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# Building Resilience for Local Governments in Albania

## Legal and Institutional Challenges

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**Abstract-** *Uncertainty from natural hazards and disaster risks is high in Albania. Located in the western part of the Balkan, Albania has faced over the years several disaster events and the future, especially in the light of climate change, does not hold any positive news. Multiple hazards are present over the territory and extend beyond the administrative boundaries, revealing the need for an integrated local - to national – to regional approach to resilience building, as a response to uncertainties. The following paper analyses the role and challenges of the local governments, from an institutional perspective, for enabling local resilience. Local resilience has social, institutional, governance, economic, ecological and territorial dimensions. This paper addresses local ecological and territorial resilience.*

### 1. Uncertainties from natural hazards and disaster risk in Albania

In this age of uncertainties increasing worldwide and becoming particularly prevalent in urban areas, Albania makes no exception. As a Western Balkan country, Albania is highly prone to natural hazards and to the expected impacts of climate change (Gencer, 2014). The exposure to hazards is significant over the whole territory, but it is extremely higher in the western lowlands situated along the coast. This area, though representing only 11.78% of the Albania's territory, has the greater concentration of people (36.3%) (Bruci et al. 2016) and assets, therefore amplifying the impact of disasters and of the changing climate. Economic and social impacts are numerous. For instance, according to GFDRR (2017), based on estimates from 2015, the GDP and population were affected at a level of 83% and 79% respectively by 250-year earthquake, and at a level of 6% and 7% respectively by 100-year flood. Furthermore, the vulnerability of those exposed is also very diverse and has a capillary distribution into the society groups and sectors, and across the territory, which can be witnessed through various reports on risk and vulnerability mapping,

as well as from the latest post-disaster assessment report of the Government of Albania (Government of Albania, 2020a, 2020b; UNDP & Red Cross Albania, 2004; Toto and Massabò, 2014; Gencer, 2014). Albania has a small area size with a large diversity of forest and water ecosystems, including hydrogeological formations, extending across borders in the region (Gencer, 2014). Therefore, disaster risks constitute a local-to-national-to-regional issue.

To start with, being located within the Mediterranean-Trans-Asiatic seismic belt, in the Balkan Peninsula which "falls within the zone of collision between three large tectonic plates – Eurasian, African and Arabian" (Milev and Vassileva, 2007, p. 57), Albania has a frequent seismic activity. The southern Albania is affected by southwest motions relative to Apulia microplate (along the coast), while other motions are visible internally, all leading to several small and medium size earthquakes and few large events (Jouanne et al. 2012). The latest of these large events was recorded in November 26th, 2019, with a magnitude 6.3 in the Richter scale, causing major damages in the Durrës area, in Kurbin, Lezhë and Tiranë, with over 900

people suffering injuries and 51 victims. In overall 11 municipalities were affected (Government of Albania, 2020a). This was by far one of the most tragic earthquakes in the country and it “triggered a foretold crisis regarding safety, quality of planning and construction, and administration of territories in Albania, which was manifested on all governance levels and dimensions” (Toto, 2019b, p.25).

Furthermore, both, the lowland and the hinterland are susceptible to effects of climate change triggered by natural and anthropogenic perturbations. Temperatures are experiencing an increasing trend for both maximum and minimum values, with all potential scenarios revealing a decrease in annual precipitation by up to -8.5% by 2050, and by up to -18.1% by 2100 (1990 as the baseline year), and draughts frequency increasing (Bruci et al. 2016). Likewise, an intensification of short and long events of heavy precipitation is expected, leading to floods and negative economic consequences. The Adriatic Sea level has risen by about 15 cm over the last century altering the shoreline and consuming land (ibid.). While floods become more and more frequent and uneven, water resources diminish (ibid.). Response to the increasing demand for water consumption for urban uses, irrigation, and electricity production, may be significantly compromised, requiring not only better management within sectors, but also new alternatives to satisfy needs.

In addition, deforestation – forest fires and exploitation of wood as a primary material for various industries, has led to

floods in the western lowland, and erosion and landslides everywhere in the country, besides contributing to the world’s increasing CO2 levels. Paucity of official data on forests and deforestation hinders the potential calculations on related risks. However, based on Corine maps, the total forest area (broad-leaved, coniferous, and mixed) has shrunk by 9% from 2000 to 2018, while according to INSTAT figures (source of data Ministry of Environment) the total volume of woods has diminished by 32% from 2006 to 2018. These data should be interpreted with caution, but at a first sight they suggest that their major change might be related to forest density reduction and exploitation of mature natural forests. Floods show an increasing trend (Toto and Massabò, 2014), and are caused by a number of other factors too, such as dense housing construction on the low plain agricultural area (often over the drainage and irrigation system); lack of maintenance and investments on critical infrastructures for stormwater, both in rural and urban areas; the changing water regime in rivers and sea level, raising due to warming climate; the continuous advancement of certain coastal geological faults; and river beds alteration due to industrial activities. As a result, an average of 7,000 ha of agricultural land flooded per year (maximum 40,000 ha) is reported by DesInventar1 Albania for the period 1985-2014. Landslides, on the other hand, happen due to unplanned urbanisation and use of land and exploitation of mineral resources (mines and river banks excavation).

According to DesInventar Albania

(completed in 2014), more than 4,000 disaster events are recorded in Albania from 1851 to 2013, where the majority (33%) are meteorological events, followed by climatological (22%), hydrological (21%) and landslides (14%). The remaining 10% of the events were geophysical, biological and technological (Toto and Massabò, 2014, p. 35). However, geophysical disasters have caused the highest mortality rate, accounting for more than 50% of total life loss, followed by hydrological events with 18% (ibid., p.42). According to Toto and Massabò (2014), water-related events have been more common during Autumn. Yet, residents of the various areas experiencing floods report that after 2014 it is difficult for them to predict when an event might occur, as their incidence is unevenly distributed along the rainy seasons.

2. Institutions, policy-makers, and stakeholders in Albania are becoming increasingly aware of the altered incidence and presence of hazards and of increased risks from disasters. Yet, resilience planning and response are weak and this might be attributable to inadequate institutional capacities and financial resources, insufficient knowledge of the stakeholders on hazards, exposure, risks and disasters, as well as to the presence of significant socio-ecological and spatial vulnerabilities (UNDP & Red Cross Albania, 2004; Gencer, 2014; Toto and Massabò, 2014; Duro, 2015). The step-by-step response of the state, non-state and voluntary institutions after the November 26th, 2019, revealed a low level of preparedness, particularly at the local government level. The concept of local/urban resilience itself remains weakly understood by the stakeholders (ibid.), mainly due to being a complex, multidisciplinary and crosscutting phenomenon, objective and approach (Toto, 2019a) all at once. Though widely discussed in scientific and professional domains, and generally agreed as a dominant-to-be tactic in governance and development (ibid.), on a local level, resilience needs contextualisation and accurate interpretation. It may be defined as the capability (both competence and potential) of the system to withstand crisis and to adapt quickly afterwards reaching a new robust equilibrium. For the purposes of this policy brief, resilience at the local level takes a socio-ecological and territorial perspective, hence being discussed in the frame of natural hazards (human perturbances on ecosystems included) and related disaster risks.

The following analysis will focus on

the institutional and legal framework for enabling resilience at the local level. Albania is part of international commitments that promote resilience and adaptation, but implementation needs further improvement and local governments are far less engaged in this regard, having mostly a reactive position. The following analysis will reveal factors that stand behind, such as human and financial capacities, and will conclude with recommendations for local governments. The latter are closer to citizens, territories and natural resources and phenomena, and should therefore be capacitated and enabled to plan and respond proactively for building local resilience.

## **2. Challenges of the policy framework for local resilience**

According to Morchain (2012), disaster response and resilience planning at local level can be strengthened by addressing a number of framework aspects, whose absence could be otherwise defined as reason for poor or inactive performance:

- Completion of specific legislation (emergencies and disaster risk reduction) and integration of policies and instruments with those deriving from sectorial legislation, such as climate change, environment protection, spatial planning, building codes, water resources, energy, transportation, etc.
- Institutional coordination and multi-level governance, with local government at the core of decision-making and effective participatory processes with a broad range of stakeholders as the approach.
- Provision of access to adequate funding, including technical resources to respond to the growing and diversifying needs in cities and rural areas.
- Enhancement of stakeholders' knowledge and exchange of know-how among actors (science, policy, community) and application of adaptation planning and measures that build on local knowledge potentials.

