

European Economic Area (EEA) Financial Mechanism

2014 – 2021

ENVIRONMENT, CLIMATE CHANGE

AND LOW CARBON ECONOMY

PROGRAMME

'Environment Programme'

- Adaptation: From theory to practice –

Discussion Forum:

**Increased climate change resilience and responsiveness
in targeted areas (Outcome 3).**

May 10, 2022

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Framework

The Environment Programme **Outcome 3 - Increased climate change resilience and responsiveness in targeted areas** - is developed in the areas of mitigation and adaptation to climate change and in three transversal lines: knowledge, planning and management.

For the operationalization of this Outcome 3, two pre-defined projects were launched ('PDP-2: National Roadmap for Adaptation 2100' and 'PDP-3: Management of the Rio Ceira river basin adapted to a Changing Climate and three calls ('Call#4: Implementation of pilot projects of living labs for decarbonisation and climate change mitigation', 'Call#5: – Projects for climate change-related extreme weather preparedness and risk management' and 'SGS#3: Projects to strengthen climate change adaptation at local level').

The PDP2 and PDP3 projects and those approved within the scope of SGS#3 and Call#5 correspond to projects that will directly contribute to the adaptation goals of the Environment Program.

The 'PDP 2: National Roadmap for Adaptation 2100' represents the KNOWLEDGE component.

The projects that were approved under 'SGS#3(A): Projects to strengthen climate change adaptation at local level - Elaborate Strategies and Plans for Adaptation to Climate Change at the local scale' represent especially the PLANNING component.

The projects that were approved under 'SGS#3 (B): Projects to strengthen climate change adaptation at local level - Operationalization of Strategies and Adaptation Plans to Climate Change at the local scale', the 'PDP 3: Management of the Rio Ceira river basin adapted to a Changing Climate ' and the projects that were approved within the scope of 'Call#5: Projects for climate change-related extreme weather preparedness and risk management' represent especially the MANAGEMENT component.

Contribution of projects to the adaptation goals of the Environment Program

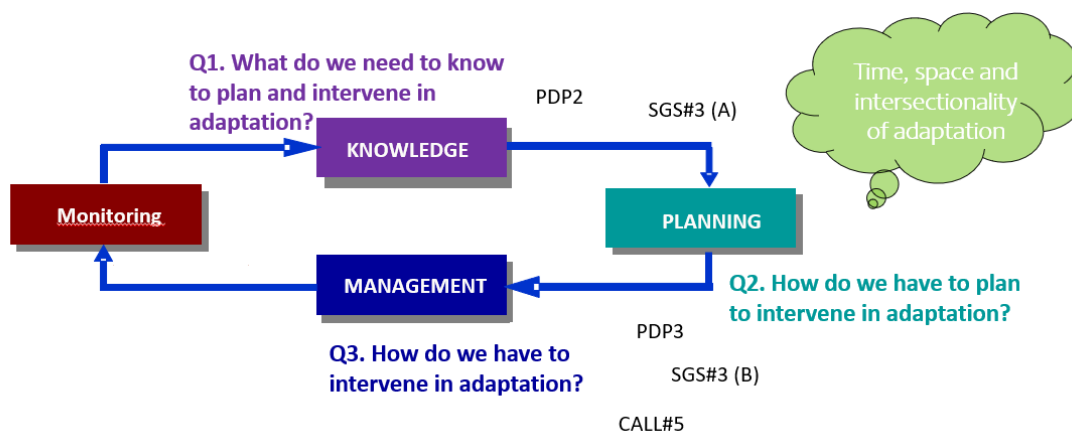
OBJECTIVE	Description	Indicators	Target	KNOWLEDGE	PLANNING	MANAGEMENT		
				PDP2	SGS#3 (A)	SGS#3 (B)	PDP3	Call#5
Outcome 3	Increased climate change resilience and responsiveness in targeted areas	Number of people benefitting from the development of adaptation strategies	2 600 000		X	X		
		% Of habitat areas damaged by forest fires recovered in the Rio Ceira River Basin	30%				X	
		Number of acres with reduced susceptibility to desertification	250					X
Output 3.1	Strengthened climate change adaptation at local level	Number of targeted municipalities with adaptation plans developed	8		X			
		Number of targeted municipalities that have implemented concrete measures in their adaptation plans	9			X		
Output 3.2	Vulnerability Assessment to	Number of PT territories/regions	5	X				

