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# AELCLIC Pathfinder project **DELIVERABLE 5**

Transversal findings from the AELCLIC project



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AUTHORS:

Daniele Torreggiani (University of Bologna) Ludovica Marinaro (University of Bologna) Juanjo Galán (Aalto University) Francisco Galiana (Polytechnic University of Valencia) Emilio Servera (Polytechnic University of Valencia) Bas Pedroli (University of Wageningen)



#### 1. Introduction

This deliverable collects and describes the main transversal results and original findings gained by the AELCLIC project during its development and emerged from the comparative analysis of the experiences of all pilot landscapes at European level.

Four chapters describe the main results of the project, that concern: the use of the Landscape concept to foster a new and effective approach to climate change adaptation; the employed methodologies for learning, design and participatory processes; the construction of local networks and the definition of programmatic inputs for Landscape Adaptation Plans for Climate Change (LACAPs hereafter). Occasionally, some of these results will be briefly described and commented through direct examples taken from the conducted activities. In general, the following factors influenced the typology and quality of the produced results:

- The socio-cultural and governance environment;
- The state of the art of each pilot landscape and network background in terms of existing knowledge on Climate Change effects and of mitigation and adaptation strategies;
- The existence of networks or initiatives about climate change adaptation;
- The magnitude of already evident climate change effects.

Al these factors had their influence on the specific way in which the AELCLIC process was organised and implemented in each pilot landscape (evaluated in terms of format, approach, institutional frame and timing), and were highly influenced by the level of involvement and commitment of local governmental institutions (city, region, ...). The importance and interrelationships of some of these factors has already been commented in DELIVERABLES 1, 2 and 3 and is further explained in the following paragraphs.

Europe is a variegated mosaic of cultures, biophysical conditions, traditions and identities that are reflected in as many unique landscapes. AELCLIC has addressed the different conditions of each cultural context in the full conviction that safeguarding and promoting the cultural diversity by carefully considering the distinctive features of each landscape is an essential condition for the sustainable and solidary development of societies. To this end, the organisation of dialogue was one of the main strategies of the project. In contexts where a strong and clear landscape identity was widely perceived, this has facilitated the transfer of some key concepts. This has also revealed the importance of generating shared, forward-looking and systemic strategies of adaptation to climate change for the conservation and enhancement of landscapes. This is, amongst others, the case of the Mantova pilot landscape, of Carol Park and Filaret-Rahova neighbourhood, Tornio river Valley, Hyyppä river valley, the Zuid-Holland lowland peat landscape, Huerta de Valencia-Alboraya, Serres d'Ancosa, Parc Natural de L'Alt Pirineu and Riu Besòs.

In contexts where the identification of the community with its own landscape was weaker, the AELCLIC project demonstrated the importance of approaching the landscape as a systemic framework to prefigure climate change adaptation scenarios, as well as of considering climate change adaptation as an opportunity for the promotion of landscape quality and for the reinforcement of landscape identities. Interestingly, the urban or rural character of the landscape and the different types of connections established between their local inhabitants and their landscapes influenced the responses and development of the AELCLIC activities. Thus, in urban areas, the discussions on Climate Change tended to concentrate more on abstract and functional qualities since the capacity of the local participants to modify or manage their physical environment was probably felt relatively limited in comparison with people living in rural areas.



Another detected difference was the relationship with regulations and, in general, with institutions, which is highly affected by the cultural and socio-political environment.

Beyond everything, AELCLIC fostered a participatory and inclusive dialogue, in which the topic of adaptation to climate change offered an important common ground and a challenge to be addressed collectively.

The AELCLIC project can be defined as trans-scalar, collaborative/deliberative and diachronic. In every territory, the project has been conducted on the local scale but always referring to a common international vision based on the principles of the European Landscape Convention. This allowed dealing with climate change adaptation in a trans-scalar way, with the benefit of the continuous comparison and exchange of experiences that affected in various ways the creation of a shared knowledge. The laboratory-based and inclusive format used in the AELCLIC workshops and the facilitation led by experts covering various landscape-related disciplines, ensured the participation to be a core component of the project, thus requiring a direct and active contribution from each stakeholder. This generated diversified and positive responses in each local network.

The timing has also been important. The project was implemented in a short period and was based on work-plans agreed by each local network and aimed at co-defining a forward-looking strategy transcending the duration of the project. This has been relevant in the engagement of the stakeholders and in the creation of the local networks.