These four aspects, which represent a summarised version of the ten essentials proposed by United Nations Office for Disaster Risk Reduction for making cities resilient, are used as a framework for this policy analysis on local resilience in Albania.

### **2.1 Legislation and instruments**

The first of the ten essentials of UNDRR for making cities disaster resilient, is about ensuring strong leadership, coordination and clear responsibilities, which are based on well-defined policies and strategies

(Gencer, 2017). A clear legal framework is necessary, among others, for local governments to take leadership and self-organise for [disaster] local resilience well in advance, and in a continuous way.

1. In Albania, the legal framework addressing [local] resilience is composed of specific and sectorial legislation. There is also a sanction in the Constitution of Albania (articles 170, 173 and 174), which relates to the declaring of state of emergency by the national government under extraordinary circumstances, for a limited period, due to disaster events and other major risks. This prerogative offers a response mechanism for the protection of the society. However, it may undermine the concept of resilience, which in itself includes also protection, because (though for a very short period of time) it limits democracy and human liberties. The latter are both considered crucial to a system's resilience, which builds among others on cooperation, open network governance, and flexibility of actions.

Currently, the concept of [local] resilience is not articulated by the government on a policy level, though this might change once the National Strategy on Civil Protection and Disaster Risk Reduction (DRR) (still a draft) will be approved (Government of Albania, 2020b). The existing sectorial laws and bylaws address aspects of local resilience, without pertaining to a common government platform or program, and without following any clearly set objective on resilience. With the exception of the recent law no.45/2019 "On civil protection" and the laws that relate to the transposition of Chapter 27 of the *acquis communautaire*, the rest of the legislation has mostly a 'par hasard' connection to the concept/objective of local resilience, as it will be analysed below. This leads to a fragmented and ad-hoc approach to resilience in overall, while at the local government level, this connection is even weaker due to legal and institutional conditions that hamper full and effective decentralisation.

2. The legislation analysis refers to key sectors that are either defined as decentralised functions by the law no. 139/2015 "On local self-governance", or affect the land use and management of the territory at the local level<sup>3</sup>. The need to address resilience is inherently built in local governance, and though not literally outlined in the local self-governance law, the obligation for it derives from several articles. An interpretation of the law

suggests for the existence of the horizontal (or territorial) approach to governance – that which guaranties services for the community, while simultaneously ensuring the sustainability of resources. It is in this frame that local governments should manage infrastructures and utilities, social care and quality of life, economic development, spatial planning and land management, agriculture and rural development, forest governance, urban environmental management, and civil protection (articles 23-29 of the law). While civil protection is specifically indicated as a decentralised function (to the degree defined in the sectorial legislation), the entirety of local functions and the territorial approach to governance reveal that the legal premises for resilience thinking and action are already there. Yet, this does not satisfy the need for specific legal provisions on resilience, and neither justifies the absence of a nationally undertaken local program/platform on resilience or the poor local capacities.

3. The current law on civil protection embraces the concept of resilience. This law follows its predecessor, law no. 8756/2001, "On civil emergencies", as amended and in force until July 2019. A major leap of improvement in the new law was the widening of the scope of work, from emergencies to protection. This bears not only new responsibilities for the affected stakeholders, but also a conceptual revision, emphasising prevention and preparedness and the integral approach to risk reduction and protection of habitat. The law is partially aligned with a number of EC directives that address critical infrastructures, floods, dangerous substances, electronic communication, and the EU mechanism of civil protection. This alignment also helps in introducing the integral approach, and brings elements that were not present in the previous law (see for instance Duro (2015) analysis on critical infrastructures in the civil emergencies law).

The law no. 45/2019 provides a clear definition of resilience as the system's capacity to resist, absorb, accommodate, adapt, transform, and recover quickly from disaster, among others through protection and restauration means (article 3, author's translation). The law states also the need for establishing an integrated information system that serves to both planning and preparation, on one side, and to coping with crisis and recovery after crisis, on the other. This information, together with early warning systems, should feed the

risk assessment process in particular, and should be updated continuously and timely for stakeholders to undertake risk simulations. The information would also allow for the implementation of the subsidiarity principle (article 7), according to which planning and response should be delivered from the bottom to the top, increasing in level of cooperation the more complex the disaster risk becomes and the lower are the local capacities to handle it. In terms of institutions and instruments, the law no. 45/2019 defines proportionally equal responsibilities for the national, regional and local institutions. There is a principle of hierarchy and harmonisation among the institutions and planning instruments. Hence, the ministry responsible for civil protection (through the relevant agency), the Prefectures and Municipalities should all undertake risk assessments and prepare risk reduction strategies and plans for civil emergencies for their respective territories. There should be vertical and horizontal alignment among the instruments. So far, as the law does not contain any bylaws as yet, it is unclear how this alignment will happen procedurally. The Prefect of Qark and the National Agency for Civil Protection should verify the local risk assessments and the civil emergencies plans, but it is not clear whether they have a say in terms of approval. Furthermore, the law defines a period of two years from its entry in force for the preparation of local risk assessments and three years for the local risk reduction strategies and emergency plans. These periods are sufficient for municipalities to carry out this assignment in relatively comfortable conditions (assuming access to finances and technical support will be made available) and with a good quality. However, the law is not coercing enough for municipalities to take action in time, while the risks from climate change are more and more evident and seismic events and forest fires are both, regularly common and unpredictable. With a national plan on civil emergencies dating as of 2004, Albania and the 61 municipalities are in a critical need for instruments that lay out the path towards implementation of resilience as an objective.

4. The sectorial legislation encompasses resilience (notion, objective, approach) in various degrees. More prominently, a resilience thinking is present in the environmental legislation, particularly in the horizontal one, which, according to the analysis of SANE4 in 2019 and Co-PLAN in

2020 for Chapter 27, has the highest level of transposition (78.6%) with the *acquis*. The framework law no. 10431/2011, "On environmental protection", as amended, is built on two major principles, that of protection of ecosystems and natural resources and prevention. Through these principles, this law makes direct connection to the specific laws and practice on environmental strategic assessment and environmental impact assessment, and therefore also to territorial planning, particularly at local level. Furthermore, this framework law conveys prevention and reduction principles into the legislation on solid waste (law no. 10463/2011, "On integrated waste management", as amended) and establishes the premises for the regular monitoring of environment. Regarding climate change, this law defines requirements for reduction of greenhouse gases, carbon sequestration and enforcement of renewable energy sources, and energy efficiency measures.

5. An extremely important sector related to local resilience is climate change. The climate change legislation, according to SANE and Co-PLAN has currently the lowest level of transposition with the *acquis* (12.2%) out of 71 legal acts considered in the screening process of Chapter 27. This is mostly due to the fact that the law on climate change is still pending approval. As a result, bylaws, the strategy on climate change, and the national plans (on mitigation of greenhouse gases and adaptation towards climate change) are yet to be adopted. The current draft-law places an obvious emphasis on greenhouse gases, and it is (for now) the only document that addresses 'adaptation strategies and measures' in a direct way and as a direct obligation for all institutions, including local governments. This draft-law defines (among others):

- integration of climate change in all of the existing, or future sectorial and territorial strategies and plans, such as in the field of energy, water resources, protected areas, transport, solid waste, water management infrastructures, forests, agriculture, and territorial planning;
- municipalities to establish climate and adaptation related databases for their own use and for feeding data to national institutions;
- national and local institutions to carry out risk assessments related to climate change exposure and vulnerabilities and encompassing the results in planning

documents and concrete measures, backed-up by financial means and implementation plans.

