



MASTER ADAPT

MAInSTreaming Experiences
at Regional and local level
for ADAPTation to climate change

LAYMAN'S REPORT

LIFE MASTER ADAPT - MAInSTreaming Experiences at Regional and local level for
ADAPTation to climate change - LIFE15 CCA/IT/000061



With the contribution of the LIFE financial instrument of the European Community



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THE PROJECT PARTNERS

COORDINATOR



REGIONE AUTONOMA
DE SARDIGNA
REGIONE AUTONOMA
DELLA SARDEGNA

AUTONOMOUS REGION OF SARDINIA Environmental Protection Department

It is one of the most active Italian Regions in the process of adaptation to climate change, and coordinates the Interregional Working Group on Climate Change of the Environment and Energy Commission (Conference of Regions and Autonomous Provinces). It adopted its Regional Adaptation Strategy in 2019.

PARTNERS



Regione
Lombardia

LOMBARDY REGION

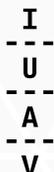
With over 10 million inhabitants, it is the most populated Italian Region. In 2014 the Region - the first in Italy - adopted its Regional Strategy for Adaptation to Climate Change.



ISPRA
Istituto Superiore per la Protezione
e la Ricerca Ambientale

ISPRA - Institute for Environmental Protection and Research

Established in 2008, it is a public research body that carries out technical and scientific control, monitoring and assessment; strategic consulting, technical and scientific support as well as information, dissemination, education and training on environmental issues.



IUAV UNIVERSITY OF VENICE

The Planning Climate Change research group works on spatial planning as part of the complex and dynamic set of relationships between humans and nature.



UNIVERSITY OF SASSARI

The Department of Agriculture of the University of Sassari carries out teaching, training and research on adaptation and mitigation to climate change to support decision-makers for a sustainable and resilient development of the territory. It collaborates with the CMCC Foundation (Euro-Mediterranean Center on Climate Change), of which it is a founding member.



FLA - Lombardy Foundation for the Environment

Organization established by the Lombardy Region in 1986 as a "moral and scientific body" to exploit the experience and technical skills acquired following the ICMESA accident in Seveso in 1976.



ITALIAN LOCAL AGENDA 21 ASSOCIATION

A network of over 300 local and public authorities (Municipalities, Provinces, Metropolitan Cities, Regional Governments, etc.) committed to implement policies and strategies to improve environmental management and promote sustainable development.



AMBIENTE ITALIA

Ambiente Italia has been on the Italian and European market for thirty years, working in the field of research, consultancy and design for sustainability. It has completed over 2,000 projects on behalf of private companies, public utilities, local administrations, European Union bodies, Italian Ministries and public agencies, research institutes, and Italian and foreign Universities.

With the
contribution of:



THE LIFE MASTER ADAPT PROJECT

The LIFE Master Adapt project - MAInSTreaming Experiences at Regional and local level for ADAPTation to Climate Change - is designed to define and develop a methodology for Local Governments (Regions, Metropolitan Cities and Groups of Municipalities) to include adaptation to climate change as a key element for sustainable territorial management in their plans and programmes.



What is Mainstreaming and what differentiates Horizontal from Vertical Mainstreaming?

“Mainstreaming of Adaptation” is the reorientation of current policies, tools, actions and good practices to pursue adaptation to climate change in local governments.

Horizontal mainstreaming is the process of integrating adaptation objectives within the many sectors of an administration.

Vertical mainstreaming is the process of integration of such objectives within the different administrative levels of local governments at the sub-regional level and the definition of criteria and tools to facilitate their structured integration.

Master Adapt responds to the needs of Local Authorities that are already experiencing the negative impacts of climate change, by identifying, testing and disseminating multilevel governance tools to support local and regional authorities in the process of integrating adaptation into sectorial policies.

It promotes a mainstreaming process to design and implement adaptation plans/strategies through “vertical” coordination between the various levels of territorial government (State, Regions and Local Authorities) and between different policy sectors (land use, landscape, agricultural, environmental, civil protection, etc.).

Master Adapt has defined a common methodology and guidelines for:



REGIONAL GOVERNMENTS

- ▶ To integrate adaptation into policies and plans, and define regional adaptation strategies
- ▶ To identify the main vulnerabilities and action priorities
- ▶ To facilitate public-private collaboration

METROPOLITAN AREAS AND GROUPS OF MUNICIPALITIES

- ▶ To integrate adaptation into local planning of Metropolitan Areas and Groups of Municipalities
- ▶ To facilitate the optimization of relations with the upper-level planning
- ▶ To increase and coordinate the municipal planning capacity
- ▶ To facilitate public-private collaboration



The Master Adapt project approach makes it possible to transfer and replicate it to other areas, Regional Governments and Local Authorities, both in Italy and in Europe, to support adaptation to climate change processes at different scales.

The project, with a total budget of € 1,592,674, 60% financed by the contribution of the LIFE instrument of the European Commission, was carried out in the period from October 2016 to June 2020, lasting 45 months.