Another important factor that affected the quality of the process was the magnitude of the already evident effects of climate change in each pilot landscape. As it is clear from the coidentification of impacts (DELIVERABLE 2), all the pilots face different challenges and, in some regions, these impacts are already more visible and perceived by common people than in other contexts (see table 1 of deliverable 2). In some cases, as in Bologna or Riu Besòs for instance, there are already plans and ad hoc measures, whereas in others, new strategies and plans emerged from the AELCLIC project, as it is the case of the Malmi district in Helsinki. During the development of the AECLIC project, it was also possible to detect different levels of sensitivity and background knowledge about climate change issues. Where specific plans have already been activated on the topic, stakeholders, and citizens in general, were much better informed and were able to master confidently both the key concepts and to share a common vocabulary. This semantic and linguistic issue is not in fact a secondary aspect since in order to enable a truly constructive and inclusive dialogue; a common language must be validated and codified so that shared horizons of meaning can be realized. In most cases, the aspect of creating a common and shared language was triggered quite automatically during the first workshops in all the pilots. Only where misunderstandings were found or uncertainties were directly detected, the meaning of certain actions, key concepts and methodologies were explicitly discussed and codified.

The last factor to be considered is the direct involvement of a local or regional authority in the project and the role it gained during the process. This presence or absence in some cases determined different levels of cohesion of the local networks and influenced the achievement of LACAP results and their legitimacy.

The combination of all these factors has led to very different case stories and the understanding of this diversity constitutes by itself an important result of the AELCLIC project, together with the identification of both strengths and weaknesses. Therefore, the conclusions of this document are aimed at addressing the shortcomings found in the project and at proposing a set of recommendations to improve the model tested during the AELCLIC project, thus favouring its effective and profitable scalability. This latter point will be also considered in the Deliverable 6.



#### 2. Climate change and landscape change.

#### Working with landscape to foster transversal discussions on Climate Change Adaptation

The AELCLIC project addressed the issue of adaptation to climate change from the Landscape perspective.

This implied a shift from an inductive analysis & diagnosis methodology (the most commonly used approach in climate change adaptation plans adopted by many cities and regions since the 2000s) to a deductive method, capable of creating a shared synthesis of people's perception. This approach is highly inspired by the definition of landscape as formulated in the European Landscape Convention (ELC, 2000), according to which:

"Landscape" means an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors"

Thus, the concept of landscape provided in the AELCLIC project the common basis not only for the construction of a shared knowledge of the many pilot areas in which the project was conducted, but above all for the prefiguration of the present and future scenarios of their adaptation to the effects of climate change.

The implications of this approach on both the cognitive, analytical and planning/design fields have been manifold, such as:

- The adoption of a **systemic perspective** to interpret the relationships existing in a given territory between environmental, cultural, economic, social factors, and to co-define holistic interventions on them. Given that landscape is assimilated to a complex system or even to a system of systems, in order to understand its configuration and its functioning, it is necessary to consider the concatenation of the multiple elements and factors that conform it.
- The concept of **dynamic evolution** of the portions of territory considered in all pilot cases. According to this premise, the landscape is perceived as a changing entity resulting from the evolving interactions of natural and human factors. It is the result of a dynamic process of continuous evolution. In all the pilot landscapes, the AELCLIC project has contemplated this dimension trying to prefigure the evolution of certain ongoing phenomena. Addressing them adequately implies to manage, correct, enhance and reformulate them.
- The inter- and transdisciplinary cognitive contribution. The landscape is a complex system, which should not be addressed through sharp and closed disciplinary actions, but rather by means of open perspectives of respectful dialogue, comparison and integration of many knowledge fields.
- The application of an accessible form of **planning & design thinking**. As emerges from the text of the European Landscape Convention, the process of creating, managing and transforming landscapes is intimately connected to a collective planning and design process.
- The search for **dialogue and participation of the population.** The **commitment** of the various actors who live and work in each area is fundamental to the emergence of the complete and complex vision of the entire system.
- The adoption of a **phenomenological approach**, according to which what emerges from the phases of collective work, all what the stakeholders bring as their personal and specific contribution, is to be respected as relevant inputs to understand the dynamics that affect a landscape and prefigure its possible evolution.