6. The law no. 8385/2005, "On forests and forestry services", as amended, makes reference to sustainable development and has incorporated the concept of ecosystem services, which is vital to ensuring resilience. One of the ten UNDRR essentials for achieving local resilience is the ability to identify, protect and monitor natural ecosystems, to enhance the protective functions they offer in the frame of risk reduction (no. 5; see Gencer, 2017). Forests have a fundamentally protective role against the effects of climate change, such as floods and water scarcity, while also contribute to CO<sub>2</sub> reduction in the atmosphere through their sink function. Yet, forests remain largely unprotected or poorly managed in Albania, still prone to illegal logging and trade, regardless of the respective moratorium approved by the Parliament in 2016. The forestry legislation, with a level of transposition of the *acquis* up to 36% (as defined by SANE in 2019) promotes an integrated management approach. It does so by trying to link the use of forests as a production economy, land use, governance, and landscape management among them. This connection appears in its objective as well. Yet, the law does not make a reference to resilience and adaptation planning. Municipalities do not, furthermore, encompass these concepts in their local forest management plans (very limited in number to date, due to low financial resources), which remain largely focused on the forest economy, rather than on the protective management of the ecosystem. However, the currently approved "Policy Document for Forests in Albania" (Decision of Council of Ministers no. 814/2018) makes an important step forward by: endorsing the principles of sustainability and integration and operationalising them into actions and measures; making equal reference to both, the socio-ecological and economical values of forests; recognising and sanctioning the connection of local communities to forests, and therefore their undeniable role in governing forests through collective action; clarifying the role of local governments in forest management and establishment of relevant databases; and proposing a forest protection policy that should be in line with that of civil protection and emergencies, paying particular attention to forest recovery.

7. Energy is not a distinctive sector that

local governments deal with. However, the exploitation of energy resources has a direct impact on territorial governance at local level, while energy efficiency measures affect the land management process, which is a local function. For instance, the law no. 43/2015 "On the sector of electrical energy" has no provisions that relate to local governments; yet it considers water resources as renewable. In the view of climate change effects, hydropower plants do not guarantee resilience and their construction leads to divergences with the local territorial planning decisions to protect water resources. Discrepancies exist also with the law no. 111/2012, "On integrated management of water resources", as amended, which builds on the principles of prevention, protection, and coordination of decisions regarding water sources, as well as coerces municipalities to protect water resources from any form of construction. Similarly, the law no. 7/2010, "On the promotion of use of energy from renewable resources", includes water sources in the renewables, creating further premises for the unsustainable exploitation of water resources for energy production. This is reinforced by the annually revised national action plans on renewable energy sources that continue emphasising water as the ultimate renewable energy source in Albania and very climate friendly, because it contributes to CO<sub>2</sub> emissions reduction. This policy decision does not support ecological resilience, which is a key element of adaptation-based energy production. In addition, municipalities have a very marginalised role and lack the necessary competences and mechanisms to promote renewable energy resources.

8. Resilience is poorly addressed in the transportation sector too. The code and the law no. 8380/1998 "On road transportation" do not make any specification that could explicitly relate to resilience and adaptation. There are few indications (for instance article 23 of the law no.8380 and few articles in the code) on emergency measures, but with no connection to prevention and preparedness as necessary steps to address crisis and evacuation. Yet, by obliging municipalities to prepare mobility plans and organize city space for improving mobility and dealing with emergencies, the legislation provides sufficient space (though not clear orientation) for local governments to build resilience in the transportation and mobility sector. Albania has adopted the National Transport Strategy and Action

Plan in 2016 and the National Plan for Air Quality Management in 2019. These plans contain measures for reducing public transportation emissions in urban areas and mitigate related air pollution, requesting municipalities to adopt Local Air Quality Management Plans and Local Sustainable Transport Plans (Gjoka and Delli, 2019). Currently only the Municipality of Shkodra, has initiated a process of preparing both plans, while Tirana is developing a Sustainable Urban Mobility Plan. However, the current initiatives do not address the aspect of decarbonization of the public transportation sector (ibid.), which is highly desirable for achieving local resilience.

9. Through the territorial-administrative and local government decentralisation reforms of 2015, municipalities have received significant responsibilities in the field of agriculture and rural development. To start with, they are responsible on implementing provisions of the law no. 9244/2004, "On the protection of agricultural land", as amended, whereby they should guarantee a balance between land ownership rights, local needs for agricultural activities, and protection of soil from construction and any type of pollution discharge. Such a responsibility is further reinforced by the bylaws that specify building regulations and procedures on agricultural land, under the law on territorial planning. Furthermore, the law no. 9817/2007 "On agriculture and rural development" introduces the concept of sustainable agriculture connecting it to the protection of natural resources. Though not explicitly, both laws provide good grounds for municipalities to engage in achieving local resilience. On the other hand, a stronger adaptation perspective is present in the law no. 24/2017, "On the administration of irrigation and drainage", where besides the efficient management of water resources for irrigation, floods and erosion are significantly addressed, as a means for protecting environment and improving territorial resilience.

10. Finally, [local] resilience constitutes an important dimension and objective in the territorial planning domain, both in legislation and in planning instruments. The law no. 107/2014 "On territorial planning and development", as amended, defines sustainable development of the territories as its main objective, based on the protection of natural resources, environment and landscape, as well as on the balance of sectors and stakeholders'

interests. The law does not explicitly employ 'local resilience' as terminology, but it refers often to measures and interventions such as regeneration, protection, and adaptation. The bylaws, which define the content and methodology of territorial planning instruments and of the creation of public space, employ more language in the direction of climate change and adaptation, protection of natural resources. They contain also legal and financial means for creating public space, the latter being crucial in view of preparedness for and management of disaster events. Most importantly, the legislation obliges municipalities, as well as national institutions, to cooperate horizontally for making decisions on the use of natural resource and on alteration of landscape ecologies. Furthermore, the National General Territorial Plan addresses resilience and climate change adaptation in very explicit terms. To start with, it emphasises the territory as one common and vital resource and it encompasses sustainability, resilience and adaptation capacity of the territory as fundamental purposes of territorial planning at national level. In addition, the plan defines the need for territorial planning to prepare communities for future crisis management and emergencies (MUD and NTPA, 2016). Resilience as an objective and approach is developed further in the vision and in the separate chapter of natural systems. The territorial plan of the coastal area is developed in similar tones. At the local level, a significant achievement is that 60 out of 61 municipalities have adopted, or are in the final stage of adopting a territorial plan. The latter is a very comprehensive document, which, also by law, makes strong reference to environmental concerns. Each plan is equipped with a strategic environmental assessment that deals with a multitude of issues of local resilience, including adaptation. Yet, the level of addressing resilience and adaptation is not equal among municipalities. In certain cases, also due to the high presence of natural hazards and disaster risks, adaptation-based planning is strongly evident. In other cases, this approach is weaker. Furthermore, the plans may contain a high range of expensive technical/infrastructural measures to build resilience, while soft measures, including capacity building for communities, are less eminent. Most importantly, while the environmental assessment analysis may be quite detailed, the local plans miss vulnerability and risks analyses. As a result,



the proposals for land use and critical infrastructures may have not sufficiently taken into consideration disaster risks and adaptation needs<sup>5</sup>.

## **2.2 Institutional coordination and multi-level governance**

11. Achieving local resilience requires a system of multi-level governance, which can deal with complex and cyclical processes for enabling systems (affected by or at risk) to resist hazard's shock, absorb it and accommodate the effects, adapt, recover and transform by reaching a new equilibrium. Planning, preparedness, response, recovery, mitigation, and resource management are the steps that stakeholders should follow to enable local resilience (figure 1). This requires for technical, management, and financial capacities at every single step. Previous reports on vulnerability and capacity assessments in Albania, and meetings conducted for this paper with national and local institutions show that these capacities are yet in an embryonic stage, regardless of the support received by donors in the last 20 years. This is not to say that Albania lacks institutions and structures to contribute to local resilience; rather these institutions are not equally strong (among levels of governance and among local government units), are in shortage of financial resources and appropriate infrastructures to deal with emergencies, and have a weak inter-institutional coordination. The current institutional structure for dealing with civil protection is deducted by the legislation (figure 2). Local resilience on the other hand is not subject to a specific institutional structure. Being an objective, approach and system feature, local resilience does not need a particular institutional structure; it rather needs a system of multi-level governance that brings together all actors in interaction and cooperation aiming at achieving resilience. The following analysis provides a general idea about the capacities of institutions currently involved in this system of multi-level governance.

12. Starting with disaster management, according to the legislation each municipality should have a directorate or department that is responsible on civil protection, and should establish a permanent civil protection committee. Due to lack of bylaws, it is not clear whether the committee should encompass stakeholders outside of the municipality or not. However, in principle, such a

committee serves as the main entity that coordinates local government efforts with other local stakeholders, including citizens and businesses. Therefore, it would be more efficient for such a committee to include members beyond the municipal staff. Yet, being a permanent committee, it should engage members who are committed to contribute on a permanent basis, and represent the interests of the local community.