PILOT AREAS

Aggregation of Municipalities in Northern Milan

Lentate sul Seveso, Meda, Barlassina, Seveso, Cesano Maderno, Desio, Bovisio Masciago, Varedo

Lombardy Region

Metropolitan City of Venice

Metropolitan Network of North Sardinia

Sassari, Alghero, Porto Torres

Sardinia Region

Metropolitan City of Cagliari

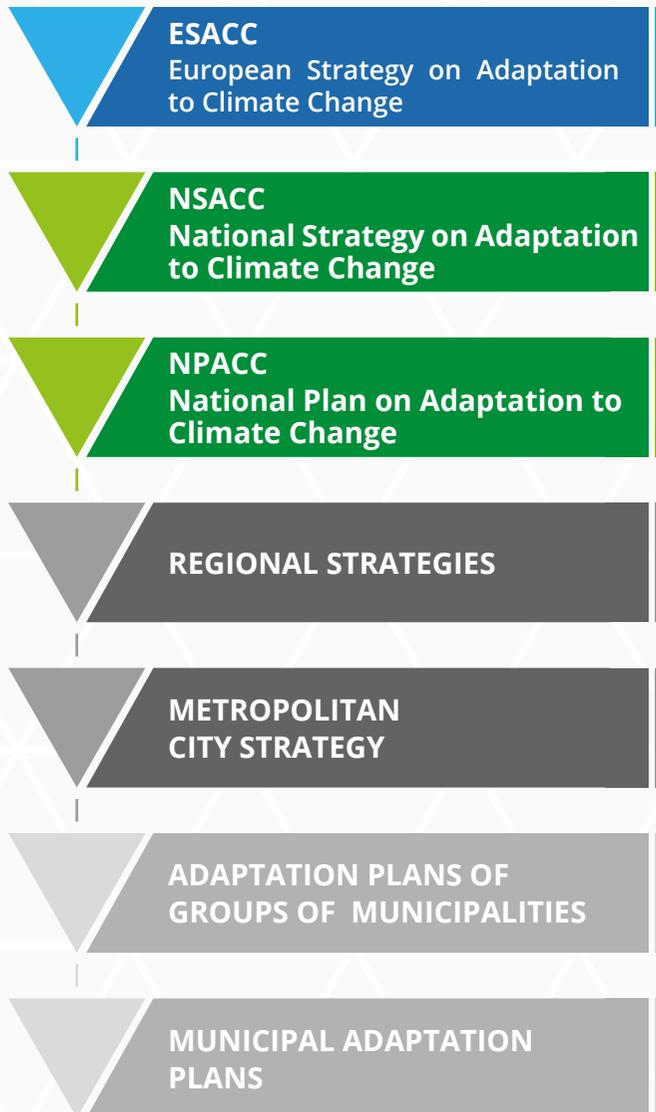
Union of Municipalities in Northern Salento