OBJECTIVE	Description	Indicators	Target	KNOWLEDGE	PLANNING	MANAGEMENT		
				PDP2	SGS#3 (A)	SGS#3 (B)	PDP3	Call#5
	Climate Change updated for territorial focus	included in the updated vulnerability assessment						
Output 3.4	Management of the Rio Ceira River Basin adapted to a changing climate	Flow monitoring programme in place	Yes				X	
		Number of Invasive Alien Species reduced	5				X	
		Number of professional staff trained	160				X	
Output 3.5	Pilot projects to combat desertification completed	Number of projects combating desertification piloted	3					X

This meeting was intended to be the first session of three, the second to be held in the second half of 2022 and the third in the first half of 2023, subject to the following topics of discussion:

- Contributions to the objectives (indicators and targets) of the call and the ‘Environment Programme’;
- Climate scenarios that identify threats and opportunities;
- Good examples of planning and governance processes;
- Good examples of adaptation measures;
- Results achieved and recommendations for the future.

In this session, we focused on three questions:



The challenge posed to the participants was to think of a planning cycle that was more adaptable to the uncertainties of climate change. Leaving pre-defined planning cycles (5/5 years, 10/10 years) and watertight plans in time/space/sector and acquiring a greater capacity for adaptive management. Today we can prioritize measures aimed at extreme phenomena and ecosystem services. Tomorrow we may have to guarantee the coherence and maintenance of these measures in territorial units regardless of administrative divisions and reinforce the measures already implemented.

The topics discussed in each question are briefly presented below.

Q1. What do we need to know to plan and intervene in adaptation?

Necessary information

Participants highlighted the importance of characterizing the territory and understanding what currently exists.

It is necessary to know the territory, to understand the dangers, exposure and vulnerabilities. And therefore, consider local circumstances in the risk assessment.

We can only assess the risks well and define intervention priorities if we can project the increase in temperature and precipitation reduction for the entire territory. Climate projections must be differentiated, hence the importance of climate characterization and scenarioizing (temperatures and rainfall, but also species and ecosystems) and the regionalization of climate scenarios. Based on statistical data, the importance of characterizing the sectors was mentioned.

Difficulties in obtaining existing information

The projects emphasized the difficulty in accessing information, information that is often held by other entities and not are updated.

There is information that is not the responsibility of the municipalities, and to access it, it is necessary to go through a lengthy bureaucratic process, often being the responsibility of the Central Administration. Frequently, the information provided is incomplete, and when it is done, the time it takes to be made available jeopardizes the study.

In addition, there is significant heterogeneity of information sources with different data, which makes analysis difficult.

In the case of precipitation and temperature data, there are data from the Portuguese Institute of the Sea and Atmosphere (IPMA), but it is not freely accessible. Consequently, the projects had to resort to databases of numerical models, more academic, more scientific, not based on accurate data from the country but through extrapolation of results from climate models.

Missing information

It is essential to have an excellent historical database, over a very long period of at least 30 years, to be able to understand what is the trend in the future. In 2010, there was a period with a lack of data regarding precipitation, temperature and hydrometric data. This happens because the hydrometric stations are a little abandoned.

Thus, we do not have a density of stations with a solid history that allows us to have information at the local level and often even at the regional level, to carry out a climate characterization.

In the experience of the project, 'Franca Adaptação' also had difficulty articulating and enumerating all events for the climate impact profile. They had to resort to various sources, not only official ones but also published articles, newspapers, etc. They highlighted the problems of the systematization of information.

Regarding the time scale, there is difficulty in defining short or long periods. Short periods may not include all types of events, while long periods may contain events that are no longer relevant

as the work may have already been carried out.

There are time series of data on climate issues, but there is a lack of time series on ecological cycles for some autochthonous or invasive species.

The multiplication of sources of climate scenarios was also mentioned. Institutions must create synergies to arrive at a single climate scenario per region, with recognized validation of this scenario.

On the other hand, the difficulty in characterizing the sectors was also highlighted, with statistical information for long periods.

Existing information sources

The Climate Law nº98/2021 is disruptive regarding planning in terms of adaptation and mitigation. In a relatively short time, about two years, all regions and 308 municipalities will have to have their own Climate Action Plans, which include, in addition to adaptation, mitigation. This will oblige all these public actors to be able to intervene in this reduced time. It is a considerable challenge with a very short deadline and Portuguese Environment Agency (APA) is preparing guidelines for elaborating these plans.

The National Roadmap for Climate Change (PDP2 of the 'Environment Programme'), under the Portuguese Environment Agency's responsibility, will provide regional scenarios – it will be published at the end of next year.

Mailbox of the National Roadmap for Climate Change rna2100@apambiente.pt

Q2. How do we plan to intervene in adaptation?