In Albania, such committees were established under the previous legislation too and, particularly after the November 26th earthquake, municipalities are rushing to renew them as per the newly approved legislation. Currently, Municipalities are making use of the previous bylaws, which will remain in force until the new ones are adopted, and for as long as they do not conflict with the law no. 45/2019. The composition and the effectiveness of such committees varies from one municipality to the other, based on risk exposure. Municipalities that experience risks frequently have a better cooperation or involvement of the local civil protection committee. Yet, the efficiency of cooperation is subject to financial means and equipment needed to respond to disaster emergencies, as well as to technical knowledge on response and mitigation actions. Furthermore, while the committees may be active during emergency response, their engagement during planning, mitigation and preparedness stages of disaster risk reduction is currently minimal. This could be mostly due to low level of awareness among stakeholders for their role in local resilience building and for risks their communities are exposed to, including potential effects from disasters.

13. The local directorates on civil protection are rather weak from a structural perspective as well. Tirana, being the largest municipality, has a department of seven employees, including the director. They declare the staff is not sufficient to handle tasks. In other municipalities, the number of employees is more limited, ranging from 1-5 people. Most of their role is focussed on identifying losses or damages once the disaster happens and on participating in emergency response. The latter is usually focussed on evacuation, search and rescue, life-saving and emergency medical support, and provision of basic supplies, such as temporary shelter (short-term), food and clothes (see also UNDP and Red Cross Albania, 2004). In case financial compensation is applied

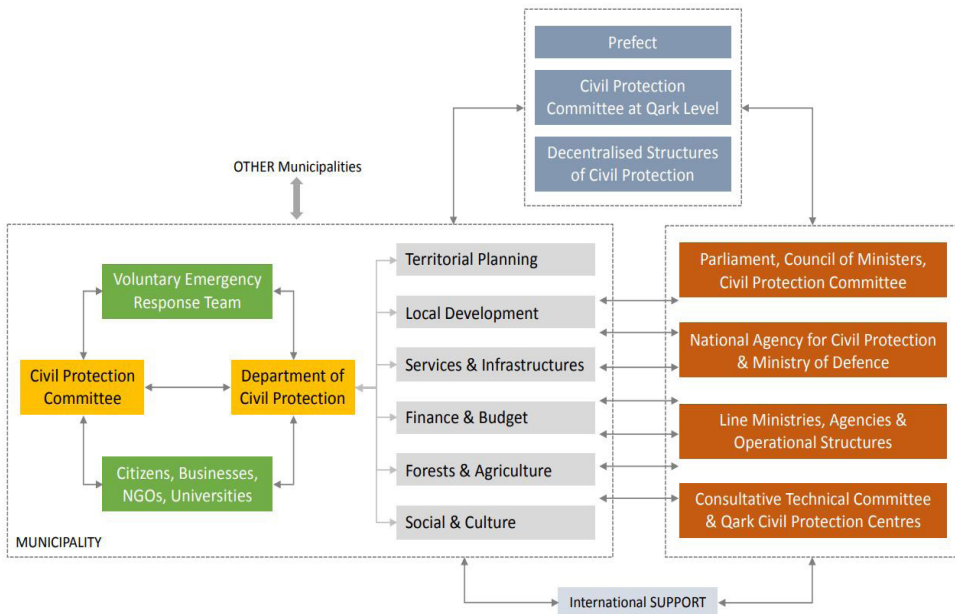


Fig. 2 / Institutional set-up for civil protection at local level. Source / Author based on the law no. 45/2019 "On civil protection"

as a measure, municipalities facilitate the allocation process. Yet, in general, prevention and preparedness measures and continued support, including economic compensation, social recovery, permanent housing, education access and long-term health support, etc. have usually been weak. Municipalities have not even established simple early warning systems, such as city alarm infrastructure, digital systems of risk detection and mass warning, etc.

As a matter of fact, meetings conducted with local and national institutions confirmed the need for substantial and continuous training in the disaster risk reduction domain. Municipalities confirmed also that their knowledge on local resilience building is limited if not absent. In addition, they recognise the need for adaptation measures in view of climate change events, but confirm not having enough knowledge on how to achieve adaptation. The local territorial plans are so far the only planning instruments to have a certain adaptation perspective, which in many cases is limited, while resilience and disaster risk reduction are usually not mentioned at all.<sup>14</sup> Municipal directorates cooperate among them when conducting territorial and strategic planning, but so far there has been no meaningful inter-departmental coordination within municipalities for preparing risks and vulnerability analyses, disaster risk reduction strategies and plans.

14. There are a number of other services/ local functions that municipalities are

responsible of and are interrelated with local resilience. Since 2015, as defined by the law no. 139/2015, "On local self-governance" and the law no. 152/2015, "On the service of fire protection and rescue", municipalities manage fire protection within their territories. According to the legislation, each municipality should have at least one firefighter per 1,500–2,000 inhabitants and each station should have no less than 14 professional firefighters. In these conditions, Tirana alone must have around 400–500 firefighters. Yet, according to Portavendore (2019) the capital city has 80 professionals, while in total there are 1,200 firefighters in Albania. The same source states that infrastructural capacities are very low and so have been the investments made to upgrade the service. The absence of proper capacities is felt the most in managing forest fires, which are common during summer in various locations across the country. Besides the professional unit, each municipality should organise the voluntary service for fire protection and rescue. However, for reasons explained above, voluntary services are missing. A consolidated preventive measure based on resilience thinking, is the submission of a fire protection project for each building, next to the other technical drawings, as part of the requirements for building permits procedures. The conformity of such projects is validated by the local departments of fire protection and rescue.

15. Albanian municipalities can play a crucial role in improving local resilience through sectors such as solid waste

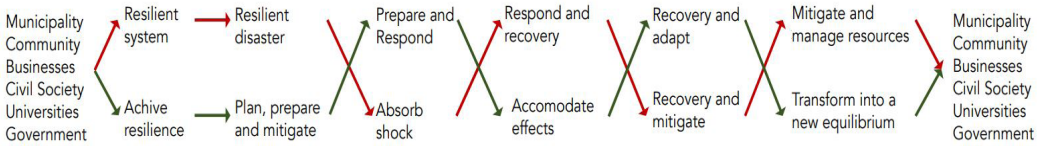


Fig. 1 / Local resilience: System, Actors, Governance. Source / Author

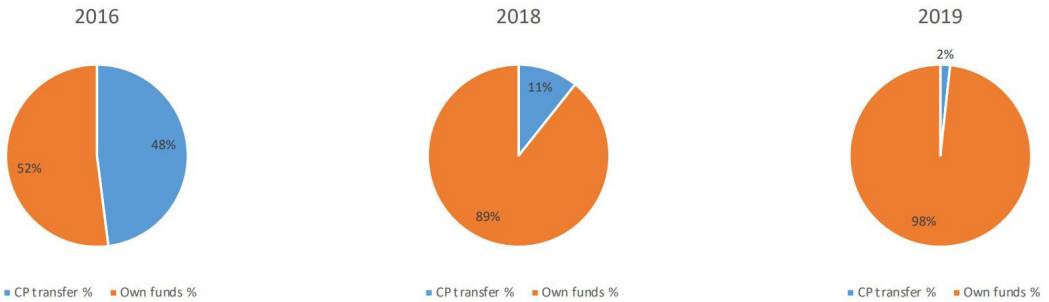


Fig. 3 / Civil emergency and protection from fire: Intergovernmental transfer versus own funds. Source / www.financatvendore.al and Ministry of Finance

management, drinking water provision, wastewater treatment, and maintenance and operation of drainage and irrigation for agricultural areas and for stormwater. Besides having a direct effect on the quality of life and safety (of citizens and ecosystems), these sectors require substantial financial resources for a proper operation. Resilience-based approaches would lower costs and improve service delivery efficiency, while also promoting adaptation techniques and solutions. Such approaches could include nature-based solutions, green infrastructure and circular economy initiatives, but the knowledge needed to streamline these approaches in the daily operations of Albanian municipalities is missing. Besides local investments, the above sectors, particularly solid waste and water and wastewater have received significant support from donor projects over the years, investing not only on infrastructure, but on development of human capacities and management instruments as well. Yet, there are only 5 landfills and one incinerator, with seven qarks out of 12 depositing urban waste only in open dumpsites and the remaining five using also dumpsites (AKM, 2017); 69% of the population receives waste management services and only 30% of the total urban waste is dispatched to the landfill (Co-PLAN, 2018). Furthermore, according Eurostat, in 2017, only 7.34% of the Albanian population had connection to secondary wastewater treatment. In terms of circular economy, there yet few initiatives country wide, which are scattered and are not part of a common

policy platform (Co-PLAN, 2018).