Due to its systemic dimension, the landscape approach promoted by AELCLIC enables to fulfil an important recommendation contained in the European Adaptation Strategy. This



recommendation consists in trying to foster in all Member States equal initiatives and adaptation strategies on various sectors or themes, including: coastal; desertification; disaster risk management; economy; finance; ICT networks; infrastructure; insurance; land use; maritime; mountains; natural environment; society; soil; spatial planning; tourism; urban; and waste management (COM/2018/738 final; Annex IX- Horizontal assessment of the adaptation preparedness country fiches).

At the same time, the qualitative-perceptive assessment of impacts, risk and vulnerability in the AELCLIC project, helps to enrich the variety of approaches that are being tested across Europe, as recently attested by the European Environment Agency, especially in stakeholder-driven processes. Moreover, the systemic dimension of the landscape proved to be profitable also to promote a greater connection between the practices of disaster risk management and those of climate change adaptation, which today is a transversal lack according to the EU Adaptation Strategy.

The Landscape offers us a privileged dimension to read the simultaneous rewriting of man-nature relations due to climate change. The approach through which the AELCLIC project addresses the issue of adaptation to climate change is strongly planning- and design-oriented, effectively proposing the application of the principles of the ELC on the subject of "protection", "management" and "planning" of the landscape (ELC, 2000, art. 1 d, e, f).

For this reason, as it has been illustrated in DELIVERABLE 3, the programmatic documents for the Landscape Adaptations Plan to Climate Change (LACAPs) contain mainly "actions, from a perspective of sustainable development, to ensure the regular upkeep of a landscape, so as to guide and harmonise changes which are brought about by social, economic and environmental processes" (ELC, 2000 art.1 e), but also "actions to conserve and maintain the significant or characteristic features of a landscape".

Therefore, with respect to the landscape approach that the AELCLIC project proposes for Climate Change adaptation, it has been possible to draw some evidences considered important both to describe the pathfinder model and to ensure its scalability and repeatability in other contexts.

## Main Findings: Experiences and examples from the pilot landscapes concerning the successful use of the landscape concept.

- Developing the metaphor of the "landscape as interface", allows gathering results on both knowledge and planning/design. The landscape becomes the dimension that reveals the character of the territory as well as of the relationships between its structural components and the dynamics of transformation to which it is subjected. At the same time, it is also the dimension in which actions are envisaged to preserve, manage and transform these relationships, characters and dynamics.
- Instilling and promoting in the local networks a critical awareness of the landscape reveals the connection and the constant evolution of Man-Nature relationship under the current pressures of climate change. Only by acting primarily on the cognitive perception of the community, it is possible to build the basis for action. Therefore, for example, the impact of recent exceptionally dry summers on the fodder-production of alpine meadows is really worrying the entire community of the Tarentaise valley. Displaying realistic visualizations of future sea level raise scenarios in different iconic beaches in Torrevieja also made a strong impact on the local stakeholders.
- Fostering a collective landscape planning and design approach helps to define and share a concrete common path. Through the definition of a set of realistic landscape adaptation





scenarios or visions, each local network should be enabled to turn a possible or "likely future" into a "desired future". This was explicitly analysed, for instance, during the first workshop in the Huerta landscape when, at the initiative of the own local network, a "Zero Huerta" scenario (total loss of the landscape) was assessed regarding the consequences that the city of Valencia would have to bear following the loss of a key part of its green belt.

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- The use of the Mitigation and Adaptation concepts provides a useful and fruitful lens to analyse the multiple implications of Climate Change. Providing precise indications on the meaning of these two challenges, in addition to creating a shared language, opens up more planning and design opportunities. In fact, it enables the members of the network to prefigure a greater number of adaptation solutions, even complementary to each other, and to detect the potential co-benefits and synergies of combining Climate Change mitigation and adaptation.
- Following the prescriptions of the EU Adaptation Strategy and the relevant National Adaptation Plans or Strategies (NAPs; NAS), grey, green and hybrid approaches to climate change adaptation must be integrated, especially in urban environments. The difference among those approaches to urban adaptation, and some possible ways in which the AELCLIC project could help to maximize their benefits, were therefore explicitly explained to the stakeholders in different pilot landscapes.

#### 3. Crossing methodologies

#### The tools to enable the AELCLIC Pathfinder process

From a methodological perspective, the produced evidence benefits from the activities conducted in the fifteen AELCLIC pilot landscapes and can be structured in two levels. The first level concerns the codification of a virtuous process, the second concerns the methodologies and tools that can effectively support the process. Both levels have contributed to create a possible scalable model.

