged by UNISDR as a “Community Champion for Disaster Risk Reduction under the theme “Knowledge for Life” in 2015).

At the beginning of each engagement process, its scope, purposes and targets must be analyzed and clearly identified.

Local communities have to be clustered according to the different goals and objectives to be pursued and generally the mapping result in:

- Local Residents or Area Based Groups
- Communities of Interest
- Faith Based Groups
- Ethnic and Cultural Groups
- Local Community and Voluntary Groups
- Web Based or Virtual Groups

The identification is made also thanks to already existing local community development networks and support organizations. Their particular interests and needs and how best to engage with them are investigated with concise methodologies – to be shaped on and/or adapted to the overall #weResilient strategy – by questioning on the following general issues:

- what impact the issue or proposals will have on these community interests?
- who represents these interest groups?
- are there existing community networks or forms of communication?
- are there gaps in information which could be plugged through local knowledge?
- what is the relevant legislation and up to what extent has it to be considered as a “no questioning” issue?

Also, types of resources required/available and related limitations must be taken into account for performing effective community engagement.

Having clear this general background, community engagement is then performed with the following general steps and specific actions:

- *community profiling*: including segmentation and clustering into groups
- *definition of the guiding principles*: #weResilient indicates:
 1. inclusiveness (according to the “no-one left behind” principle);
 2. reaching out;
 3. mutual respect or inclination to learn from each other;
 4. transparency and accountability;

5. taking into account and affirming diversities;

- *selection of the engagement Methodologies and Techniques to be used*: since several community engagement methodologies and techniques are available in specialized literature (and it is out of the scopes of this work to illustrate them in detail), the choice on which to use rests on the specific (including institutional, social, cultural, etc.) context in which the engagement has to be performed;
- *feedback and follow-up*: crucial for building increasing trust;
- *celebration, transition, handover*: when some processes become mature and come to an end or when particular successes are recorded;
- *evaluation, follow-up & review*: it is a process that facilitates learning and examines what worked well, what did not work well and why and what need to be adjusted.

3. #weResilient in the urban contexts

3.1 The supportive actions to the municipalities

As described beforehand, since 2004 the Province of Potenza is playing a specific role performing DRR policies and actions both in its own institutional duties (provincial roads networks, high schools buildings estate, territorial planning, disaster management, civil protection, etc.) and providing for specific support and coordination to the municipalities in a subsidiary way. During the years, the Province of Potenza's institutional action in DRR policy-making has been characterized by a strong political will and public support towards its 100 Municipalities and related communities.

A strategic step in this action is represented by the enrollment - as a whole territorial "system" - to the UNISDR "Making Cities Resilient" Campaign in 2014. The role of the Province of Potenza, with particular regards to territorial risk reduction and actions for adapting to climate change, supported such a massive active participation to the MCR global Campaign in order to better support local governments and municipalities to become more "resilient" in facing disasters. So, as part of the MCR global Campaign, the Province has become the leader of a unique action in the world: to constitute a wide territorial Network including all the 100 Municipalities of its territory through specific *statements of commitments* aiming at developing a common territorial development strategy covering the improvement of resilience to disasters with a wide-area strategic coordination

and a multiscale and multilevel holistic implementation approach.

Many actions have been launched and performed so far including the setting-up of a permanent network with all the Municipalities and of a set of multidisciplinary implementation activities. One of the most important activity regards the reciprocal engagement in disaster risks data collection and elaboration/dissemination between the Province of Potenza and all the 100 Municipalities.

In this case, it has proved to be useful the setting-up of an empirical processes of progressive confidence/trust building, outlined and calibrated on the specific and contingent features of the different political/public actors and on reciprocal cooperation and assistance.

As already described, the basis of this institutional coordination role lay in a complex territorial planning activity (started since early 2000) aimed at drafting and implementing the Provincial Structural Plan (Territorial Coordination Plan - TCP, 2013). The Province had and continues to have the task of supporting and assisting, with a subsidiary approach, its Municipalities in outlining their urban planning instruments and tools through specific structural planning activities.

Currently, the Province of Potenza is involved in the implementation of the TCP at local level, maximizing the usefulness of proposing and supporting new forms and contents of transformation interventions at the urban level: among these, urban resilience, soil consumption control/reduction, monitoring of risks and technological innovations for the management of the territory with the active and continuous involvement of the Municipalities, key-stakeholders and communities.

3.2 Downscaling #weResilient: from the provincial to the municipality level

A fundamental aspect of the #weResilient implementation strategy is to be built on the active participation of the communities in local decision-making processes in the field of territorial policies (sustainable development, risk reduction of disasters and the fight against climate change) and to the assistance and support of the municipalities in the same process of inclusion. Many engagement actions have been performed and are under development for reaching this strategic objective. For example, the numerous multi-stakeholder and community engagement activities carried out in the development of several interregional EU co-funded initiatives regarding territorial policy-making, such as: SEDEMED I/II (Interreg IIIb), MIPAIS (Interreg IIIb), ESPA (EU Civil Protection DG-ECHO), ES-ERMES 2008 (EU Civil Protection DG-ECHO), RENERGY (Interreg IVC), REMIDA (Interreg MED), LOCARBO (Interreg Europe), EPICURO (EU Civil Protection DG-ECHO), EPICURO (Europe for Citizens) and

many other institutional initiatives focused on DRR, Climate and Sustainable Development policies implementation.

Anyway, a deeper process of downscaling #weResilient to the urban contexts has been made more effective by means of specific voluntary agreements with some Municipalities of the Provincial Network aimed at working on specific development topics identified as particularly relevant by the Mayors and/or local communities.

The Province of Potenza has committed to supporting these volunteering committed Municipalities in implementing actions aimed at consolidating a multi-stakeholder and communities-centered approach to pursue specific objectives of urban development into the general context of territorial resilience.

In this way, the Province of Potenza is providing its specific support (cognitive, methodological, procedural, also through to the collection and provision of information, good practices and experiences deriving from its transnational networks and relationships) also in developing specific urban/local strategies and actions fully integrated into the general outlined framework of #weResilient territorial sustainable and resilient development.

On the other hand the signatory Municipalities are committed at integrating more focused sustainable development and community resilience requirements within specific urban - including other relevant sectorial - planning and related actions.

By downscaling the model proposed by the Province of Potenza and with its support, these municipalities are locally implementing a "multi-stakeholder approach" based on the active involvement of institutions, organisms, associations representing the different professional and social categories that have now the possibility to be driving forces against risk of disasters. Therefore, these municipalities are engaged in specific clustering processes of the community key-actors across all sectors and of social categories and in experimenting concrete plans/actions for transforming them in points of force for developing and implementing safe and sustainable urban policies, by enhancing – through different fit-for-purposes techniques - their engagement so starting consolidating new models of urban planning with bottom-up approaches.

Always through the provincial support and because of their voluntary commitment, these municipalities are revealing particularly active in contributing implementing the TCP at the local level, providing for concrete experiments of urban transformation and intervention in line with the #weResilient aims and objectives. A very few examples are provided by the case-studies described by this work.

Once again, a fundamental aspect of this downscaling is to facilitate the active participation of the community in specific and tangible local decision-making processes, so contributing to engage people on concrete actions of

local growth with the coordination/leadership of committed local governments.