16. Communication and cooperation with citizens are key aspects of the performance of local civil protection directorates. Previous studies show that citizens are aware that support on emergencies and civil protection should primarily come from the local government, fire protection brigades and the police forces, and the hospitals. However, citizens are usually dissatisfied with the level of service provided by the emergency institutions (local, national and operational structures). While various cases of successful support in life-saving are reported by citizens and institutions, it is the lack of follow-up support, training and awareness raising after the emergency stage that dominates citizens perceptions on service's valuation. This could be summarized as what the UNDP and Red Cross Albania (2004) describe as lack of communication between public institutions responsible on civil protection and community.

17. Furthermore, citizens feel they have cooperated better with some local and international voluntary organisations during emergencies, rather than with public institutions and with voluntary groups to be established by the municipalities or through their facilitation. Local voluntary emergency response teams are not present to date. Besides the fact that citizen voluntary engagement is rather stigmatized in Albania (due to the past communist inheritance), a major factor impeding municipalities in organizing such teams is the absence of the respective legislation. Municipalities

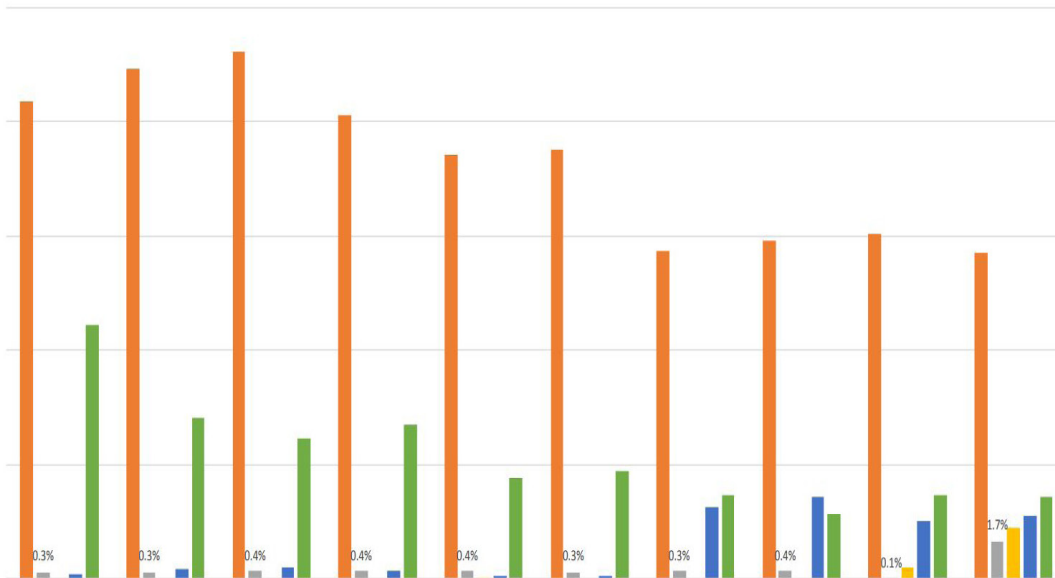


Fig. 4 / Local expenditures for a group of functions that are directly related to local resilience  
 Source / [www.financatvendore.al](http://www.financatvendore.al) and Ministry of Finance

could also establish the teams based on the law on local self-governance, but they still would need specific legislation to set limits and regulations of involvement, responsibilities, measures for safety and insurance, liabilities and immunity, training, etc.

18. At the national level, the institutional structure that should contribute to resilience building is complex and operationally weak. There are a number of institutions with responsibilities on specific aspects of civil protection, disaster risk reduction, climate change adaptation, critical infrastructure, emergency response, planning and mitigation, etc. However, horizontal cooperation is not satisfactory, while some of these institutions need empowerment and capacity development. Thus, the National Agency for Civil Protection, embedded within the Ministry of Defence, has currently nine experts.<sup>8</sup> The Agency is expected to increase its staff to 106 employees in the next two years, to fulfil needs and the legal requirements. The empowerment of the Agency would be beneficial not only in terms of its direct contribution to civil protection and emergency response, but also in terms of capacity development for the local institutions, municipalities included.

Institutional ambiguity is present in other sectors too, particularly regarding climate change. According to Ministry of Environment, the situation will clarify soon, once the legislation is finally adopted and institutional structures are established. However, to date, the

absence of a directorate of climate change (established since years within the ministry responsible on environment, but ceasing to exist in 2016) has created an institutional vacuum and jeopardised the commitments of Albania in relation to the Convention on Climate Change (Gjoka et al. 2018) as well as the dynamic effects on social, ecological, and atmospheric systems, constitute the core subject matter of this article. In Albania, the impacts of climate change have been felt primarily in the agricultural and energy sector, and are expected to grow in the future (GoA, 2016. Based on the three Albania's National Communications on Climate Change to the Conference of Parties<sup>9</sup> and to achieve the targets of COP2110, Albania ambitiously plans to reduce its CO2 emissions by 12% by 2030, focusing (in the case of forestry sector) on technological measures and reduced forest exploitation, without though considering so far forest governance (Toto, 2019a). The latter takes place mostly at the local level, where the respective capacities are very limited compared to the task at hand. Under the frame of local government decentralization, the Government of Albania undertook a process of [communal] forests property transfer to local governments (around 83% of forests area in Albania), which was finalised in 2008, but without concluding the registration at the immovable property register to date, due to lack of financial resources. In these circumstances, local government officials struggle with forest management and have neither means, nor incentives to streamline

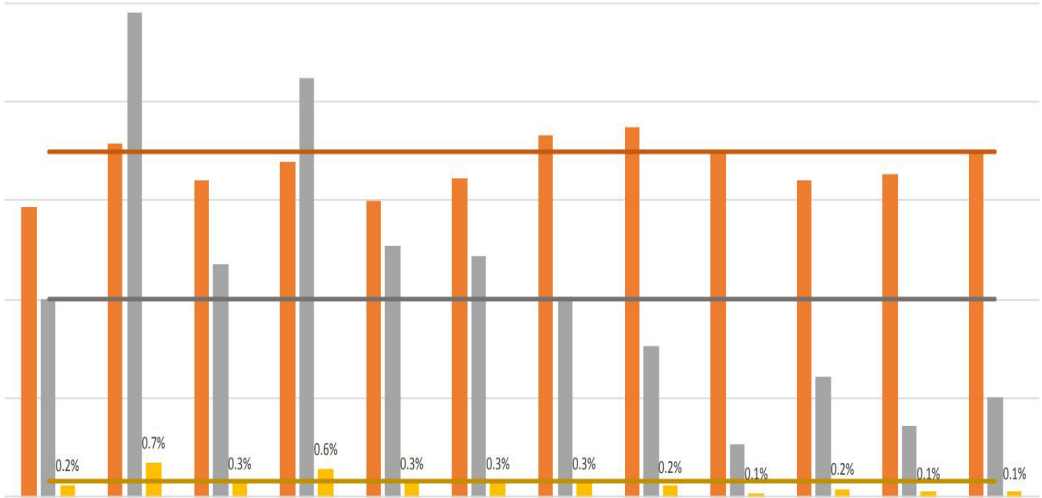


Fig. 5/ State budget for civil emergencies over years  
Source / State budgets from Ministry of Finance

resilience thinking in forest governance. Furthermore, implementation of forest common pool resources, as a resilient governance solution, depends as yet only on the willingness of local official and proactiveness of local communities, without a proper legal, policy and financial back-up (ibid.).