**3.1. PROCESS.** With regard to such a virtuous process, we highlight the importance of:

- 1. Ensure the consistency between the process and the 5 steps Adaptation policy cycle codified by the EU Adaptation Strategy.
- 2. Creating flexible work-plans, able to adapt to the different challenges posed by different contexts. The flexibility and the feasibility of work-plans is a prerequisite both to manage data or results that initially were not prefigured and to manage contingencies (see also fig.1 of DELIVERABLE 1).
- 3. Having a balanced alternation between moments of collective production and moments of synthesis and fine-tuning conducted by experts in landscape and climate change (AELCLIC partners in this case). The alternation of participatory phases with phases of critical synthesis, data processing, work preparation and study of materials proved to be extremely important to ensure both the control of the process and the completeness and representativeness of the results produced (see the scheme in fig. 1).
- 4. Guaranteeing the balance between different phases to respond to the specificity of the local landscape and local network. The adoption of a specific work plan must respond to the specific characteristics of the local network and to the main objectives defined by them for their landscape. The scheme in fig. 2 illustrates the type of process executed in all the pilot landscapes, and the different ways in which they have adapted to the needs of the pilot landscapes (for further information see DELIVERABLE 1).



**Fig.1** | SCHEME summarizing the main phases of the AELCLIC activities in each Pilot Landscape in terms of openness to participation and balance between different tasks.

- 5. Taking special care of the intermediate results produced during the whole process (e.g. workshops) and their dissemination. This could include, for instance, the production of press releases and working with the media in order to increase public dissemination of those results as well as the use of adequate webpages (see Deliverable 8: WEBPAGE of the AELCLIC project).
- 6. **Guiding and fostering the envisioning phase in order to make it well grounded.** This phase was central in every pilot landscape. The goal of this phase was not to prefigure utopias but to reveal different pathways of reaching a desired future. While requiring a transdisciplinary approach, it is also necessary to ensure consistency and integration with the planning and current legislation at different levels (local-metropolitan-regional-national). This process of cognitive maturation of the local network can be encouraged by making use of recovered or new landscape narratives.



Fig.2 | SCHEME summarizing the relevance of each phase of the activities in each work package and pilot landscape.



- 7. **Combining knowledge development and policy integration.** In full consistency with the principles of the EU Adaptation Strategy, the AELCLIC project has activated synergistic actions on several fronts starting with awareness raising, development of scenarios and vulnerability analysis, and trying to put the application of results in practice.
- 8. Establish a circular relationship between leading and multiplier pilot landscapes. As initially planned in the AELCLIC project and as emerged from the experience gained in the Northern Europe, South-Western and South-Eastern work packages (WP5, WP4, WP2), the dialogue between leading and multiplier pilots enabled to adapt the duration and contents of the AELCLIC activities to the circumstances and specificities of each individual pilot landscapes and local network. In addition, this dialogue permitted to benefit from the experiences and results obtained in other pilot landscapes, even from different work packages, as examples and warnings. The multiplier landscapes offered the opportunity for testing the results and methodological leanings gained during the work in the leading pilot landscapes. Therefore, a circular approach guarantees the implementability of the model and the refinement of the employed methodologies and tools.

#### **3.2. METHODOLOGIES AND TOOLS:**

With regard to the specific methodologies and tools for conducting and substantiating the generation of local networks and their collective definition of contents and inputs for future Landscape Adaptation Plans to Climate Change (LACAPs), it is important to ensure an interdisciplinary approach and the use of strategies to promote active learning, team building and planning/design thinking. These conditions are at the core of the methodological approach of the AELCLIC project and have led to a wide use of different and complementary tools and methods, summarized in Figure 3, calibrated gradually by the partners to better fit the specificities of the various pilot landscapes and local networks. The choice of the most suitable method and the use of similar or varied methods within the same work package or across different work packages depends mostly on the factors enumerated in the introduction of this document. The choice of different methodologies and their complementary use has further assured the flexibility of the work-plans, making particularly effective also experiences in which the process has been based on a single integrated workshop, as in the pilot landscapes of Bucharest and Etna-Sicily.



Fig.3 | SCHEME summarizing all the methodologies and tools employed in the AELCLIC project in each pilot landscape.