4 Case-study: the City of Potenza

The City of Potenza is the capital city of the Basilicata Region and the Province of Potenza and is the largest city of the whole region.

According to the Italian classification of Local Labour Systems (Italian Statistical Institute, 2011), the City of Potenza has a “Functional Urban Area” (FUA) that embraces 32 municipalities, all included within the administrative boundary of the Basilicata Region (NUTS 2) and of the Province of Potenza (NUTS 3). The total population in the FUA is of 132,757 inhabitants (OECD 2012). The city alone, with its 66.780 inhabitants (2017), has 50% of the resident population of the entire functional area (Italian Statistical Institute Census of Population, 2011). The other 31 municipalities all together count the remaining 50% of the total population of the area.

Despite the relatively small population of the Municipality and of its FUA, the City of Potenza is characterized by the presence of several services of local and regional interest, related to the fact that Potenza is the Capital of the Basilicata Region.

Potenza is therefore home to some important urban facilities (hospital, university, bishop, prefecture, local offices of ministries, courts) and economic actors (e.g. banks) that influence overall Region and/or Province.



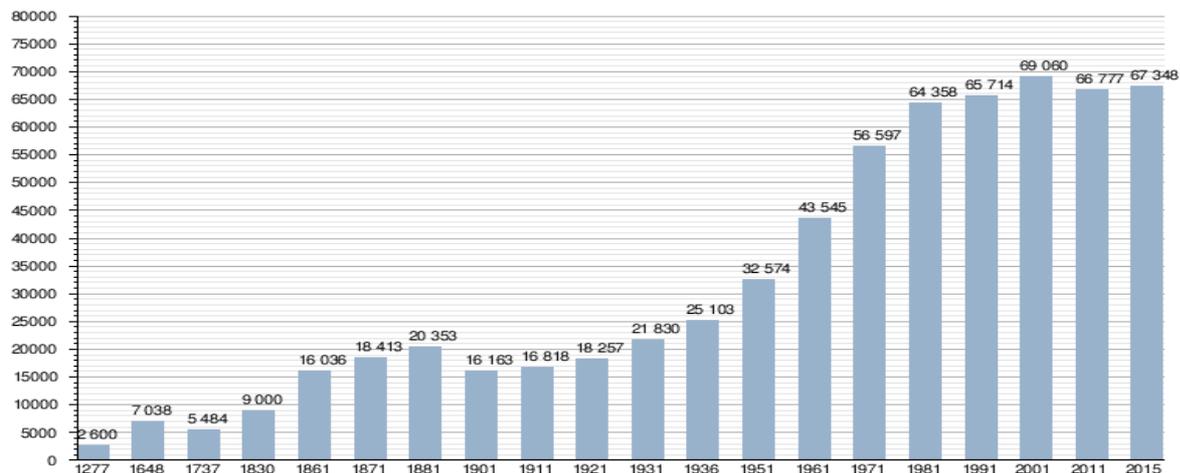


Fig 4.1: Geography and demographic evolution of Potenza (1277-2015) (Istat)

The demographic trend in Fig 4.1 shows the tendency of Potenza's urban development in the years: the marked increase recorded in the most recent decades is due mainly to the detriment of the provincial rural population and of almost all the other smaller municipalities in the province and contributed in shaping the urban character (with its *strengths* and *weaknesses* in relation to the whole regional context) of the city.

4.1 The risk profile of the City of Potenza

The prevailing hazards and vulnerable conditions of the City of Potenza's territory are:

- several areas prone to geological risk (landslides): in particular, the exposed population counts the 5,91% of the total residents;
- areas with hydrogeological problems that affect large parts of settlements, facilities and infrastructure of public interest; flood prone areas along rivers and areas of hydraulic attention along some stretches of the minor river system: as an example, based on EU Directive 2007/EC/60, the total risk areas count the 0,56% of the entire territory and the exposed population the 0,87% of the total residents;
- municipality classified in seismic zone 1 (very high level) in relation to the 2012 Italian seismic classification for Municipalities;
- quite high seismic vulnerability of buildings, especially in the historical center (Attolico et al, 2005);
- risks related to urban interface and forest fires;
- man-induced risks due to the presence of an industrial area close to the urban area.

The City of Potenza put in force a disaster management organization with a Civil Protection Plan (2006) periodically updated and tested with regular drills and different operation activities. Also structural and non-

structural Disaster Risk Reduction intervention have been realized in the last decade even in presence of a general lack of structural resources (this problem affects all the municipalities of the Province of Potenza even if with different relevance depending on the municipality; for a detailed description of the major gaps and constraints affecting disaster risk reduction activities all over the Province of Potenza territory reference is made to the contribute to the 2015 Global Assessment Report: *“Implementation of the “resilience of communities” policy in land use planning on the provincial territory of Potenza”* (Attolico, 2014)).

4.2 The multiscale and multilevel holistic approach at the municipal level

As anticipated, among other specific activities, in 2016 the Province of Potenza, the City of Potenza and the Civil Society Organization Rotary International (Rotary Club Potenza Torre Guevara) signed a specific Memorandum of Understanding aimed “at programming and implementing joint and integrated actions on sustainable development, territorial safety and climate change’s contrasting through experimental actions of implementation of the territorial inclusive “resilience” at local/urban level”.

Within the mutual commitments of the above-mentioned institutional agreement, the main task of the Province is to specifically support the City of Potenza in the implementation of specific initiatives – also of international relevance – for downscaling the safe and sustainable territorial policies outlined in its TCP (#weResilient, 2013) at the local context. Among the others, the joint preparation and implementation of an EU co-funded Initiative called Resilient Europe within the URBACT Programme (<http://urbact.eu>) with the aim of “helping cities to develop pragmatic solutions that are new and sustainable and that integrate economic, social and environmental urban topics”. The success of the application has been guaranteed by the strong experienced curriculum of the Province of Potenza in the field of territorial Resilience and in transnational cooperation that has been put as a fundamental background for the partnership building and for the selected implementation activities at the urban level.

Resilient Europe has been developed with the aim to increase the resilience of its networking partner cities allowing local communities to successfully develop their potential. The EU cities involved are Rotterdam, Glasgow, Antwerp, Bristol, Potenza, Ioannina, Thessaloniki, Burgas, Katowice, Malmö, Vejle (already partnering with the Province of Potenza in another relevant EU co-funded initiative under the DG-ECHO European Civil Protection Mechanisms program, called EPICURO “European Partnership for Innovative Cities within an Urban Resilience Outlook”, <http://www.epicurocp.eu>) and their commitment is to work together and learn to share

experiences with the aim of developing urban resilience and sustainability. The initiative has been built around the following basic concept: *working on increasing the resilience of a city means developing the capacity of the urban system and its components to reorganize themselves to face the challenges posed by situations of stress or sudden shocks. In this sense, the Resilience of a city is linked to a process of continuous evolution of the capacities of individuals, communities, institutions, economic, infrastructural systems.*

The challenge that Resilient Europe places on its network cities is to increase resilience to the local scale, while identifying an easily transferable model that can be replicated elsewhere, helping to direct Europe towards the development of an intelligent and sustainable economy and a more inclusive society.

One of the main outputs to be produced is the elaboration of a Local Resilience Action Plans based on holistic approaches taking into account the physical, economic and social dimensions of urban development at the same time.