Campi Salentina, Guagnano, Novoli, Salice Salentino, Squinzano, Surbo, Trepuzzi



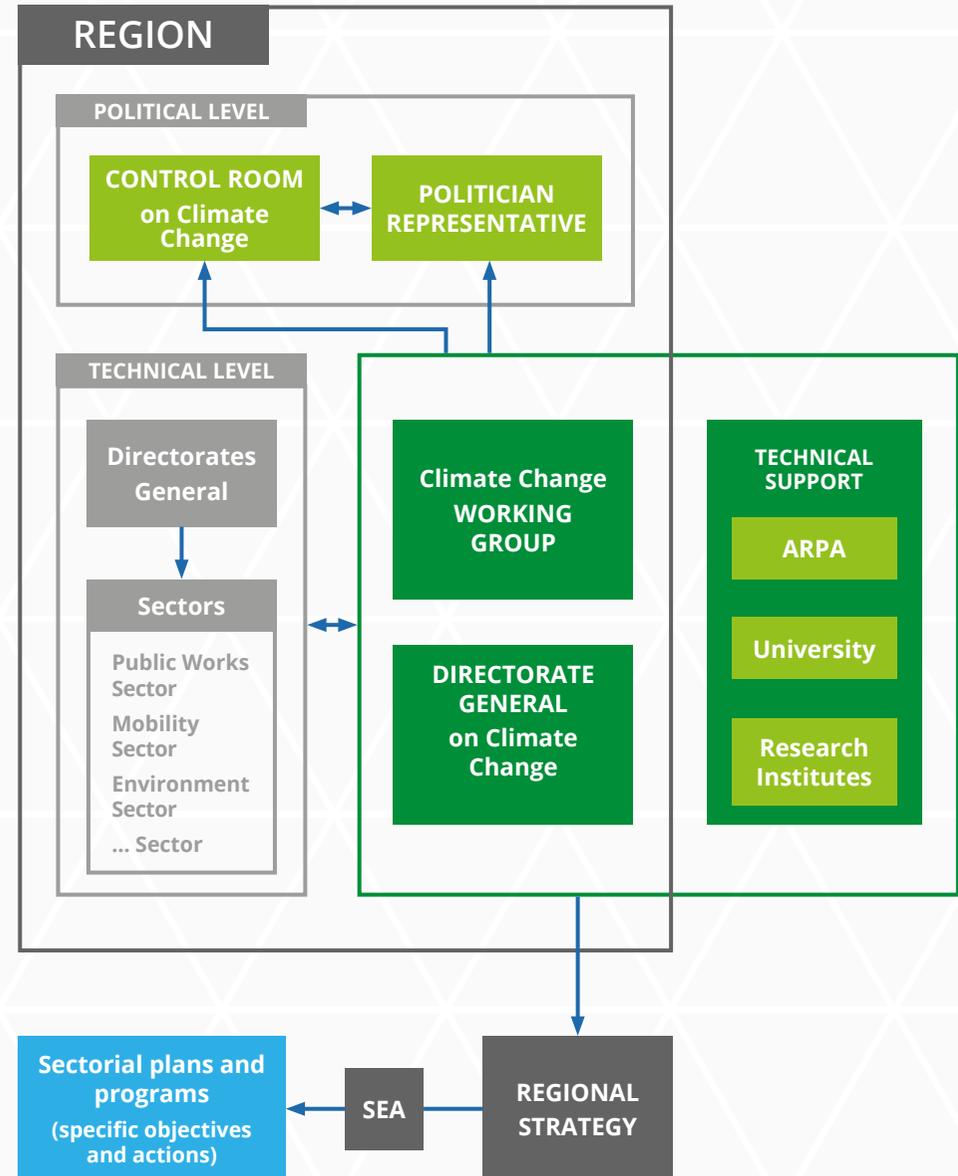
MAINSTREAMING AND MULTILEVEL GOVERNANCE FOR ADAPTATION

Master Adapt has developed three guidelines to support Local Authorities officials and administrators at several levels towards multilevel integration of adaptation in plans and programmes.



MAINSTREAMING IN REGIONAL GOVERNMENTS

Master Adapt's guidelines for the Regional adaptation strategies recommend a set of methods and tools for the mainstreaming of adaptation and multilevel governance.



MAINSTREAMING IN METROPOLITAN CITIES AND GROUPS OF MUNICIPALITIES

The Guidelines for the implementation of mainstreaming in Metropolitan Cities and the Guidelines for the implementation of mainstreaming in Groups of Municipalities bring technical and administrative personnel of Local Authorities through a potential recommended process, based on the knowledge of the territories and their peculiarities (territorial context, historical and future climate condition, vulnerability and risk, adaptive capacity), and of the many instruments used to govern them. The guidelines analyse how they can help adaptation to climate change, identify the active stakeholders (level of participation and involvement, skills of administrative structures, Italian, Regional, supra-municipal and municipal plans and programmes), define specific adaptation objectives for planning and programming and the actions to be taken as a result (adaptation objectives and actions, and how to integrate adaptation into plans and programmes). Lastly, the guidelines set out final and fundamental steps: monitoring and disseminating the outcomes to raise a collective and long-lasting awareness on adaptation.



MAINSTREAMING FOR ADAPTATION

Development of the knowledge framework

Vulnerability analysis and risk appetite assessment

Stakeholders engagement and involvement

Mapping of the competences of administrative structures

Mapping of national, regional, supra-municipal and municipal plans and programmes

Definition the adaptation goals and objectives

Possible adaptation actions

Guidelines for integrating adaptation into plans and programmes

Eventual strategy of adaptation

Monitoring

Dissemination



PROJECT PHASES

Master Adapt has grown in 4 main phases:

1. INITIAL ASSESSMENT OF THE PILOT AREAS

We have mapped tools and methodologies helpful to achieve the project objectives:

- ▶ A climate and vulnerability analysis of the pilot areas
- ▶ Involvement and dialogue with other experiences in Europe.

The work of this phase has led to the preparation of the “Guidelines, principles, and standardized procedures for climate analysis and vulnerability assessment at the regional and local level” that provide the regional and local administrators dealing with institutional processes aimed at adaptation to climate change with the basic operational elements that are essential to define a knowledge framework that can aid in planning the most advisable adaptation measures.

2. TOOLS AND OBJECTIVES

The second phase - the operational heart of the project - led to select general and specific objectives to support the adaptation process in the regional territory of Sardinia (Region and Metropolitan areas of Cagliari and Sassari) and in the other pilot areas. This selection process has made it possible to define the Master Adapt guidelines to integrate adaptation into the policies of Regional Governments, Metropolitan Cities and Groups of Municipalities. The guidelines provide significant support to all the local government technical and administrative personnel (Regional Governments, Metropolitan Cities and Municipalities) that work on adaptation policies. The Master Adapt guidelines also support the optimisation of relations with top-level planning, to increase and coordinate inter-municipal planning capacity, facilitate public-private collaboration, and mainstreaming at the regional level through “vertical” coordination between different levels of territorial government and “horizontal” coordination between different policy sectors.