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With regards to the methodologies and tools used in the AELCLIC project, it is important to highlight the importance of:

- **1.** Combining the use of multi-criteria analysis (MCA) with literature, modelling, and stakeholder or expert inputs in order to achieve outcomes that are more robust.
- **2. Prioritising options using multi-criteria analysis and stakeholder inputs** is important for the efficient and effective use of limited adaptation resources.
- **3.** Developing joint workshops or sessions with other projects that share similar aims helps providing highly detailed knowledge to the attendants regarding the specific territorial situation of the landscape.
- 4. Carrying out an accurate study of policies and plans (especially the EU Adaptation Strategy and the relevant National Adaptation plan) that concern adaptation to climate change and related issues, and exploring potential links and synergies with the local networks allows achieving enforceable results.
- 5. Seeking the integration with existing or future policies and planning tools lays the foundation for influencing governance processes and increasing the legitimacy of the produced results.
- **6.** Jointly define visions of the future landscape that involved parties of the community wish to promote and define pathways towards such a future, including the commitment of public authorities, local entrepreneurs and citizens, and eventually representatives of supra-regional commercial organisations. ...
- 7. Illustrating the environmental and social effects of climate change, from global to landscape-specific scenarios, enables a clear perception of the expected impacts and raises public awareness towards future adaptation measures in each landscape.

#### 4. Creating strong local networks

Composition, representativeness and operative capacity of the AELCLIC local networks

With the creation of local networks connected at an international level, the AELCLIC project has created new spaces (and expanded the existing ones) for international and intercultural dialogue on a topic of great importance for both local communities and Europe. The establishment of local networks has laid the ground for future collaborations and has recognized the different landscape identities constructively and democratically based on shared values.

Fifteen local networks have been created with a varied representation of stakeholders. More than 500 participants have actively taken part and contributed in the activities of the project, and other people and institutions have endorsed or followed the project.

The generation of local networks was mainly concentrated at the beginning, during the organization of each work package, but then it was further implemented bottom-up throughout the process. Many new stakeholders have joined the networks during the project, attracted by the interest raised by the project in the media, by word of mouth, or contacted directly by the local network because their presence was felt necessary. The highly inclusive and participatory nature of the AELCLIC project has made the local networks more diverse and representative of the local community in order to facilitate the future preparation of LACAPs. Thus, almost all tyeh AELCLIC local networks counted with the presence of local and regional administrations, environmental, social and cultural associations, companies, foundations, research institutes and societal groups (see deliverable 1). In some pilots, some stakeholders from neighbouring territories also joined the workshops and actively contributed in outlining cross-sector and cross-



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actor synergies that may be activated in the core pilot but also in other satellite areas connected to it, thus revealing and already implementing a multiplying effect at a regional scale.

In most cases, the local and regional administrations played an important role in the networks, either being among the promoters of the workshops (as it happened in Bologna, in Mantova, in the Hyppänjoki Valley, in Malmi-Helsinki, in Tornio, in the Metropolitan Area of Barcelona, in La Mata-Torrevieja, in the Alt Pirineu Natural Park or in Serres d'Ancosa), or being invited to join the local network (see the cases of Bucharest pilot or the Etna landscapes). For the pilot landscapes located mainly in urban and periurban areas the administrations involved were mainly the municipalities, as in Bologna, Mantova, Helsinki, or La Mata-Torrevieja, La Huerta de Valencia-Alboraya or the regional authorities jointly with the municipalities, as in Zuid-Holland, just to cite a few. For pilot landscapes of more rural nature or over-municipal extension; regional or metropolitan administrations or consortia of municipalities have been involved, as in the case of Metropolitan Area of Barcelona (Riu Besòs), Huerta de Valencia-Alboraya or Serres D'Ancosa.

Some networks are instead characterized by a strong presence of societal organizations, associations and NGOs with the subsequent potential for bottom-up actions, as is the case of the Bucharest pilot landscape, Haute Tarentaise, Huerta de Valencia-Alboraya or Bertra Dunes System.

Another relevant aspect is that in those pilot landscapes with a strong identity, the local networks usually presented a special disposition to dialogue and cooperation.