Based on the outputs of the Resilience level analysis performed by the Province of Potenza (GAR 2015) all over the provincial territory and also for the City of Potenza, for assuring a more focused improvement path, the theme of *resilience* has been divided into three components and related specific objectives:

- *Resilient people*: improvement of the level of social inclusion as a fundamental requirement of urban resilience;
- *Resilient places*: as the physical space of the city is subject to vulnerabilities highlighted by the continuous exogenous shocks linked to disasters, climate changes, crimes, etc. among other objectives, it has been chosen to investigate in particular how urban infrastructures and ecosystems can play as catalysts of an improved urban resilience;
- *Resilient institutions*: it has been highlighted as another fundamental issue the set-up of a stable connection network between the political decision-makers and the recipients of the actions carried out by the public administration.

The cornerstone of outlined application strategy is working for increasing the level of social inclusion and autonomy of citizens in relevant *resilient* urban development by downscaling the Province of Potenza's #weResilient experience at the city level through the implementation of a specific path of progressive engagement – from *information* to *ownership* passing through participation and active engagement – in relevant institutional decision-making. Evidence on this is provided by the adoption of an integrated *Local Resilience* Action Plan outlined by the municipal administration with the active contribution of citizenship and adopted by

the City Council in mid 2018.

In this specific initiative, due also to the leadership of Rotterdam that already experimented it at the urban scale, the scientific-methodological approach chosen is based on the application of the *Transitional Management*, developed by the Dutch Research Institute for Transition Management (DRIFT), that systematically drives the co-creation of transformative vision, actions and strategic agendas through 'pathways', which mobilize action on the short, medium and long term so connecting the "actions" to "desirable futures".

According to the chosen methodology, the work has been structured as follows:

- *Understanding and direction*: defining the problem, setting up and organizing a Transition Arena and imagining;
- *Planning*: developing a program of change, a vision of sustainable development and transition paths;
- *Activation*: define and carry out experiments and mobilize the consequent transition networks;
- *Evaluation*: monitor, evaluate and learn from the experiments and make based on this the necessary changes to the vision of the problem, the program and the collaborations.

The expected results at local level are:

- incorporating urban resilience as a topic of central importance in the political-cultural debate of the city, increasing awareness of the challenges and opportunities that resilient cities offer;
- formalize processes of planning and knowledge, which recognize the elements of stress and shock present at the urban scale, transforming them into opportunities through innovative experimentation;
- develop experiences and skills regarding the implementation of Action Plans affecting definite portions of the urban territory, called Urban Living Lab;
- increase the resilience of the institutions through the cooperation between the various sectors or offices of the administrative machine, favoring the emergence of new synergies and improving the use of available resources;
- learn how to import and implement policies and skills deriving from cooperation with other transnational realities.

At the international scale, the experience aims to:

- contributing in further rising the attention of the European Commission on the issue of resilience as a key element for urban development;
- contribute in further developing and promoting the idea of resilience as an opportunity for cities and

- citizens, facilitating the understanding of the concept of resilience and the ways in which it can be achieved;
- contribute in changing the way in which urban planners, politicians and other decision-makers act, in the processes of recovery and restoration of urban functions and services in the phases following shock/stress events.

So, working on the joint combination of the #weResilient territorial governance model downscaled at the urban level and of the Transition Management model used as methodological tool for the urban resilience model definition, the following main elements have been defined for the City of Potenza:

Area of application: due to the extent of the Potenza's urban context (including, the historical urban center, the metropolitan area, suburbs, tertiary and services, open rural territory and a huge urban sprawl), as pilot area the historical urban center, called "City Center", has been chosen. It comprises different urban facilities: housing, commercial activities, monuments, cultural point of interests, public offices, parks and other relevant urban services and infrastructures.

Vision: the vision has been developed by collecting the inputs of the Urban Local Group (ULG) of Potenza, a group of key-stakeholders (selected among those defined at pag.8 of the present work) and citizens created and animated for the "Resilient Europe" urban resilience initiative purposes at the early stages of its implementation. The city center of Potenza represents the actual historical integration within all the local communities, with a particular attention to the people with perceptual and motor impairment, the elderly, family and migrants. The city center breaths culture and tradition, and it is the place of civic associations. Citizens are at the center of the neighborhood's life and they are committed to empower security in the areas, to do the maintenance of public spaces, to build a network of private green areas integrated with the three local public parks: Montereale, Villa del Prefetto, Torre Guevara.

Pathways: on the basis of a formulated vision, relevant actions have been defined for helping reaching envisioned goals. Several pathways have been defined, for example:

- developing resilient communities by promoting private-sector initiatives to encourage the implementation of artistic and cultural events in the area;
- increasing cultural, recreational, commercial supply by reusing abandoned buildings, by promoting innovative technology activities and business incubators;
- increasing the quality and accessibility of public spaces through the elimination of architectural barriers and mapping accessible routes and accessibility of public places and of public services;

- proposing tax reliefs for citizens carrying out maintenance of private green spaces so to help increase the quality of public spaces;
- developing ordinary and emergency planning and maintenance by upgrading the city center recovery plan.

The vision and pathways provide for number of important goals to be achieved in the future to increase the resiliency of Potenza. However, only few actions, to foster the transformation, started during the “Resilient Europe” initiative, due to the limited time-frame of the application (two years across 2016-2018). As a consequence, Potenza has committed in continuing putting its efforts in searching others ways to include the remaining actions into other tools and other future initiatives also by exploring/catching new funding opportunities.

Catching new opportunities: in July 2017, the Municipality of Potenza adopted its Strategic Document of Urban Development 2014-2020. A plan identifying the ‘Integrated Territorial Investment’ funded by the Regional Operational Programme of the European Regional Development Fund. The Urban Local Group played an important role in the development of this document. The work in the Local Group has been of inspiration in the defining process of the strategy and several of the actions included in the “*Resilient Europe*” Action Plan will come to life in the next years, as a result of the initiative. The Urban Local Group worked together with different government bodies.

Communicating among different offices of public bodies in order to maximize the result is a fundamental issue of the so-called ‘Institutional Resilience’ and is considered an example of a good practice for improving Resilience to disasters and for implementing territorial/urban sustainable policies⁴. Potenza City Government set-up an office which is exclusively working on connecting different projects and programs, and fostering the partnerships with other public bodies, such as Regional and Provincial Authorities, University and research centers.

⁴ ‘Institutional resilience’ is meant as the capacity of institutions to recover after a major disturbance such as a disaster. According to the Sendai Framework for Disaster Risk Reduction (United Nations, 2015) and to the other major global Agreements regarding Climate (United Nations, 2015), Sustainable Development (United Nations, 2015) and Urban Agenda (United Nations, 2016), the multi-stakeholder approach is at the basis of any territorial and urban improvement and, as these issues are policy driven, the communication and dialogue among, across and between the institutional actors is critical. At this regards, when this institutional communication has been set-up and works it can be considered ad a “best practice” even if it need some improvements.



Fig 4.2: Working sessions of the Urban Local Group “City of Potenza, historical center”

Relevant recorded results: this initiative has been an occasion for the City for working on some experiments with local groups of citizens and communities and at the same time for people to start raising resilience by their own. As an example, the Resilient Europe Urban Local Group expressly asked to be engaged in several future initiatives, especially for promoting the recovery of urban deprived sites. This has revealed a good example of a bottom-up concrete experiment: citizens started working on these initiatives on their own and call the Municipality and other institutions to join them.