3. IMPLEMENTATION OF THE ADAPTATION

This phase has made it possible to:

- ▶ Develop the Regional Strategy for Adaptation to Climate Change in Sardinia.
- ▶ Identify and facilitate the implementation of 96 regional adaptation measures and 336 local adaptation actions in the territories involved.
- ▶ Raise awareness and train the public administrators and stakeholders of the territories involved.

4. COMMUNICATION AND NETWORKING

Communication and networking - with national and international networks and more than 28 European projects - have made it possible to disseminate the results and the guidelines of Master Adapt on an Italian and European scale. During the project period, 5 public project events were organized and more than 300 people attended. Master Adapt has also been disseminated in 60 Italian and international events.

MASTER ADAPT IN NUMBERS

Adoption of the Regional Adaptation Strategy of the Autonomous Region of Sardinia (first place award for Sustainable Public Authority at ForumPA 2019 prize).

Review of the most recent developments in climate action of the Lombardy Region.

96 regional adaptation measures in **21** sectors and **336** local adaptation actions focused on urban heat islands, urban overflows and flooding, renaturalising, water-saving and water reuse have been identified through the Master Adapt project activities.

53 Municipalities have been actively involved in the adaptation mainstreaming process: **11** of them joined as signatories the Covenant of Mayors initiative to implement the SECAPs - Sustainable Energy and Climate Action Plans.

314 public administrators and technicians have been involved and trained thanks to the project.

31 regional and local meetings have been organised by Master Adapt.

The project's results have been presented at **60** public events, workshops and panels at Italian and European level.



PROJECT RESULTS

The several actions of the project led to the following main results:

CLIMATE ANALYSIS

- ▶ A climate analysis and vulnerability assessment in the Region of Sardinia, in the Metropolitan City of Cagliari, in the Metropolitan Network of North Sardinia, in the Metropolitan City of Venice, in the Union of Municipalities in Northern Salento, in the Aggregation of Municipalities in Northern Milan, accompanied by guidelines and a selection of good practices and possible actions to achieve an integrated approach in strategies to tackle climate change.

GUIDELINES

- ▶ Realisation of guidelines, principles and standardised procedures for climate analysis and vulnerability assessment on a regional and local scale, helpful for all local authorities that are preparing to implement adaptation and resilience processes in their territories: Regional Governments, Metropolitan Cities, Groups of Municipalities or even individual Municipalities.
- ▶ A detailed guide on how to prepare, plan and generate adaptation objectives at the regional and sub-regional levels and a matrix of general and specific objectives for all the territories involved and for the Regional Adaptation Strategy of Sardinia Region.
- ▶ Realisation of the Guidelines for the implementation of mainstreaming in Metropolitan Cities and in Groups of Municipalities.

METHODOLOGIES

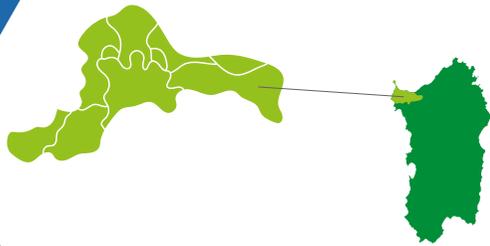
- ▶ Development of an effective and replicable methodology to integrate adaptation on a regional scale and to provide guidance on how to manage multilevel governance in defining regional adaptation strategies.

ACTIVATION OF PROCESSES

- ▶ The adoption of the “Guidelines for Regional Adaptation Strategies” by the Conference of Regional Governments and Autonomous Provinces and its official submission to the Minister of the Environment as a contribution to the Italian national adaptation process.
- ▶ Use of the Master Adapt Regional Guidelines as a basis for preparing the Regional Strategy of the Valle d’Aosta Region.
- ▶ Implementation of an effective and replicable methodology to integrate adaptation on a municipal scale and to manage multilevel governance to define strategies in Groups of Municipalities and in the involved areas.
- ▶ A network of European Regional Governments and Municipalities that share the same practices for adaptation to climate change.
- ▶ The national process for adopting the National Adaptation Plan has been reactivated thanks to the Master Adapt tools.



METROPOLITAN CITY OF CAGLIARI



- ▶ **Municipalities and local authorities involved:** No. 17
- ▶ **Population:** 431,657 inhabitants
- ▶ **Area:** 1,248.42 km²
- ▶ **Vulnerable sectors:** agriculture, forests, urban environment
- ▶ **Plans and programmes/adaptation strategies defined:** Strategic Plan under development

ADAPTATION MAINSTREAMING PROCESS

An analysis was performed on the main impacts of climate change, and their future development, for the risks related to droughts, heat waves and fires. The analysis led to developing a matrix of adaptation objectives and actions. Using participatory approaches, the matrix have been shared and validated by local stakeholders.

OVERVIEW OF MAIN OBJECTIVES AND ADAPTATION OPTIONS

The work carried out, involving Municipalities and stakeholders, has led to the analysis of the individual risks (droughts, heat waves and fires) for the sectors most affected by the individual risk, and the identification of a total of 116 adaptation options: 36 for drought risk, 56 for heat wave risk, 24 for fire risk.