**2.3 Funding and resources-** Albanian municipalities continue facing significant budget limitations, though the overall available financial resources show for an upward trend in the last 5 years (financatvendore.al). The revisited decentralisation reform of 2015, assigned new functions to the municipalities, adding more local responsibilities that relate to ecological and territorial resilience, such as agriculture (irrigation and drainage networks), forestry, fisheries and fire protection. Therefore, funds need- ed to ensure resilience, including adaptation, emergency and disaster risk reduction should the- oretically constitute a significant portion in local budgets.

19. By law, municipalities are now entitled to plan an emergency fund equal to 4% of the annual budget. The expenditures on civil emergency and fire protection show an increase for the past 4 years, which remains however below 4% or even 3% (the limit defined by the previous law on civil emergency). According to the data on expenditures from the Ministry of Finance, local governments spent on average, for 2016-2019, 1.9% of their budget for civil emergency and fire protection, while in 2019 this share was 2.5%. These expenditures are covered

through the intergovernmental transfer and own funds. The following pie charts (figure 3) show that own funds dedicated to civil emergency and fire protection have increased in share compared to the transfer, though the transfer has increased as well from 2016 to 2019. The total of local expenditures for emergency and fire protection was more than 85 milliard lekë compared to around 69 milliard lekë in 2016. According to the Prefect of qark of Durrës, the transfer may not necessarily be used for disaster risk reduction activities and it is often diverted by municipalities into other needs. Furthermore, the value of 4% of the annual budget is not sufficient to cover disaster risk reduction needs.<sup>11</sup>

20. The funds for local resilience do not constitute a specific budget line for municipalities, primarily because activities for building local resilience are not specified neither in local strategies, nor in implementation plans. Furthermore, such activities fall under a large number of local functions. Figure 4 shows some of the functions that could directly relate to territorial and ecological resilience building. Out of these five functions, funds for basic infrastructures (water supply, solid waste, wastewater, etc.) constitute a significant portion of local expenditures, with a downward trend from 2010 to 2019. The expenditures on agriculture, forestry, fishing and hunting remain below 5% of the total local expenditures and appear more significantly only after 2016, after the approval of the new law on local self-governance. The funds on environmental protection and public safety and protection

are almost insignificant over the years, remaining below 1%, with a minor increase in 2019.

21. When disasters happen, municipalities rely largely on the intervention of the national government too. Civil protection (historically assigned in state budgets as civil emergency) has remained below 1% of the state budget since 2009, with relatively higher levels in 2010 and 2012 (0.7% and 0.6% respectively). Since 2012, the values have dropped gradually to 0.1%. Similarly, the budget share of civil emergency within funds planned for the respective ministry has also reduced following the same pattern, while the ministry's budget<sup>12</sup> has had little fluctuations along the years.

22. National government expenditures on civil emergencies appear different from the budgeted amounts. It is difficult to draw a trend line on these differences for the period 2014-2019, and this might relate the occurrence of disasters during these years. While in 2014 and 2018, the expenditures were 5% and 26% lower than the respective budgets for civil emergency, in 2015 and 2019 these values were 82% and 69% higher respectively.

23. Various sources state that the most frequent hazard and therefore disaster in Albania is floods (see for instance UNDP & Red Cross Albania, 2004). Often, such events happen at a small scale and are not always mediated and made known to the public at large, but their effect on the local communities, though isolated, is disastrous. Most municipalities confirm that they have to deal with floods at different territorial scales and locations, while lacking the appropriate means (financial, human and logistical) to do manage the disaster. These annually repeating floods are not governed with a risk reduction approach, due to the 'perceptually low' societal impact – isolated in one specific community, with the exception of the major flood events. Hence, municipalities are not able to manage emergencies, and do not receive support from the national government agencies because other priorities overtake the emergencies-related agenda. For instance, the municipality of Kurbin reports on a city creek becoming a torrent and flooding regularly the adjacent neighbourhood during the rainy months. The municipality has prepared various projects that could be applied to avoid flooding, but with a cost up to 2.3 million Euro, implementation seems far from possible. According to the

legislation, the municipality should plan an emergency fund equal to 4% of the local budget. In the case of Kurbin, this amount would be at minimum 30 million Lekë (approximately 245,000 Euro<sup>13</sup>), while the budgeted amount for 2020 is not more than 9 million Lekë (approximately 74,000 Euro).

Tirana reports currently a budget of 50 million lekë for civil emergencies, which is however below the level of 4%. In all three municipalities, the interviewed experts report for lack of a specific financial plan dedicated to disaster risk reduction, with principles of resilience and adaptation. Hence, financially speaking, municipalities only plan for an emergency fund (usually below the legally required levels) and do not plan financially for preparedness actions.

24. Finally, the situation of November 26th earthquake represents an exception in terms of interventions and funds, due to the magnitude of exposure and disaster effects. International financial support was pledged to Albania to sustain the implementation of a recovery plan known as the 'reconstruction plan', with more than 295 million Euro pledged in the form of grants, 853 million as loans, and around 3.4 million in kind (European Commission, 2020). In this frame, some major donor-enabled programs are expected to initiate focusing on soft measures of empowering preparedness, through policy and institutional support, training and planning. While the recovery plan is facilitated by the national government, the affected municipalities report unequal levels of their involvement in the process. Smaller municipalities, such as Kurbin or Lezhë, are fully dependent on government support. Tirana, on the other hand is managing by itself the reconstruction process, risk assessment, etc.

#### **2.4 Knowledge for disaster risk management and adaptation planning**

25. One of the main handicaps in dealing with disaster risk reduction and resilience building at local level is absence of data (historical and current) organised in timeseries for the whole territory. These data should produce knowledge that leads to risk and vulnerability assessments, planning, and preparedness and response measures in an integrated approach. Over the years, there have been several initiatives, mainly supported by donors<sup>14</sup>, aiming, among others, at establishing platforms of information and knowledge. However, these initiatives have to date a scattered spatial-temporal impact, mainly

because municipalities have not invested regularly in building stable institutional structures for disaster risk reduction, less so for resilience. Similarly, municipalities have low capacities in managing sectors such as agriculture, environment and forestry, which are new in the current set-up of responsibilities and with insufficient funds. Municipalities do not carry out vulnerability and risk assessments as a routine process. Such a task is now foreseen to take place on the basis of the law on civil protection, but Lezha municipality is currently the only one to have started the process, with the support of UNDP Albania. Due to proximity factors, municipalities have information on hazards in their territories, but in several cases this information (including historical one) is not organised into databases, suitable for planning and management. Furthermore, as municipalities do not run monitoring and early warning systems, regular data on natural phenomena are not registered for use in local risk scenarios building and risks and vulnerability assessments.

26. At national level, the database of the institute of geosciences (IGJEUM) is a very good source, but accessibility of information by municipalities is still to be ensured. Yet, the implementation of DesInventar<sup>15</sup> in Albania in 2014, revealed the lack of historical, accurate and well organised data on natural hazards and disasters. The data reflected heterogeneity and discontinuity, which can be interpreted within the wider frame of lack of data and well-organised information for planning and management purposes within the various sectors. Data from the National Operational Centre in the Ministry of Internal Affairs were stored in reports (DesInventar), and other data could be subtracted through the requests for compensation after the different disaster events. The National Archive has also data on floods and other events up to late 1980s. Other sources include Prefectures and, in some cases, also Municipalities with data dedicated to the specific events, or indirect data that could support evidence on the hazards, vulnerability, and risks. Often these data are in the form of printed reports or maps that need to be digitised

27. Planning instruments are also a good source of information and knowledge. However, in terms of local instruments for dealing with disaster risk reduction, adaptation, and other aspects of local resilience (such as circular economy, ecosystem services in planning, etc.),

the situation is rather mixed. Substantial support is reported for Albanian institutions, and there have been several projects and initiatives in the last 20 years, having disaster risk management and climate change and adaptation at their focus. For instance, a comprehensive regional flood risk management plan was prepared by the Prefecture, Ministry of Environment and Qark of Shkodër in 2015 for the two major areas affected by floods in Shkodër region. The city of Shkodër and seven administrative units benefited from this planning and capacity building support. The plan was prepared under the frame of Climate Change Adaptation in Western Balkans, implemented by GIZ.