Relevant outputs: on July 2018, the Potenza City Council adopted the “Integrated Action Plan for the resilience of the historic center "Potenza Resiliente". Following up the experience of the province of Potenza with its TCP (2013), with this specific strategic tool, the City of Potenza fully committed both politically and institutionally in implementing a medium-long term program for improving urban safe and sustainable development through the Resilience path outlined in the last two years.

5 Case-study: The Municipality of Pignola

As an example of a smaller city, the Municipality of Pignola has been chosen. It is located close to the capital city of Potenza and counts about 7.000 inhabitants.

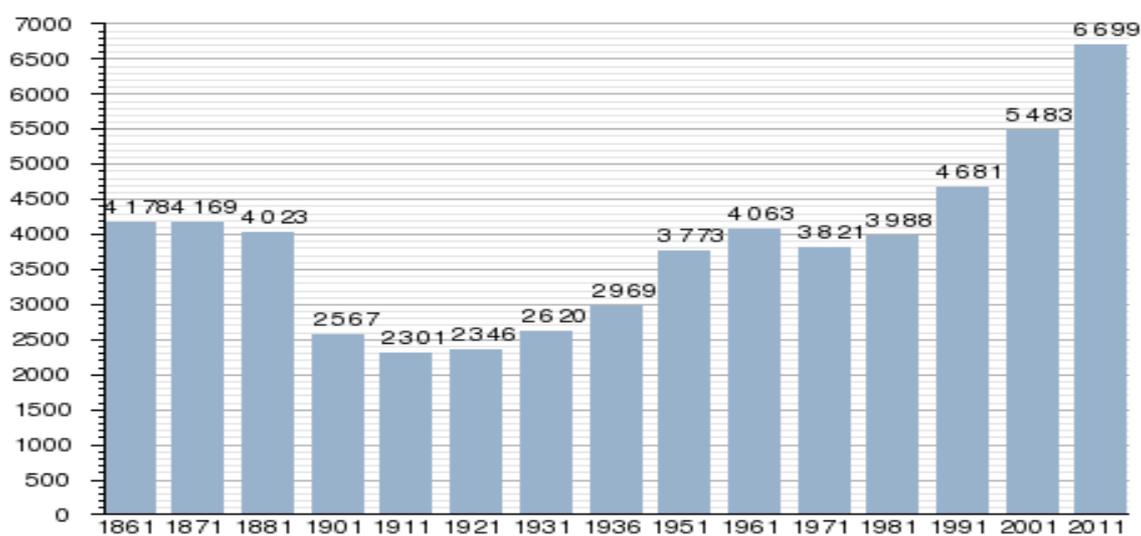
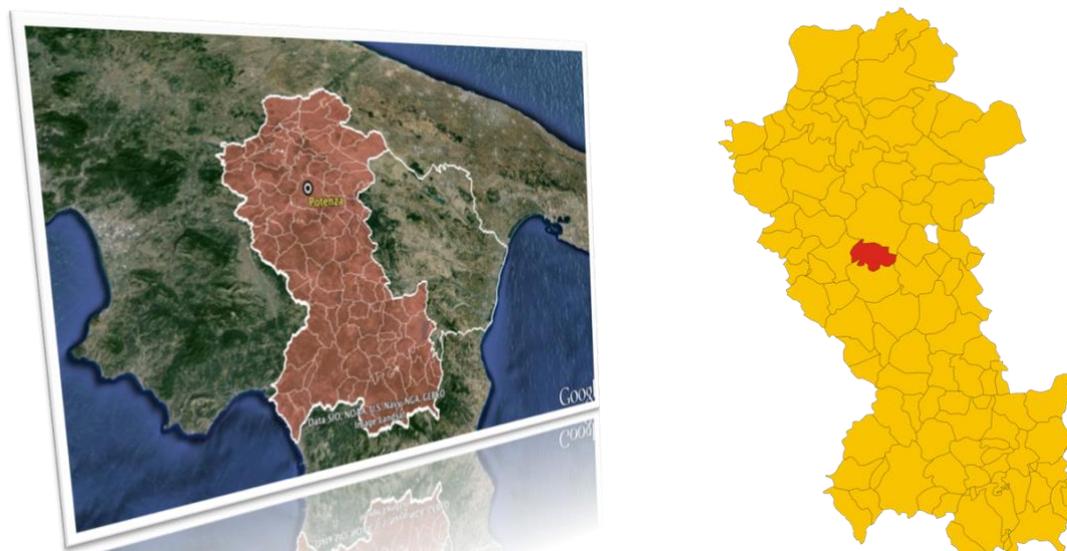


Fig 5.1: Geography and demographic evolution of Pignola (1861-2011) (Istat)

Pignola is one of the municipalities of the City of Potenza's FUA and is particularly characterized by the high naturalistic value of its territory (it includes some relevant natural reserves and areas, such as Pantano lake, Palude dei Lucchetti and the Rifreddo, Pierfaone and Serranetta woods).

In a hinge position between the most populated area represented by the City of Potenza and a vast system of high environmental value, thanks also to policies that in the past years have preserved the historic center and in general much of the entire territory, Pignola represents one of the access gates - probably the most important - for interconnecting the "Val D'Agri" National Park to the major regional connection routes.

This function also plays an important role in relation to the settlement system within the area of the City of Potenza and its FUA, proposing itself to a wider use as a territory with a strong vocation of typical recreational-recreation facilities, already widely used by the residents of the city of Potenza, offering in this sense a service that today is already to be considered on an urban and territorial scale.

The demographic trend in Fig 5.1 shows the tendency of Pignola's urban development in the years: the marked increase recorded in the last two decades is singular for the provincial territory (where almost everywhere a general decrease is being recorded) and is due mainly to the detriment of the provincial rural population that, for work and business reasons, is moving to be closer to the City of Potenza, the regional capital. The City of Pignola is very close to Potenza and offers better environmental conditions at less costs with respect to the capital. This phenomenon is strongly contributing in shaping a new urban and environmental character (with its *strengths* and *weaknesses*) of the city that, due to its original rural structure, is revealing a real challenge for the urban and regional sustainable and resilient development.

5.1 The risk profile of the Municipality of Pignola

The prevailing hazards and vulnerable conditions of the City of Pignola's territory are:

- several areas prone to geological risk (landslides): the exposed population counts the 10,74% of the total residents;
- areas with hydrogeological problems that affect large parts of settlements, facilities and infrastructure of public interest; flood prone areas along rivers and areas of hydraulic attention along some stretches of the minor river system: as an example, based on EU Directive 2007/EC/60, the total risk areas count the 0,49% of the entire territory and the exposed population the 0,34% of the total residents;
- municipality classified in seismic zone 1 (very high level) in relation to the 2012 Italian seismic classification for Municipalities;
- quite high seismic vulnerability of buildings, especially in the historical center (Attolico et al, 2005);
- risks related to urban interface and forest fires.