OVERVIEW OF MAIN OUTCOMES AND RESULTS

The analysis pointed out that some Municipalities in the Metropolitan City have less adaptive capacity to the risks analysed and are therefore more vulnerable to climate change, in particular the risk of drought and heat waves. Therefore, the greater urgency lies in working to increase the adaptive capacity in the Municipalities of the area. The Municipality of Cagliari has signed Mayors Adapt, committing to develop the SECAP.

FUTURE DIRECTIONS FOR THE PILOT AREA

The objectives identified in Master Adapt respond to the territory's requirements, identified by gaining knowledge and mapping the current and future strategic projects and planning/legislation. Moreover, the analyses and tools of Master Adapt are an active part of the current development process of the Metropolitan City's Strategic Plan.



METROPOLITAN NETWORK OF NORTH SARDINIA



- ▶ **Municipalities and local authorities involved:** No. 8
- ▶ **Population:** 227,750 inhabitants
- ▶ **Area:** 1,103 km²
- ▶ **Vulnerable sectors:** agriculture, forests, urban environment
- ▶ **Plans and programmes/adaptation strategies defined:**
Adaptation to Climate Change Plan for Urban Floods in the municipalities of Sassari and Alghero

ADAPTATION MAINSTREAMING PROCESS

An analysis was performed on the main impacts of climate change, and their future development, for the risks related to droughts, heat waves, fires and urban floods. The analysis supported the preparation of a matrix of adaptation objectives and actions. Using participatory approaches, the matrix have been shared and validated by local stakeholders and citizens.

OVERVIEW OF MAIN OBJECTIVES AND ADAPTATION OPTIONS

The work carried out, by engaging Municipalities and stakeholders, led to the analysis of the individual risks (droughts, heat waves, fires and urban floods) for the sectors most affected by the individual risk, and the identification of a total of 176 adaptation options: 61 for drought risk, 47 for heat wave risk, 38 for fire risk, 30 for flood risk.

OVERVIEW OF MAIN OUTCOMES AND RESULTS

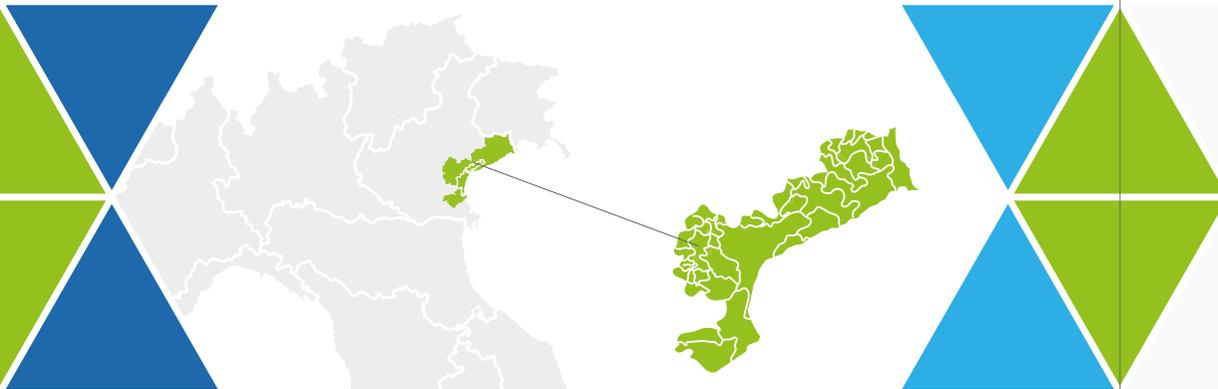
Dissemination and awareness-raising activities have increased general knowledge about climate change and the instruments already in place. The vulnerability analysis of the territory has pointed out that coastal Municipalities in the metropolitan area have less adaptive capacity to the analysed risks and are more vulnerable to climate change, in particular as regards the risk of drought and heat waves. There is, therefore, an urgent need to work to increase the municipal adaptive capacity in the area. The Municipalities of Sassari and Alghero have signed Mayors Adapt, committing to develop the SECAP.

FUTURE DIRECTIONS FOR THE PILOT AREA

Improvement of the environmental performance of the territory (e.g. sustainable mobility and redevelopment of green and natural areas), strengthening of social cohesion to improve the quality of the community life, improvement of the business competitiveness, and activation of a territorial governance capable of supporting a model of sustainable and resilient territorial development.



METROPOLITAN CITY OF VENICE



- ▶ **Municipalities and local authorities involved:** No. 44
- ▶ **Population:** 853,338 inhabitants
- ▶ **Area:** 2,467 km²
- ▶ **Vulnerable sectors:** urban contexts, agriculture, coasts
- ▶ **Plans and programmes/adaptation strategies defined:** SECAP of the Municipality of San Donà di Piave

ADAPTATION MAINSTREAMING PROCESS

An analysis was performed on the main impacts of climate change, and their future development, for the risks related to heat waves and urban floods. The analysis led to developing a matrix of adaptation objectives and actions. Using participatory approaches, the matrix have been shared and validated by local stakeholders and citizens. Three meetings have been held with local administrators from the 44 Municipalities of the Metropolitan City of Venice, and a questionnaire have been prepared to map the adaptation actions in the three target Municipalities.