The experience maturated in the AELCLIC Pathfinder project allows extracting some common evidences regarding the creation and management of local networks, which might inform the definition of guidelines for other landscapes or regions (see Deliverable 6) and foster a reflection to improve the gained experience. The **main transversal findings** concerning the creation and management of strong local networks for Climate Change Adaptation include:

- **Creation of a common and shared language.** If it does not arise spontaneously through the first collective work sessions, it is useful to codify and clarify the meaning of the key concepts of the project, of particular actions and methodologies. This will be the first element to provide cohesion and ensure mutual understanding within the group.
- The specificity of each landscape corresponds to the specificity of the actors called to manage (and transform) it. The most proactive and promising networks are those in which the main driving forces of the landscape, stakeholders and actors are best represented.
- A special effort must be made to engage **representatives of strong supra-regional organisations or key economic actors** such as energy providers and transport companies, but also international tourist agencies or – as is the case in the alpine Tarentaise Valley or Parc Natural D'Alt Pirineu– ski resorts.
- It is essential to guarantee the involvement of the administration(s) in charge of the territorial and environmental planning for the considered landscape.
- Ensure that the composition of the local network promotes and strengthens the vertical coordination between the various levels of landscape and climate change adaptation policies and planning in order to ensure the full implementation of the European Adaptation Strategy.
- Guarantee the openness of the local network during the whole process as well as its representativeness in order to increase the implementability, legitimacy and feasibility of their decisions.



- Make sure that research responsibilities are shared between the involved stakeholders. This aspect, whose importance has been also mentioned by the European Adaptation Strategy, contributes to make the potential of the network more concrete and effective.
- Ensure the involvement of authorities in charge of landscape protection in the local **networks.** The relationship with National Trust and Bodies responsible for landscape protection is felt as a very important issue in various territories.
- Give to the local network the possibility to **designate an official representative for future actions** within the AELCLIC (Climate-KIC) project.
- Effectively guarantee the **continuous participation of the network members** both through a careful and clear organization of the agenda and through a punctual update on the results even for those who could not participate in some activities due to unforeseen circumstances.

#### 5. Towards LACAPs.

#### Similarities, differences and future of the AELCLIC programs for change.

In all 15 pilot landscapes, the AELCLIC pathfinder project has co-generated programmatic documents or inputs for future Landscape Adaptation Plans to Climate Change (see Deliverable 3 for their definition and description).

As a general criterion, LACAPs would include regional/local policies, strategies, pilot actions and initiatives to promote Climate Change adaptation and, optionally, mitigation. Their contents might vary depending on the specific nature of the landscapes taken into consideration, and the weight of the conditioning factors described in the introduction to this document.

The programmatic inputs for future LACAPs have defined in all the AELCLIC pilot landscapes the specific objectives of adaptation of the landscape to Climate Change, which, consistently with the principles of the European Landscape Convention, can often be related to landscape quality objectives, which precisely identify adaptive scenarios shared and desired by the population. Each programmatic document generated at the end of the AELCLIC activities in each pilot landscape is characterized by the prevalence of themes that are often directly related to the main impacts of climate changes (CCs) as perceived by local communities (see Deliverable 2 for more information). The definition of climate adaptation plans for entire landscapes actually implies the inclusion of a continuous participatory process and the co-definition of the contents of the plan. This makes the final structure of the LACAPs completely path-dependent.

In general, the contents and the specific subjects/features of the LACAPs faithfully reflect the process carried out in each pilot landscape and the different influence of the factors described in the introduction of this deliverable. No pre-codified structures for LACAPs have been defined, but those that acquired in the AELCLIC project higher levels of depth were usually related to landscapes with very clear or acute needs, with a strong social awareness or with advanced climate adaptation policies.

From the comparative analysis of the various programmatic documents proposed by each local network for a future LACAP, some interesting similarities can be identified. They can be grouped according to the type of landscape they deal with, whether urban, periurban or rural, or with the type of instrument that the documents suggest for their development and implementation: strategic plans, thematic/specific plans, or pilot actions. Due to the variety of topics, objectives, challenges, barriers, values, resources of each local landscape (see also Deliverable 3 for further



information), LACAPs cannot be pre-coded in a standard set of pre-defined instruments, but must adapt to the needs in order to guarantee flexibility.