The Municipal Civil Protection Plan (2002) is currently under update and some localized structural and non-structural Disaster Risk Reduction interventions have been realized in the last decade even in presence of a strong lack of structural resources (for a detailed description of the major gaps and constraints affecting disaster risk reduction activities all over the Province of Potenza territory reference is made to the contribute to the 2015

Global Assessment Report: “Implementation of the “resilience of communities” policy in land use planning on the provincial territory of Potenza” (Attolico, 2014)).

5.2 The multiscale and multilevel holistic approach at municipal level

In 2016, the Province of Potenza and Municipality of Pignola signed a specific Memorandum of Understanding aimed “at programming and implementing joint and integrated actions on sustainable development, territorial safety, climate change’s contrasting, through experimental actions of implementation of the territorial inclusive “resilience” at local/urban level”. As specific objective of the cooperation agreement, the Municipality of Pignola intends to elaborate a municipal strategic planning for better managing sustainable territorial/urban transformations and interventions by influencing the existing Urban Planning Regulations through a specific Municipal Structural Plan in line with the provincial TCP (TCP, 2013) and downscaling its strategies. In this context, we had the opportunity to catch also the interest by the Italian University of Rome "Tor Vergata" which joined as a scientific partner through the activation of research program within its Doctoral Program in Cultural Heritage and Territory. The main objective of the Municipality of Pignola was to define, by 2018, a proposal for the new Municipal Structural Plan to be elaborated by using community engagement methodologies and tools for the localization of the general programmatic lines described in the Programming Document 2016-2018 adopted in 2016.

Within the mutual commitments of the above-mentioned institutional agreement, with the support of the Province of Potenza and of the University of Rome “Tor Vergata”, the Municipality of Pignola is realizing several initiatives aimed at experimenting *participatory urban planning*, a complex process that allows to enhance community engagement thus improving, through a close relationship with the citizens, more functional and effective projects and actions by transforming conflicts into resources and, at the same time, increasing local growth and development by strengthening the sense of belonging to public affairs.

After preliminary steps of community profiling and clustering, Pignola started with its participated urban planning initiatives, concentrating effectively on the decision-making process. It scheduled regular meetings and standard agenda key-points. Once it has selected their interest groups thanks to the methodology described above and agreed on strategic directions and aims, the identified planning team traced and shared work plans to identify and understand future urban planning choices and, crucially, an analysis of the actions to be undertaken.

Due also to the collaboration offered by the University of Rome “Tor Vergata” that is experimenting it in the

scientific doctoral programs, the scientific-methodological approach chosen is based on the application of the Open Space Technology (OST), a structure created by the American scientist Harrison Owen (Owen, 2008). This methodology allows to manage and combine ideas, inputs and proposals from the participants, reducing exponentially the concertation conflicts that are created within the discussion fora, so to protect the basic objective under analysis.

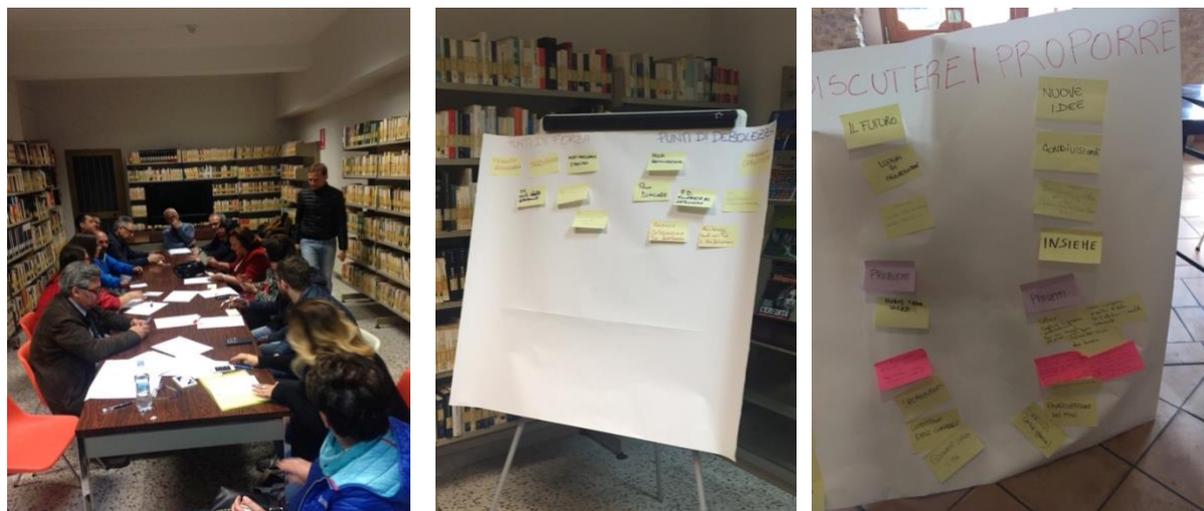


Fig 5.2: Sessions of community engagement for outlining the Pignola Urban Structural Plan's objectives

The OST needs a Facilitator to make sure both that the issues addressed do not go off the subject and for giving voice to everyone, so that not only the contributes of a few will prevail. The result of each meeting is recorded in the form of a Report, within which the technical working groups extrapolate and outline the actions to be proposed for calibrating the strategy. The organizational structure of the OST is formulated in such a way as not to influence the participants but to help them define and share proposals.

The actions realized so far are based on such a participatory urban planning approach, that aims at understanding, analyzing and solving emerging critical issues with a bottom-up approach. The rationale is that only shared choices can be really applied and lead to the desired results.

In the described case-study emerged clearly that urban planning brings a holistic spatial approach to sectorial territorial/urban issues and, when the process engages local residents from underrepresented groups, it becomes *participated* and can set the stage for exploring solutions before inequitable and unsustainable patterns are locked in (Rudd, A. et al, 2017).



Fig 5.3: The Mayor of Pignola leading the community engagement process

Currently, the process is still on course – it experimented a short stop in 2018 due to the municipal elections that however saw the substantial reconfirmation of the outgoing administration - but on the experience made some relevant considerations can be already expressed:

- consultation/engagement activities carried out up to now are revealing that the identification of resources, key-actors and stakeholders and the clustering of social groups is effectively helping the municipal administration in redefining missing urban policies with excellent results;
- high level of commitment from the public side (political will and public support) also demonstrated by the active engagement of the different government levels and by a great interest showed by relevant key-stakeholders; also, the reconfirmation of the outgoing administration in the last consultation represents a positive feedback also on this aspect;
- community-driven demands are concentrated on the few main territorial/urban development elements: tourism, accessibility (infrastructures), mobility (transport and connections) and safety (structural DRR), that are widely considered as the basic elements for fostering a concrete urban development.

In the case of the Municipality of Pignola, citizens are demonstrating that intend to play a strong role in building the "future of their future".