OVERVIEW OF MAIN OBJECTIVES AND ADAPTATION OPTIONS

The initiatives identified a wide range of objectives and options for urban heat wave and flooding impacts and identified a total of 47 adaptation options: 31 for heat wave risk, 16 for urban flooding risk.

OVERVIEW OF MAIN OUTCOMES AND RESULTS

Signature of the “new” Covenant of Mayors (“203040”) and commitment to realisation of the SECAPs; in particular, 4 memberships to the SECAP (Caorle, Concordia Sagittaria, San Donà di Piave, San Stino di Livenza, Stra) and several Municipalities (13) interested in joining. The SECAP of San Donà di Piave, already adopted, includes 23 adaptation actions.

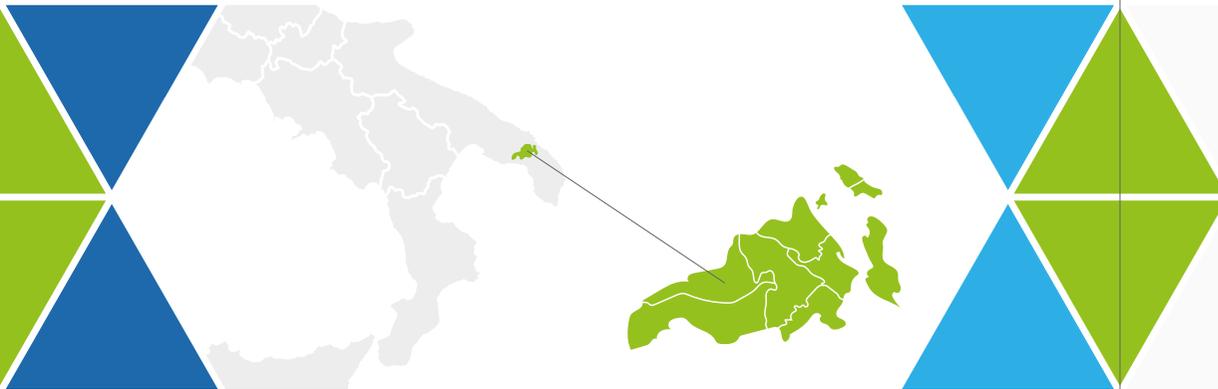
In the pilot area of the Metropolitan City of Venice, the impacts of current and future climate change on urban heat waves and flooding have been analysed. The analysis looked in particular at the impacts that these changes will have on people’s health and on the production and industrial context, pointing out the urgent need to work to increase the adaptive capacity of municipalities in the area, given the vulnerabilities already present (heat waves and flooding) which, according to forecasts, will only intensify.

FUTURE DIRECTIONS FOR THE PILOT AREA

The intention is to act on the front of defending from the impacts that are intensifying (coastal erosion, urban flooding, heat waves), modifying the territory by means of multifunctional measures. The implementation of compensatory defence and prevention measures, already strongly present in the territory, in particular for the impacts of flooding, is to be implemented jointly by several local authorities (Region, Metropolitan Cities, Municipalities, Land Reclamation Consortia, etc.) for a greater and faster success of the actions. The implementation of the objectives that have been identified is reinforced by the intention of the Metropolitan City of Venice to include a paragraph dedicated to resilience in its Metropolitan Strategic Plan.



UNION OF MUNICIPALITIES IN NORTHERN SALENTO



- ▶ **Municipalities and local authorities involved:** No. 7
- ▶ **Population:** 75,523 inhabitants (December 2018)
- ▶ **Area:** 235.85 km²
- ▶ **Vulnerable sectors:** water resources, agriculture
- ▶ **Plans and programmes/adaptation strategies defined:** two adaptation measures completed

ADAPTATION MAINSTREAMING PROCESS

An initial climate and future scenarios analysis was carried out to assess the vulnerability and risk posed by drought and flooding. This analysis and assessments were subsequently shared with the territory under a participatory process that identified the impact factors considered to be priorities and with respect to which to activate adaptation objectives and measures.

OVERVIEW OF MAIN OBJECTIVES AND ADAPTATION OPTIONS

Shared identification with the Union of Municipalities in Northern Salento of the impact factors considered as priorities and against which to define objectives and activate adaptation measures: flooding/urban flooding, drought, coastal erosion and heat waves.

OVERVIEW OF MAIN OUTCOMES AND RESULTS

- ▶ Identifying, jointly with the Union of Municipalities in Northern Salento, two adaptation measures that focus on water-saving and the reuse of rainwater and treated water.
- ▶ Drafting a recommendation to amend the Building Regulations on water-saving, resorting to non-conventional water resources by reusing rainwater and purified wastewater.
- ▶ Performing a preliminary assessment of the possible reuse for irrigation of wastewater treated in the North Salento sewage plants.