28. Continuous support has been provided by UNDP, particularly under the frame of the work of UNDRR16, such as implementation of DesInventar in 2014-2015. Albania has endorsed the Sendai framework for disaster risk reduction 2015-2030, which defines a goal, seven targets, four priorities and number of guiding principles. Yet the government does not have a national platform for implementation on DRR based on the Sendai framework. While all of the priorities of the Sendai framework are strongly interlinked among them, there is a specific priority on strengthening disaster risk governance, which requires for clear and shared responsibilities, cooperation and capacities at all levels of actors. In 2018, Albania had all Sendai targets validated and reported on them. Albania is also member of the "Disaster Preparedness and Prevention Initiative for South Eastern Europe", launched by Stability Pact for South East Europe in 2000, with 10 member countries (Balkans and Turkey) and with the overall goal that of fostering regional cooperation in disaster preparedness and prevention. EU has supported an initiative on Disaster Risk Assessment and Mapping in the Western Balkan and Turkey, recently completed, focusing on disaster loss data, risk assessments, and risk mapping, aiming at increasing beneficiaries' capabilities to ensure proper disaster risk management at different territorial levels. Another EU supported project was implemented during 2017-2018 on improving the national early warning system and flood prevention in Albania, which in the frame of providing capacity building and technical assistance, it supported the general directorate at the national level to create flood hazard maps.

The World Bank has also supported the

government of Albania during 2008–2013 with a project on Albania Disaster Risk Mitigation and Adaptation, focusing on capacity building, planning support and even digitization of hydrological and meteorological data (of two decades, until 2011), including some investments. On the other hand, local governments report having substantial knowledge on hazards and risks on their territories, but do not conduct mapping and assessments and do not build databases. Hence the knowledge remains with people memories and it is short-lived because it is not transmitted within the institution and to other stakeholders.

29. Furthermore, recently there are also initiatives on implementing circular economy, common pool governance of natural resources (mostly on forests), and on inclusion of ecosystem services thinking/valuation in spatial and/or environmental planning. For instance, the ministry of environment has been implementing a 4 years project on environmental services, at least two programs on the protection of lagoons and ecosystem-based adaptation, etc. However, such projects are mostly implemented at the national level. Even when beneficiaries are local (such as forestry projects, or the Kune-Vaini lagoon), these are still managed nationally. On the other hand, the local initiatives on circular economy are mostly carried out by the private sector that is endorsing circularity principles in its chain of production.

30. The above initiatives have produced a series of disaster risk reduction instruments at local or regional levels, as well as databases and knowledge. However, to date, the head of the National Civil Protection Agency declares that the Agency does not possess any of these instruments and has no access to the databases, except for DesInventar and some information from IGJEUM17. The Agency may receive information from the other public institutions if requesting for it, under the clause of national civil emergency. Yet, this is a process that the Agency should go through, and which might require time and resources. The establishment of the Nation Operations Centre of Civil Protection (planned with the support of the Italian government) would, among others, operate and maintain an integrated information system on hazards, disasters, risk and related vulnerabilities. However, this is yet a plan and full operationalisation would require time. The municipalities, on the other hand, unless they have proactively participated in the

processes producing plans and databases, therefore possessing the information and the instruments, have less access to national institutions for withdrawing information related to their territories.

### **3. Policy conclusions and recommendations for building local resilience through better governance**

#### **3.1 Conclusions**

31. Local resilience remains still largely undefined as a policy objective in Albania. The concept is already set in the disaster risk reduction legislation (law on civil protection), therefore expected to be addressed in the national strategy for civil protection as well. It is not clear at this stage, whether the strategy will include also objectives and measures that affect other sectors too, hence taking an integrated approach to [local] resilience.

32. The civil protection law, adopted during 2019 and with bylaws still pending, addresses resilience in a direct way. The sectorial legislation, enables local resilience building rather indirectly, with legislation on environment, climate change, biodiversity, water resources and territorial planning being much more receptive to local resilience than other sectorial laws. Similarly, strategies and planning instruments of the abovementioned sectors, at local and national level, are more oriented towards resilience building. Still, these instruments need further improvement in terms of clarity, coherence, monitoring, and financial resources dedicated to local resilience.

33. Furthermore, the institutional structure for local resilience is also fragmented, as a reflection to the legal framework. The law on civil protection defines a number of institutions at national and local level that have the responsibility to deal with disaster risk reduction and therefore also resilience. However, achieving socio-ecological and territorial resilience is a multidimensional and multisectoral task. While the establishment of local civil protection institutions, based on the respective legislation is yet to be completed, the other public sectors should also create structures that coordinate with those of civil protection to achieve resilience at local and national levels.

34. In addition, financial resources for integrated civil protection, as required by the respective law, are limited at both government levels, and even scarcer at



the local level. So far, municipalities cannot even make it to budget the legally required emergency fund of 4% of their budget. Furthermore, the current absence of key documents such as, risk and vulnerability assessment, disaster risk reduction strategies, and emergency plans does not allow municipalities to plan funds for all stages of civil protection. Therefore, they merely limit to emergency funds.

35. In addition, as local resilience is not a specific local government task and actions for it are to be spread across the various local government functions, municipalities can hardly achieve any financial planning and expenditure tracking for local resilience. This could imply that: 1) if a thorough analysis of the resilience actions implemented during the delivery of local services was made and respective expenditures were tracked, most probably resilience expenditures would be higher than currently conceived; 2) inter-sectorial planning for local resilience would reveal that cooperation and coordination between sectors leads to several simple actions that guarantee resilience and financial efficiency within the current budgets. To date is possible to track expenditures on civil emergency and fire protection.

36. Finally, local knowledge on natural hazards, disaster risks and local vulnerability is limited and is almost 'anecdotal'. Hence, local experts with historical knowledge of the territories have plenty of information which is not organised into specific databases and is verbally transferred to younger experts. In some cases, municipalities have expert reports delivered during the implementation of donor supported projects. The national institutions that monitor and carry out studies on climate, hydrology, geology, seismic events, etc. have their own databases which are not easily and real-time accessible for municipalities. Besides, these databases are not all of them up-to-date and micro data are not supplied for the whole territory.

### 3.2 Recommendations

Local governments can and should play an important role in dealing with disasters and increasing uncertainties through building resilient socio-ecological and territorial systems. They are best suited for this especially due to their proximity to people and territories. However, in Albania, local governments appear as the weaker link in the resilience building system, and therefore a number of policy measures

should be taken sooner rather than later to restore their position.

37. To start with, a policy for socio-ecological and territorial resilience is needed at national level. The strategy for civil protection can play an important role in this regard, but the government should ensure cross-sectoral coordination and cooperation in achieving resilience. This means that policies and actions for climate adaptation, territorial planning, infrastructures, water resources, production of energy, protection of forests and fisheries, etc. would be aligned towards achieving the resilience objective. This would amplify the current scope of the civil protection law and would induce a new mentality of planning and use of natural resources, which moves away from merely sectorial perspectives to territorial ones.

38. At the local level, municipalities should plan time and resources for establishing risk reduction platforms through assessing disaster risks and related vulnerabilities, and adopting disaster risk reduction strategies and emergency plans, as defined by law. This task is urgent and vital and should be assisted by the national government and become a priority of support for the donor community as well. The adoption of such strategies and plans is a key step in local preparedness, both technical and financial, and it would also serve as a medium of information and communication with communities and other non-state actors.

39. Municipalities should match the legal requirement of 4% of their budget for civil emergencies. However, besides the emergency funds, municipalities should plan financial resources for the resilience objective, which could become a specific budget line and should track the respective expenditures.

40. However, in order to plan for resilience and most importantly, implement measures contained in plans, local governments need to develop and/or strengthen technical capacities. *This translates into some critical actions:*

- Municipalities establishing departments of civil protection that have adequate number of experts and diversified expertise.
- Local staff is trained on continuous bases for technical, scientific and legal knowledge.
- The civil protection department cooperates with other sectors on several

aspects related to local resilience.

- Municipalities establish their own databases of hazards, disaster risks and vulnerability, with historical data for their territories. The information systems will allow for real-time planning and scenario building, and therefore informed decision-making and implementation of measures. In this respect, the national government could also help through building a Risk Data Hub, which would contain information, tools and methodologies, to use at any layer of territorial and social granularity.