6. Conclusions

Starting from the gaps and challenges recorded while assessing the disaster Resilience level over the provincial territory⁵ (2013-2014) and in defining and implementing the consequent improvement actions (GAR 2015, Attolico, 2014), the experience recorded in downscaling the #weResilient strategy is revealing some important outputs to be placed as fundamental considerations for further developments⁶:

- transforming DRR and Resilience to disasters into real "structural" policy-making and actions to be implemented by coordinating territorial and urban development and land-use, with a wide area vision and holistic approach is crucial for the effectiveness of the whole action;
- within this strategy it is fundamental that national/regional governments assume the leading role of a “big player” in coordinating and subsidiary assisting municipalities and communities in facing future challenges of local Sustainable and Resilient Development, especially in secondary, minor or “slow” territories far apart or poorly connected with major and driving development areas;
- a formal joint institutional engagement in relevant regional and/or national/international campaigns (such as the UNISDR MCR global Campaign) where governments expressly and universally commit themselves to

⁵ In 2013- 2014 the Province of Potenza performed a comprehensive assessment of the current Resilience level of the Province itself and its 100 Municipalities by using – in a coordinated way - the Local Government Self-Assessment Tool (LGSAT, Making Cities Resilient Campaign, Unisdr, 2010). The results have been included in a matrix (having all the 101 governments on the rows and the 41 indicators of the 10 HFA Essentials on the columns) that has been used for analyzing existing *gaps* and deficiencies and find related solutions (challenges) both individually and in aggregate form. All the assessments have been publishes as “Local Progress Report on the implementation of the HFA and 10 Essentials for Making Cities Resilient (2013-2014)” in the Unisdr Making Cities Resilient Campaign database and available at <https://www.unisdr.org/campaign/resilientcities/>

⁶ An update of the Local Progress Report on the implementation of the HFA and 10 Essentials for Making Cities Resilient (2013-2014) is in course of elaboration and it has been performed by using the new Disaster Resilience Scorecard for Cities (<https://www.unisdr.org/we/inform/publications/53349>). Results and related considerations - including the problems encountered and the solutions implemented in performing the assessment - will be published as soon as the collection and systematization of all the data regarding the SFDRR indicators or all the 101 governments analyzed is concluded. In the present work, a qualitative judgment on the investigated indicators of local/urban governance for the chosen cities is anticipated as part of the whole assessment.

networking in DRR, Resilience and Sustainable Development implementation through specific and coordinated policy-making institutional agreements can play as an accelerator of the whole process;

- outlining resilience strategies for pursuing territorial development through a structural combination of environmental sustainability, territorial safety and climate change contrasting policies is a must at the very local level where the actual government actions take place;
- the experience of the Province of Potenza with its municipalities (in this report Potenza and Pignola have been chosen and illustrated as specific *case-studies*) is showing the effectiveness of engagement techniques (downscaling the provincial experience) for pursuing the above described sustainable and resilient development goals;
- a strong government leadership with an effective stakeholder and community engagement is revealing a strategic way to overcome also constraints related to disaggregation of data and information, for the strong bottom-up push that allows to unhinge latent shortcuts created and consolidated by the scarce efficiency of the top-down mechanisms;
- participatory mechanisms are boosting also the *political will* and consequently the related *public support*. The bottom-up approaches, especially when structured on well defined and clear strategies and supported by concrete actions, are a strategic tool for enhancing the institutional commitment and for enriching the implementation paths also with additional and innovative strategic solution: for example, the lack of financial resources can be overcome with an enhanced and renovated private support more encouraged by a stronger political engagement;
- structured and coordinated participatory processes are revealing a strong tools also for enhancing community awareness due to the direct engagement of the social components in the definition of the strategies and in the implementation action. If well and constantly performed, such participatory processes could lead to the ambitious “ownership” goal, where citizens and communities self-regulate on their enhanced “*sense of belonging*” and contribute by themselves to the whole policy-making cause; of course, broad accountability (not only financial) is a fundamental element for assuring the governance’s effectiveness and it is assured by the participatory processes;
- multiscale and multilevel holistic approaches in downscaling local well defined Resilience and Sustainable Development integrated strategies (#weResilient) provide for the best approach in terms of future growth. Setting a vision, outlining a strategy and building the implementation actions on those elements with

multiscale and holistic approaches is the key of success of every local long-term development; various worldwide leading experiences demonstrated by particularly shining governments (at all levels) are a tangible proof of it;

- making Advocacy towards governments is fundamental for following up the actions over time: government (at all levels) need to be assisted by professionally skilled and committed *facilitators* that have the ability to translate political issues into concrete institutional actions and propose development paths accounting for the *satisfaction* of each actor involved. As an example for DRR (HFA 2005-2015 and SFDRR 2015-2030), having UNISDR provided with this great intuition by including also Advocacy in relevant global agreements implementation actions, substantial improvements are being recorded where these resilience Advocates are working.

References

International official documents

UN-ISDR, 2015. *The Sendai Framework for Disaster Risk Reduction*. United Nations secretariat of the International Strategy for Disaster Reduction (UN/ISDR), Geneva, Switzerland

UN General Assembly, 2015. *Transforming our world: the 2030 Agenda for Sustainable Development*, United Nations, New York, USA

UNFCCC, 2015. *Adoption of the Paris Agreement, 21st Conference of the Parties*, United Nations, Paris, France

UN-HABITAT, 2016. *The New Urban Agenda adopted at the United Nations Conference on Housing and Sustainable Urban Development (Habitat III)*, United Nations, Quito, Ecuador

Other references

GIZ, 2011, *Integrating climate change adaptation into development planning. A practice-oriented training based on an OECD Policy Guidance*. Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH in coordination with OECD, Berlin, Germany

IFRC, 2013. *A guide to mainstreaming disaster risk reduction and climate change adaptation*. Geneva: International Federation of Red Cross and Red Crescent Societies, Geneva, Switzerland

Owen H., 2008. *Open Space Technology: a user's guide*. Calif: Berrett-Koehler Publishers, San Francisco, USA

Owen, H., 2008, "*Open Space Technology - guida all'uso*" Genius Loci Ed, Milano, Italy

PEDRR, 2016, *Advancing Implementation of the Sendai Framework for Disaster Risk Reduction (2015–2030) through Ecosystem Solutions*. Partnership for Environment and Disaster Risk Reduction, PEDRR, New York, USA

Rudd, A., Malone, K., & Bartlett, M. 'L. (2017). *Participatory urban planning*. In A. Russ & M. E. Krasny (Eds.), *Urban Environmental Education Review* (pp. 279-287), Cornell University Press, New York, USA

UN-HABITAT, UNDP & GTF of Local and Regional Governments, 2015. *Localizing the post-2015 development agenda - dialogues on implementation*, United Nations Development Group

UN-ISDR, 2009. *Global Assessment Report on Disaster Risk Reduction 2009. Risk and poverty in a changing climate*, United Nations, Geneva, Switzerland

UN-ISDR, 2011. *Global Assessment Report on Disaster Risk Reduction 2011. Revealing Risk, Redefining Development*, United Nations, Geneva, Switzerland