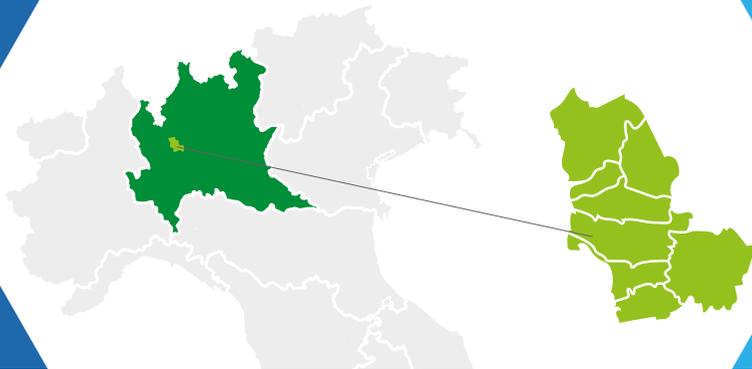
FUTURE DIRECTIONS FOR THE PILOT AREA

The recommendation in the framework of Master Adapt to revise the building regulations on water saving of the Municipalities of the Union of North Salento was accepted. The Regulation Plan of the Municipality of Campi Salentina, currently in the approval phase, takes this into account by including the text set out in the recommendation.

Concerning the reuse for irrigation of the sewage from the treatment plants of North Salento, the preliminary analysis on the available volumes and on the presence of irrigated crops, clearly shows that technical-economic feasibility studies should be carried out to assess the real possibility of reusing the wastewater from the treatment plants, reducing the well-known significant water deficit in Salento, which does not have surface water bodies and which already has problems of salinisation of its groundwater, and requires a further commitment to protect its aquifers.



AGGREGATION OF CITIES IN NORTHERN MILAN



- ▶ **Municipalities and local authorities involved:** No. 8
- ▶ **Population:** 180,903 inhabitants (December 2018)
- ▶ **Area:** 68.2 km²
- ▶ **Vulnerable sectors:** human health, natural risk management and reduction, and river redevelopment
- ▶ **Plans and programmes/adaptation strategies defined:** mainstreaming of local territorial initiatives, implementation of at least 8 adaptation actions

ADAPTATION MAINSTREAMING PROCESS

An initial vulnerability analysis of the territory was carried out, in particular concerning hydraulic risk. This result, together with the strategic guidelines of the Regional Adaptation Strategy, have been submitted to the territory. The issue of urban heat islands has also been discussed with the territory. Synergies have also been identified with local territorial and basin governance tools, with supra-municipal governance initiatives of the Municipalities involved (Seveso Municipalities Charter for Adaptation to Climate Change) and with private bodies that are influential in territorial governance, such as the local Integrated Water Service Operator.

OVERVIEW OF MAIN OBJECTIVES AND ADAPTATION OPTIONS

In the light of the expected climate change scenarios, priority objectives and adaptation options are to improve knowledge on hydraulic risk and the urban heat island effect, to guide education and vocational training, to promote the coordination of territorial policies, to inform and raise awareness, to strengthen monitoring and prevention systems, and to improve emergency management systems. The main measures identified include implementing new retention volumes, real-time flow measurement sensors, approaches and systems aimed at renaturalisation, measures for river upgrading, for rainwater management; and lastly, signing the Action Charter of the Municipalities of the Seveso River basin, to address local adaptation to climate change.

OVERVIEW OF MAIN OUTCOMES AND RESULTS

Attention has been paid to identifying and addressing relevant local governance initiatives (e.g., the Seveso River Contract), rather than starting parallel processes that are difficult to implement and potentially burdensome for municipalities. The action therefore took place in the framework of a logic and a “conscience” of the territory that was already present and active: adaptation must also be locally considered in terms of ecological units, in order to acquire a logic that goes beyond administrative borders and thus enhances its transformative effectiveness.

FUTURE DIRECTIONS FOR THE PILOT AREA

The implementation strategies are linked to further strengthening and monitoring of the identified governance processes and network relationships with stakeholders active in the area. In particular:

- ▶ the River Contract for flood risk, urban flooding risk and the possibility to work on blue-green infrastructure, also in relation to urban heat island mitigation and renaturalising;
- ▶ the relationship with the Integrated Water Service Operator, in particular for the flood risk issue;
- ▶ the Charter for the action of Municipalities in the Seveso river basin for local adaptation to climate change.

PROJECT'S TOOLS

Guidelines for climate analysis and vulnerability assessment at the regional and local level

The guidelines for climate analysis and vulnerability assessment at the regional and local level seek to provide regional and local administrators - dealing with institutional processes aimed at adaptation to climate change in their territories - with the basic operational elements essential to define a scientific knowledge framework that can aid in planning the most advisable adaptation measures.

Reflecting the approach recommended by Master Adapt, the document essentially identifies two sub-actions:

- ▶ climate analyses (past and present trends, future scenarios);
- ▶ vulnerability assessment.

In fact, an Adaptation to Climate Change Plan cannot disregard the knowledge of the past climate and the estimation of the possible future climate variations, which are the prerequisite for assessing the impacts of climate changes on natural resources and on the various social and economic sectors, as well as an assessment of the sectoral vulnerabilities of each territory.