- Municipalities are provided immediate access to the national databases on climate, hydrology, geology and seismic hazards. This should not however be perceived by municipalities as an opportunity to avoid their responsibility in building their own data-sets, which make use of local information and communication with citizens.

- Municipalities, with the support of other actors, build local resilience dashboards with

dynamic indicators that serve to benchmarking resilience, comparing local governments and territories among them, and as monitoring systems for early prevention. Cities and territories are often exposed to several hazards, or at least more than one, simultaneously. Preparedness starts with information fetched to planning and local decision making.

- Municipalities embrace international initiatives and become part of resilience and adaptation

networks, to enhance knowledge and benefit from financial and technical support.

41. In addition, the cooperation of municipalities with the local communities, and non-government and business actors is crucial to achieving local resilience. For this, municipalities should share knowledge with and raise awareness of communities on disaster risks and self-resilience, to enable community preparedness. This is not to be considered as very advanced science, difficult to grasp for lay people. On the contrary it is science that should be interpreted through local dialectics, reflecting local concerns for a common future. This is what Krellenberg (2012, p.233) calls a "science-policy approach".

42. Another important aspect is that of more investments in introducing new critical infrastructures and maintaining the existing ones. Besides hard measures, the

critical infrastructures could be improved through soft measures too, which are innovative forms of green infrastructures, such as natural water retention pools/basins using local topography, reinforcement of dunes through the respective vegetation in coastal areas, etc. These interventions protect urban areas and natural ecosystems and their services, by functioning on the basis of the ecosystem-based approach. The cost of such interventions is also usually lower than that of hard infrastructures, while the efficiency of protection depends on the area and on the hazards that affect it. Nevertheless, the combination of measures, hence the integrative approach, based on cost-benefit analysis, would provide solutions to several of the current disaster impacts in a mid-term period and at reasonable costs.

43. Finally, as resilience should be addressed territorially and sectorially, municipalities must instigate resilience and adaptation efforts in all sectors in terms of:

- Disaster risk reduction (DRR), by adopting specific/targeted sectorial strategies and actions that contribute to reducing disaster risks, for instance in relation to water resources management and floods, infrastructures (energy, water, transportation), etc. Besides what national bodies do, municipalities as well should assess and propose measures for areas of national importance within their territories. This is crucial to avoiding the negative effects of fragmented territorial knowledge, due to administrative jurisdictions. Municipalities should also participate as an active actor in formulating the River Basin Management Plans, where implementation is territorial and thus heavily dependent on Municipalities.

- Ecosystem services protection through spatial planning and management of resources at local level. Ecosystem services reduce vulnerabilities and increase resilience, and the respective knowledge should guide decision-making. Benefits from ecosystem services are highly recognized by the EU Adaptation Strategy, are streamlined in nature-based solutions, green infrastructure projects, natural water retention measures, and disaster risk reduction measures/actions.

- Avoidance of administrative fragmentation obstacles, which derive from the mismatch between jurisdictional territories on one side and ecosystem boundaries and hazards' basins on the

other. In this respect, territorial planning, being holistic by nature, can play a crucial role, and the very first step would be to review general local territorial plans. The review should consider completion of plans with adaptation, disaster risk reduction, and resilience objectives. The data should also be collected based on ecosystems and risk prone areas, rather than on administrative boundaries. Participatory risk assessments would constitute a valuable tool in completing knowledge beyond political jurisdictions.

#### 4. Additional information of relevance

Some of the international processes, platforms, networks, or projects and programs that support or promote resilience thinking and acting, and are relevant to the Albanian municipalities, with citations from the respective sites, include:

- The Sendai Framework for Disaster Risk Reduction 2015-2030 (Sendai Framework) was the first major agreement of the post-2015 development agenda and provides Member States with concrete actions to protect development gains from the risk of disaster. Albania is member state and each state has the primary role to reduce disaster risk sharing the responsibility with other stakeholders including local government, the private sector and other stakeholders. <https://www.undrr.org/implementing-sendai-framework/what-sf>.
- The World Bank Group's City Resilience Program (CRP), established in 2017, to empower cities pursuing investments that build greater resilience to climate and disaster risks, and to access the financing necessary to ensure that those investments come to fruition. <https://www.gfdrr.org/en/crp>.
- The European Climate Adaptation Platform, Climate-ADAPT is a partnership between the European Commission and the European Environment Agency (EEA). Climate-ADAPT is maintained by the EEA with the support of the European Topic Centre on Climate Change Impacts, Vulnerability and Adaptation (ETC/CCA). The aim is to support Europe in adapting to climate change helping users to access and share relevant data and information. In terms of DRR, EC supports the Sendai framework for Disaster Risk Reduction and it has published in 2016 an action plan for its implementation. <https://climate-adapt.eea.europa.eu>.
- The important role of Ecosystem-based Adaptation (EbA) to enhance local

resilience is recognised in city networks concerning the European municipalities, e.g. the Covenant of

Mayors for Climate and Energy, C40 Cities (<https://www.c40.org>), the Making cities resilient campaign (UNDRR), the Resilient Cities annual conferences (Local Governments for Sustainability, ICLEI, <http://resilient-cities.iclei.org>), and the 100 Resilient Cities (<http://www.100resilientcities.org/>, Rockefeller Foundation).

- The EU Covenant of Mayors for Climate & Energy brings together thousands of local governments voluntarily committed to implementing EU climate and energy objectives. Signatories endorse a shared vision for 2050: accelerating the decarbonisation of their territories, strengthening their capacity to adapt to unavoidable climate change impacts, and allowing their citizens to access secure, sustainable and affordable energy. Signatory cities pledge action to support implementation of the EU 40% greenhouse gas-reduction target by 2030 and the adoption of a joint approach to tackling mitigation and adaptation to climate change. Albanian signatories are Finiq, Dropull, Korçë, Tiranë, Shkodër. There are no coordinators and no supporters from Albania. <https://www.covenantofmayors.eu/en/>.
- Studies, reports and factsheets on green infrastructure funded by the European Commission: [http://ec.europa.eu/environment/nature/ecosystems/studies/index\\_en.htm](http://ec.europa.eu/environment/nature/ecosystems/studies/index_en.htm)
- Nature-Based Solutions (NBS) are addressed in several projects and programs, with more information to be found in: <https://ec.europa.eu/research/environment/index.cfm?pg=nbs>; the platform ThinkNature, a case study and resources hub dedicated to NBS <https://platform.think-nature.eu/>; the Nature-based Urban Innovation NATURVATION website containing information on almost 1,000 examples of NBS from across 100 European cities <https://naturvation.eu/about>; the OPPLA platform aiming at sharing practical knowledge on natural capital, ecosystem services and NBS through case studies, products and tools <https://www.oppla.eu/about>; the Natural Water Retention Measures (NWRM) platform gathering information on actions and case studies for green infrastructure applied to the water sector <http://nwrw.eu/>.
- Ecosystem-based implementation projects relevant for climate change

adaptation (e.g. conservational agriculture and forestry practices, green and blue infrastructure or urban climate adaptation and resilience) can be found on LIFE programme: <http://ec.europa.eu/environment/life/index.htm>. Supporting scientific knowledge can be accessed on the TEEB platform, the Economics of Ecosystems and Biodiversity (<http://www.teebweb.org>) and on the Millennium Ecosystem Assessment platform (<https://www.millenniumassessment.org/en/index.html>).

- Information on green infrastructure, including green infrastructure activities within the Member States could be accessed on the Biodiversity Information System for Europe, BISE, <https://biodiversity.europa.eu/topics/green-infrastructure>.

- The Disaster Risk Management Knowledge Center (DRMKC) <https://drmkc.jrc.ec.europa.eu/risk-data-hub/>, provides knowledge and evidence at all levels and at all stages of the Disaster Risk Management cycle (prevention, reduction, preparedness, response and recovery), including those disasters associated to climate change [https://ec.europa.eu/knowledge4policy/disaster-risk/about\\_en](https://ec.europa.eu/knowledge4policy/disaster-risk/about_en).

eu/risk-data-hub/, provides knowledge and evidence at all levels and at all stages of the Disaster Risk Management cycle (prevention, reduction, preparedness, response and recovery), including those disasters associated to climate change [https://ec.europa.eu/knowledge4policy/disaster-risk/about\\_en](https://ec.europa.eu/knowledge4policy/disaster-risk/about_en).

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