- UN-ISDR, 2012. *Making Cities Resilient Report*, United Nations, Geneva, Switzerland
- UN-ISDR, 2013. *Global Assessment Report on Disaster Risk Reduction 2013. From Shared Risk to Shared Value: the Business Case for Disaster Risk Reduction*, United Nations, Geneva, Switzerland
- UN-ISDR, 2015. Annex 4. *Future Challenges of Disaster Risk Management. In Global Assessment Report on Disaster Risk Reduction 2015. Making Development Sustainable: The Future of Disaster Risk Management*. United Nations, Geneva, Switzerland
- UN-ISDR, 2015. *Global Assessment Report on Disaster Risk Reduction 2015. Making Development Sustainable: The Future of Disaster Risk Management*, United Nations, Geneva, Switzerland
- UN-ISDR, 2015, *Ten Essentials for Making Cities Resilient: Local-Urban indicators*, United Nations, Geneva, Switzerland
- UN-ISDR, 2016, *Report of the open - ended intergovernmental expert working group on indicators and terminology relating to disaster risk reduction*, United Nations, Geneva, Switzerland
- UN-ISDR, 2017. *How to Make Cities more Resilient: A Handbook for Local Government Leaders*, United Nations, Geneva, Switzerland
- UN-ISDR, 2017, *Local Government Powers for Disaster Risk Reduction: A study on Local-Level Authority and Capacity for Resilience*, United Nations, Geneva, Switzerland
- UN-ISDR, 2017, *UNISDR terminology on disaster risk reduction*. United Nations, Geneva, Switzerland
- UNECE, 2006, *Strategies for Monitoring and Assessment of transboundary rivers, lakes and groundwaters*. Geneva: United Nations Economic Commission for Europe, Geneva, Switzerland
- UNECE, 2009, *Guidance on Water and Adaptation to Climate Change*. Geneva: United Nations Economic Commission for Europe, Geneva, Switzerland
- UNECE, 2009, *Transboundary Flood Risk Management: Experiences from the UNECE Region*. Geneva: United Nations Economic Commission for Europe, Geneva, Switzerland
- UNECE, 2015, *Water and Climate Change Adaptation in Transboundary Basins: Lessons Learned and Good Practices*. Geneva: United Nations Economic Commission for Europe, Geneva, Switzerland
- UNEP, 2012, *The UN-Water Status Report on the Application of Integrated Approaches to Water Resources Management*. Nairobi: United Nations Environment Programme, United Nations, Nairobi, Kenya
- UNFCCC, 2017, *Glossary of climate change acronyms and terms*, United Nations, Paris, France
- UCLG- United Cities and Local Governments, 2017. *National and sub-national governments on the way towards*

the localization of the SDGs. Barcelona, Spain

Wamsler, C., 2014. *Cities, Disaster Risk and Adaptation*, Routledge, New York, USA

Wilkinson, E., E. Comba & K. Peters, 2014. *Disaster Risk Governance: Unlocking progress and reducing risk*. ODI and UNDP, United Nations, New York, USA

World Bank, 2011. *A Guide to climate change adaptation in cities*. Washington, USA

Other Publications by UN-ISDR United Nations. Geneva, Switzerland

Other Publications by the World Bank. Washington, USA.

Other Relevant Documents from National, EU and UN institutions.

Regional/Local Planning tools:

Province of Potenza. 2004. *Provincial Risk Assessment/Mitigation Plan and the Emergency Management Plan*. Potenza, Italy.

Province of Potenza. 2013. *Provincial Structural Master Plan (Provincial Territorial Coordination Plan - TCP)*. Potenza, Italy.

Basilicata Region. 2005. *Regional Civil Protection Plan*. Potenza, Italy.

Municipalities of Province of Potenza. Multiple years. *Municipalities' Urban Plans and Civil Protection Plans*.

Basilicata Region. 2010. *Addressing Regional Environmental Energy Plan (PIEAR)*, approved by the Regional Law n. 1 of January, 19th 2010.

National Institute of Geophysics and Volcanology; Italian Civil Protection Department; University of Basilicata; CNR National Research Council; Basilicata Region; Province of Potenza. Various years. *Maps of seismic hazard; Database of potential sources for earthquakes; seismic microzoning; studies of seismic vulnerability of urban centers*. Italy.

Regional River Basin Authority of Basilicata, 2017. *Piano Stralcio per la difesa dal rischio Idrogeologico*, - Agg. 2017, Potenza, 2017.

Interregional River Basin Authority of Calabria, 2017. *Piano Stralcio per la difesa dal rischio Idrogeologico* – Agg. 2017, Catanzaro, 2017.

Interregional River Basin Authority of Fiume Sele, 2017. *Piano Stralcio per la difesa dal rischio Idrogeologico* – Agg. 2017, Napoli, 2017.

Interregional River Basin Authority of Puglia, 2017. *Piano Stralcio per la difesa dal rischio Idrogeologico* - Agg. 2017, Bari, 2017.

Distretto Idrografico Appennino Meridionale, 2018. *Piano di Gestione del Rischio Alluvioni (Direttiva 2007/60/CE, D.Lgs. 152/2006, Direttiva 2007/60/CE, D.Lgs. 49/2010, D.Lgs. 219/2010 – Agg. 2018, Bari, 2017.*

Further reading about the Province of Potenza's institutional experience:

Attolico, Province of Potenza, 2017. Contributes and case-study into “*A Handbook For Local Government Leaders [2017 Edition]*”, UNISDR, Geneva

Attolico, Province of Potenza, 2017-2018. Contributes and case-study into “*Word into Action Guidelines*” for the implementation of the Sendai Framework for Disaster Risk Reduction, UNSIDR, Geneva

Attolico, A., D’Onofrio, D., Moretti, V., Smaldone, R., Santandrea, A. Province of Potenza, 2013. *Coniugare la sicurezza territoriale e la riqualificazione funzionale della rete ecologica a fronte dei cambiamenti climatici*. In: *Climate Change, naturalità diffusa e pianificazione territoriale*. RETICULA monografy n.4/2013, ISPRA, Rome, Italy

Attolico, A., Bixio, A., Pacifico, S., Province of Potenza. 2010. *The Potenza Province Emergency Plan: the Seismic Vulnerability Map of Buildings for the Construction of Earthquake Damage Scenarios*. In: *Risks Challenging Publics, Scientists, Government*. Menoni (Ed). Isbn 978-0-415-58072-4, 2010, Pagg.27-32. Taylor & Francis Group, London, UK

Attolico, A., Bixio, A., Province of Potenza. 2010. *The Potenza Province Emergency Plan: Seismic Risk Assessment: A Software Procedure for the Simulation of Damage Scenarios in Emergency Management*. In: *Risks Challenging Publics, Scientists, Government*. Menoni (Ed). Isbn 978-0-415-58072-4, 2010, Pagg.33-39. Taylor & Francis Group, London, UK

Attolico, A., Gallipoli, M.R., Harabaglia, P., Lapenna, V., Mucciarelli, M., Rosa, A.B. 2009. *A review of the activity of two accelerometric networks in Basilicata (Italy)*”, *Bullettin of Earthquake Engineering - Springer Netherlands*, ISSN 1570-761X,

Attolico A., Bloomfield I., Dvarioniene J., Gurauskiene I., Kliugaite D., Mezosi B., Scorza F., 2017: *Engaged Communities for Low Carbon Development Process* – chapter from book *Computational Science and Its Applications – ICCSA 2017: 17th International Conference, Trieste, Italy, July 3-6, 2017, Proceedings, Part VI* (pp.573-584)

Attolico A., Harabaglia P., Vona M. 2016: *Preliminary report on 2016 Central Italy Earthquake*, Technical Report, School of Engineer, University of Basilicata, Potenza, Italy

Attolico A., Scorza F., 2016: *A Transnational Cooperation Perspective for “Low Carbon Economy”*, from book