The experience gained in carrying out the analysis has made it possible to test operatively each phase of the process, identifying the strengths to be exploited, as well as the most critical methodological aspects to which the final paragraph of the same document recommends giving some thought.

Policy Guidance for setting adaptation objectives and planning adaptation at regional and sub-regional level

The Policy Guidance for setting adaptation objectives and planning adaptation at regional and local level is addressed to local administrators, technicians and officials of Public Administrations and local government bodies to seek insight on the issue of adaptation to climate change and provide helpful elements for implementing adaptation objectives. They are linked to the guidelines produced within the LIFE Master Adapt project itself for analysing impacts of climate change within the territory, in the "Guidelines, principles, and standardized procedures for climate analysis and vulnerability assessment at the regional and local level" document, described above.

After acquiring knowledge on the impacts and vulnerabilities of the territory with respect to current and expected climate changes, it is advisable to characterize the framework in which adaptation objectives must be defined. Different sources of knowledge and information on the topic of adaptation to climate change can support the start and early stages of this process: in particular, the tools provided by the European Union, Italian and regional strategies and other specialist sources.

The Policy Guidance proposes a method for developing adaptation objectives based on the following four logical steps:

1. understanding general adaptation objectives or purposes;
2. defining an overall vision for developing the territory under conditions of climate change;
3. identifying general and specific objectives and lastly;
4. proposing possible options to achieve the objectives.

Guidelines for the regional adaptation strategy and Method for mainstreaming and multilevel governance in defining the adaptation strategy

The guidelines are mainly addressed to the structures of regional administrations and aim to provide a tool that can help guide the process of integrating adaptation to climate change into “ordinary” planning and programming tools.

The document is made up of two parts: the first part contains a guide for preparing and implementing a regional strategy for adaptation to climate change while the second part explains the methods and tools considered most effective for developing and implementing the strategy.

The first part (i) frames the process of integrating (mainstreaming) adaptation to climate change from a conceptual and regulatory point of view, taking the Italian process as a reference and pointing out the importance for regions and cities of taking action for adaptation; (ii) outlines the principles that should address a regional adaptation strategy, based on its approach as a guiding strategy, and defines the main requirements regarding compliance, degree of integration and structuring, as well as the main types of adaptation and possible responses to increasing climate pressures, in relation to the adaptive capacity of systems and individuals; (iii) analyses the fundamental steps for drafting an adaptation strategy, based on developing a framework of territorial knowledge, to achieve a full understanding of the territory and its adaptation objectives, with a participatory process with stakeholders.

The second part describes the methods and tools recommended for mainstreaming adaptation, developed by the Master Adapt project during the various debates between the scientific and technical coordination group and the stakeholders involved in the participatory process.



Guidelines for the implementation of mainstreaming in Metropolitan Cities and Guidelines for the implementation of mainstreaming in Groups of Municipalities

These guidelines are mainly addressed to local administrators, technicians and officials of the Public Administrations and the local government bodies of the Metropolitan Cities and of the Groups of Municipalities.

Their main purpose is to recommend to those who - in both technical and political roles - within these bodies and on a daily basis, deal with spatial planning, a method for mainstreaming adaptation to climate change into Plans, Strategies, and sectoral policies, following a vertical process - i.e., in line with the higher-level bodies and hierarchically implementing their instructions - and a horizontal process - i.e. among sectors of the same Public Administration.

The documents are made up of two parts:

- ▶ one provides a general introduction to the topic and the context within which adaptation to climate change in public administrations is currently taking place;
- ▶ the other contains the actual Guidelines for mainstreaming actions for adaptation to climate change within the actions of Metropolitan Cities and/or of Groups of Municipalities, with an in-depth examination of how to adopt a real Adaptation Strategy, if needed.

FUTURE SCENARIOS

Master Adapt is planning many activities in the coming years to promote the incorporation of adaptation tools at all institutional levels.

For the coming 5 years, the “After Life Plan” envisages activities that concern communication and dissemination of the tools and lessons learned during the adaptation process that has been developed, and by involving stakeholders in the project activities. Adaptation tools must be integrated better at the local level to ensure sustainable development of the territory.

Special attention will be paid to using the guidelines that the project has implemented and to keeping dynamic and growing the network of local authorities that the project has contributed to create.

Each partner will continue to disseminate the scientific results attained and to promote the project tools within its own academic and institutional networks, in order to transfer the results of the project to the broadest possible audience and maintain a continuous exchange with the other players.

Master Adapt’s approach is to consider adaptation as a positive action: adaptation actions are fundamental in the various sectors in which a society is organized, therefore the project will continue to emphasize the need to build a future vision of the territory and of the system that can integrate adaptation to climate change as a necessary element to reconsider and direct choices and priorities, especially in the most vulnerable territorial areas, in order to build a more resilient and sustainable territory and ensure a general improvement of their living conditions.

All project documents mentioned in this report can be downloaded from the LIFE Master Adapt project website

www.masteradapt.eu



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MAInSTreaming Experiences
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www.masterdapt.eu