The experience acquired in the AELCLIC project about the programmatic inputs for future LACAPs, allow defining some transversal findings:

- LACAPs do not necessarily call for their translation into a specific or pre-codified plan or instrument. Rather, they may be understood as special and specific layers for climate adaptation policies and planning, encouraging land use, spatial, urban and maritime planning policies adaptation, as required by EU Adaptation Strategy. In some contexts, defining adaptation measures through a plan would allow improving their implementation more effectively and a better integration with existing programs and plans. In some others, as displayed also in the recent review of the EU adaptation Strategy, Annex XI, a coordinated pilot action system can offer the most effective way to carry out the planned actions.
- LACAPs should guarantee consistency and incisiveness with respect to the existing regulatory framework, establishing general but binding principles for the concrete activation of adaptation projects.
- LACAPs should align their objectives with those set and agreed at EU level through the EU Adaptation Strategy and with those at national level set by National Adaptation Plans.
- LACAPs should define clear and shared paths of integration with other current and related plans, and allowing for further implementation of their determinations in more detailed plans.
- LACAPs should **undertake rigorous climate risk or vulnerability assessments** in priority sectors in order to support decision making in the most critical, sensitive or strategic issues.
- The methodological approach to the construction and definition of LACAPs should **include a participatory path in each phase.**
- The logic with which the LACAP must be constructed **should provide a mixed and integrated approach to inductive and deductive procedures** and should always include an accurate characterization of the landscape considered.
- Following the prescriptions of the EU Adaptation Strategy and the relevant National Adaptation Plans or Strategies (NAPs; NAS), soft, green and grey actions to climate change adaptation should be integrated and combined into the LACAP, providing different and progressive levels of climate change adaptation.
- The level of development of national and regional climate adaptation policies and plans often influences the content and structure of LACAPs..
- The programmatic inputs for LACAPs should be identified through a participatory process and should preferably contain: landscape values, goals, key themes or topics for Climate Change Adaptation, expected and perceived CC impacts, opportunities, solutions, actions and barriers. These contents would allow to have a wide range of data useful for formulating strategies, solutions and actions to be carried out at different levels and capable of acting both on the intangible and tangible dimensions of the landscape.
- Consistently with the EU adaptation Strategy, and in order to foster the concretization of the two last steps of the Adaptation policy cycle, each LACAP should include an Implementation plan and a Monitoring Plan.
- In some cases the articulation of the **solutions in "integrated landscape projects"**, including systemic actions on several themes and sectors, facilitates the implementation of the LACAP, increasing its internal consistency and its alignment with national and EU strategies.



#### 6. Conclusions

#### 6.1. Drivers and Barriers affecting the Implementation of the EU Adaptation Strategy

"The overall aim of the EU Adaptation Strategy is to contribute to a more climate-resilient Europe. This means enhancing the preparedness and capacity to respond to the impacts of climate change at local, regional, national and EU levels, developing a coherent approach and improving coordination."

Stemming from this key principle, the results and the findings of the AELCLIC pathfinder project provide a valuable contribution to the implementation of EU Adaptation Strategy trying also to address the current major challenges identified in its recent review/implementation (COM/2018/738 final).

A consistent alignment with planning at European and national level has been one of the basic objectives of the AELCLIC project. In relation to this, the AELCLIC-Pathfinder process followed the 5 phases codified by the EU adaptation strategy in the Adaptation policy cycle. Thus, in each of the 15 pilot landscapes, the AELCLIC project included an initial analysis of the national climate adaptation plans or strategies (see figures 1 and 2), in order to align them with the objectives of the programmatic documents for future LACAPs and their subsequent development in actions and ad hoc solutions for the considered scale. The EU Covenant of Mayors for Climate and Energy provides a sound mechanism to foster city-level adaptation policy making and this has been particularly evident in the pilot landscapes with an urban character, such as Bologna, Mantova, Malmi (Helsinki), Huerta de Valencia-Alboraya or the Metropolitan Area of Barcelona (Riu Besòs). Despite the systematic coordination across national, regional and local levels of administration in all the countries involved in the AELCLIC project, not everywhere real progress has been made to enable lower levels of administration to influence policymaking. This deficiency made the contribution offered by the AELCLIC project even more evident and relevant, as it has been able to act on local contexts by improving this vertical coordination in the period of implementation of NAPs and NASs as well as by activating dormant contacts or stimulating greater synergies.

The project has also worked on themes and issues in which the recent revision of the EU adaptation Strategy has found the major knowledge gaps, such as: "the consideration of nonclimatic factors, cross-sectoral interactions and cross-border impacts, common metrics for impacts and vulnerabilities, uncertainties, long-term adaptation and targeted communication".