- Computational Science and Its Applications – ICCSA 2016: 16th International Conference, Beijing, China, July 4-7, 2016, Proceedings, Part I (pp.636-641)
- Attolico A., Scorza F., 2015: *Innovations in Promoting Sustainable Development: The Local Implementation Plan Designed by the Province of Potenza*, from book Computational Science and Its Applications - ICCSA 2015: 15th International Conference, Banff, AB, Canada, June 22-25, 2015, Proceedings, Part II (pp.756-766);
- Attolico A. (coordinating author) 2014: *“Implementation of the “resilience of communities” policy in land use planning on the provincial territory of Potenza”*, Input Paper prepared for the Global Assessment Report on Disaster Risk Reduction 2015 (GAR15), Unisdr, Geneva, Switzerland
- Attolico A., 2014: *“Actions for Disaster Risk Reduction and implementation of local community resilience. The experience of Province of Potenza”*, The “State of DRR at the Local Level” A 2015 Report on the Patterns of Disaster Risk Reduction Actions at Local Level, Unisdr, Geneva
- Attolico A., 2014: *“Resilience and land use planning on the provincial territory of Potenza”*, Proceedings of the 5th International Disaster and Risk Conference IDRC Davos 2014 Davos, Switzerland, 24-28 August 2014;
- Attolico A. 2014: *“Building resilience through territorial planning: the experience of Province of Potenza”*, Proceedings of the 4th International Conference on Building Resilience, Salford Quays, United Kingdom, 8-11 September 2014;
- Attolico A., Donofrio D., Laguardia G., Moretti V., Scorza F., Smaldone R., 2014: *“Growing Sustainable Behaviors in Local Communities through Smart Monitoring Systems for Energy Efficiency: RENERGY Outcomes”*, Computational Science and its Application – ICCSA 2014, Volume 8580 - 787 - 793, Springer International Publishing AG, 2014;
- Attolico A., 2014: *“Building resilience through territorial planning: the experience of Province of Potenza”*, Procedia Economics and Finance 18 (2014) 528 – 535, Science Direct, Elsevier B.V., UK (single author);
- Attolico, A., Harabaglia, P., Murgante, B., Vona, m. 2012. *Rischio Sismico e Resilienza delle Città*. Proceedings of the 31° Convegno Nazionale del Gruppo Nazionale di Geofisica della Terra Solida (GNGTS), Potenza, Italy
- Attolico, A., Harabaglia, P. 2011. *Modello Previsionale di Scenari di Evento su Dati Accelerometrici*. Proceedings of 30° Convegno Nazionale del Gruppo Nazionale di Geofisica della Terra Solida (GNGTS)", Trieste, Italy.
- Attolico, A., Nolè, G., Murgante, B., Moretti, V., Talò, G., Fletcher, R. 2010. *L'Informazione Geografica a Supporto*

- della Ricerca Archeologica*. Proceedings of GFOSS Geospatial Free And Open Source Software Day 2010. Foligno (PG), Italy.
- Attolico, A., Nolè, G., Moretti, V., Talò, G., Capponi, G., Cacace, C. 2010. *Il Database Geografico dei Beni Culturali: la Sperimentazione della Provincia di Potenza*. Proceedings of 6° Conferenza Nazionale in Informatica e Pianificazione Urbana e Territoriale Input 2010. Potenza, Italy.
- Attolico, A., Nolè, G. 2010. *La Sperimentazione dell'uso dei Dati Osm nelle Attività di Pianificazione Territoriale e Protezione Civile della Provincia di Potenza*. Proceedings of Meeting Nazionale Progetto Osmit2010. Laboratory of Geodesy, Geomatics and Gis. DICAT - Faculty of Engineering and Italian Openstreetmap Community. Genova, Italy.
- Attolico, A., Harabaglia, P. 2009. *Gli Insegnamenti del Terremoto del 6 Aprile 2009 in vista di Nuovi Eventi in Appennino Centro Meridionale*. Proceedings of 28° Convegno Nazionale del Gruppo Nazionale di Geofisica della Terra Solida (GNGTS). Trieste, Italy.
- Attolico, A., Harabaglia, P. 2007. *Strumenti e metodologie per la gestione in tempo reale delle emergenze sismiche*. 12° Convegno Nazionale ANIDIS L'Ingegneria Sismica in Italia. Pisa, Italy.
- Attolico, A., Ciorciari, C., Coviello, M., Giammetta, R., Harabaglia, P., Rosa, A.B., Telesca, A. 2007. *Monitoring of groundwater resources in the territory of Potenza Province (southern Italy)*. 10th Inter-Regional Conference on Water and Environment (Envirowat 2007): Ensuring Water and Environment for Prosperity and Posterity. New Delhi, India.
- Attolico, A., Bixio, A., Pacifico, S., Province of Potenza. 2005. *The Emergency Plan of Provincia di Potenza: the seismic vulnerability map of buildings for the construction of earthquake damage scenarios. A simulation of 1857 Basilicata Earthquake*. The International Conference 250th Anniversary of the 1755 Lisbon Earthquake. Lisbona, Portugal.
- Attolico, A. (coord), Province of Potenza. 2005. *The Civil Protection System of Provincia di Potenza: interoperability between operational instruments for emergency prevention and management*. The Annual Conference of the Society for Risk Analysis – Europe (SRAE). Como, Italy.
- Attolico, A., Larocca, M.A., Sileo, C., Province of Potenza. 2005. *The Civil Protection Plan of Provincia di Potenza: applied methodologies and instruments for Hydro-geological Risk Management*. The Annual Conference of the Society for Risk Analysis – Europe (SRAE). Como, Italy.
- Attolico, A., Bixio, A., Pacifico, S., Province of Potenza. 2005. *The Emergency Plan of Provincia di Potenza: the*

seismic vulnerability map of buildings for the construction of earthquake damage scenarios. The Annual Conference of the Society for Risk Analysis – Europe (SRAE). Como, Italy.

Attolico, A., Bixio, A., Province of Potenza. 2005. *Seismic Risk Assessment: a software procedure for the simulation of damage scenarios in emergency management*. The Annual Conference of the Society for Risk Analysis – Europe (SRAE). Como, Italy.

Attolico, A., Ciorciari, C., Harabaglia, P., Rosa, A.B., Telesca, A., Province of Potenza. 2005. *Real-time monitoring of underground water resources in Provincia di Potenza territory*. The Annual Conference of the Society for Risk Analysis – Europe (SRAE). Como, Italy.

Attolico, A., Ciorciari, C., Harabaglia, P., Rosa, A.B., Province of Potenza. 2005. *Seismic Risk Assessment: a numerical model for the construction of Event Scenarios suited for provincial territory of Potenza*. The Annual Conference of the Society for Risk Analysis – Europe (SRAE). Como, Italy.

Attolico, A., Harabaglia, P., Mucciarelli, M. 2004. *L'evento del 3 Settembre 2004 di Avigliano (PZ): possibile stima della velocità di diffusione dello stress*. Proceedings of Convegno Nazionale del Gruppo Nazionale di Geofisica della Terra Solida (GNGTS)". Roma, Italy.

Attolico, A., Harabaglia, P., Mucciarelli, M. 2004. *Il significato sismotettonico della microsismicità in Basilicata*. Proceedings of Convegno Nazionale del Gruppo Nazionale di Geofisica della Terra Solida (GNGTS)". Roma, Italy.

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