Even if Member States have included actions related to knowledge in their NASs and have identified adaptation knowledge gaps, there seems to be limited activity to address these gaps in almost half of the Member States (COM/2018/738 final). Starting from the analysis of National Adaptation Plans and strategies, the AELCLIC project has tried to fill these gaps both with a transversal landscape approach, and, for other specific sectors, by inserting in the programmatic documents for future LACAPs actions concerning future and essential analytical investigations in different fields. Moreover, AELCLIC has promoted knowledge transfer processes to build adaptive capacity across sectors, including associated capacity-building activities (such as education on climate adaptation concepts and practices, on landscape and nature-based solutions, dissemination of training materials, etc.). The project has made also the acquired knowledge accessible and applicable to all the AELCLIC local networks and to the general public, by defining complementary strategies such as promoting the collaboration between different stakeholders and presenting inspiring and practical case studies.



The European Adaptation Strategy indicates also the importance of improving the coordination between strategies and actions for adaptation and disaster risk reduction. The AELCLIC project, on the basis of the multi-criteria analysis conducted, of the inputs provided by stakeholders during the whole process, and more generally of the tested landscape approach, has worked for the full integration of these aspects that find equal weight in the LACAP planning documents produced in all pilot landscapes (see DELIVERABLE 3 for more information).

According to the abovementioned review, the major shortcomings with respect to an effective implementation of the EU Adaptation Strategy concern the two final phases of the Adaptation policy cycle: (1) implementation and (2) monitoring and reporting of adaptation actions. At this point, the main contribution of the AELCLIC project was to involve, enable and empower a greater number of stakeholders to trigger the realization of these two phases above all on the local scale. Among other results, the AELCLIC project has connected Climate Change Adaptation to local communities, demonstrating the need and feasibility of integrating top-down and bottom-up approaches to prefigure shared future scenarios and to co-define systemic solutions.

#### 6.2. Gaps and recommendations for further initiatives and implementation

Based on the experience of the AELCLIC project, the scalability of the proposed model emerge as one of the critical points on which further work is necessary.

The highly inclusive, open and participatory nature of the AELCLIC Pathfinder project, besides the many advantages already explained, allowed identifying and analysing some problems related to organization, management and representativeness, which must be considered as naturally occurring when working with very heterogeneous groups of people to define broadly shared trajectories. The deliverable one, dealing with the generation of local networks and the definition of their work-plans, has already highlighted some difficulties encountered on the organizational and management level, thus providing recommendations in this sense for future experiences in the same places or elsewhere.

With regard to the actual capacity of the project to incorporate both the opinions of the local community and the evidences of experts in CC adaptation, the project has no particular deficiencies. It benefited from the existing local knowledge in each pilot landscape by defining an integrated, flexible and transdisciplinary approach, with a very high potential. In assessing the success of the AELCLIC-pathfinder process, the deficiencies do not concern neither the methodological part, nor the inspiring principles and approach that informed the whole process, but instead the future development of what has been outlined. In order for the AELCLIC project to be fully successful and secure its results, the process must outlive the pathfinder phase. In most pilots, it was able to identify the resources necessary for the development of future LACAPs, especially in terms of skills, but the financial part can be considered a more challenging point. As the recent review of the EU Adaptation Strategy assessed for the national contexts, "there is a lack of reliable funding, with only half of Member States having budgets attached to their NAS or NAP".

Considering the uncertainties affecting the future development of LACAPs (funding, resources, timeframes, etc.) it was difficult to ask the members of the local network to sign a formal agreement, even if it was intended to be a symbolic act or an expression of interest. This uncertainty was one of the most critical factors, with implications also for the organization and management of the group. The organization of the international meeting, as a unique and transversal moment of open interaction between the representatives of all the pilot landscapes,



proved to be very useful for various reasons but above all to share doubts and create new alliances to overcome the current uncertainties and move forward.

Finally, and in order to ensure an effective implementation of the AELCLIC results, to increase their legitimacy and to have an effective influence on governance systems, it would be essential to integrate the AELCLIC results within the adaptation plans in force or under development. This would imply the definition of a fruitful and continuous dialogue with the relevant local or regional administrations, and above all, to include them in the local network, making sure that they take a leading role in the implementation of results.



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