New planning cycle

The process of building the Action Plan to make a good diagnosis since, without knowledge, it is impossible to plan with quality.

The limits of the territorial plans of the Adaptation Plans must be considered beyond the municipality itself, since the climate is not affected by the territorial limits.

The planning time scale does not exceed ten years, and municipalities have mandates of 4 years, so it is difficult to think of adaptive paths that involve actions to 2030 or more (2100).

The planning cycle should update the plans more flexibly, in short periods of 5/5 years, resulting from plan evaluating, follow-up and monitoring indicators of adaptation measures.

From a sectoral point of view, a set of measures and actions respond to the various vulnerabilities identified for a given territory at the municipal, or even inter-municipal, regional or national level.

The case of Loulé reflects a good example since it has a very vertical action. The adaptation plan was structured, in terms of measures and actions in articulation with the sectoral actors.

As long as climate action planning, especially in the adaptation component, where municipalities can have more contributions, is not in the *Regime Jurídico dos Instrumentos de Gestão Territorial* (RJIGT), the integration of measures and actions that emanate from Municipal Plans in the instruments of territorial management is essential.

In other words, not all actions will need to be included in territorial management instruments, but some must be incorporated. Especially when there is a review of the Plano Diretor Municipal (PDM) and *Planos de Pormenor*, the actions must be incorporated.

In municipal regulations, actions are easier to be integrated. Simpler, faster process, which can make adaptation happen faster, compared to approving municipal adaptation plans.

It is also necessary not to treat these plans as static, they are dynamic and will always be in constant evolution due to climate change. These are processes that are being transformed, which must be treated as practical processes that accompany the dynamics of the climate.

The evaluation of plans should be simplified.

Plans should be periodically reviewed. In the Climate Law there is already an obligation for this periodicity for a series of instruments.

The APA has annual, biannual reports on our country's adaptation policies and measures. Last year, there was the first major adaptation report. An important step towards recognizing the importance of adaptation.

More than making Plans, they must be implementable and monitorable, quickly and easily. These should be reviewed, as some Plans dating from 2018 are already being affected by current climate change, such as the lack of rainfall felt this year. In this way, some measures of the Plans should already be adapted or replaced, given the experience of implementation on the ground.

Mainstreaming adaptation of public policies

Since 2010, Portugal has had a National Strategy for Adaptation to Climate Change (EN AAC) - RCM No. 24/2010 March 18 making adaptation to climate change part of our policy landscape since 2005, within the Climate Change Commission and its Executive Committee (CECAC).

At EN AAC, in 2010, integrating adaptation to climate change dimension into the various sectoral policies and territorial management instruments at regional and local levels is considered a fundamental process. The importance of adaptation was reinforced in 2015, with the publication of EN AAC 2020, in its objective III. "III. Promote the integration of adaptation into sectoral policies."

In the last year, with the publication of the New European Adaptation Strategy of the European Union, there was a positive reinforcement in adaptation, reinforcing the importance of the place.

Thus, the location is a cornerstone of adaptation. It is a substantial difference for mitigation.

All this integration introduces multiple adaptation processes promoted by various public and private agents.

However, it is necessary to seek harmonization through norms and guidelines with the new Climate Action Plans contained in the Climate Base Law. The governance model must be able to bring all these pieces together, reinforcing the importance of the place, reporting to the regions, then to the central government and finally to the European Union and the United Nations.

Civil society participation and involvement

The plans must be implemented on the ground, being developed with the participation of the

community, in very participatory processes – top-down and bottom-up practices.

Planning processes are treated as a top-down process, with little involvement of citizens or citizens' representatives, making it difficult to understand what is currently happening and what will happen with the various climate scenarios. Therefore, the participation of these actors is essential to make the territories more resilient, that is, to create adaptation communities.

These action plans take about a year and a half to be prepared. In the case of the Algarve Intermunicipal Community (AMAL) they were supported by the Operational Program for Sustainability and Efficiency in the Use of Resources (POSEUR). It was a participatory process involving various public and private entities and civil society.

The importance of cooperation between regions and higher education institutions and institutions was highlighted.

In addition, the difficulty of transmitting information to civil society was identified, despite actions to present the projects.

Between the elaboration of the Plan and the practical application of measures there is a gap. The lack of communication between those who prepare the plans and the main affected. There has to be an effort to move from the Plan to train the agents affected by climate change, involving local action groups. So that there is an adaptation of these executing agents to the new reality with new practices and training for those who have to start doing it differently. Thus, the measures will be more readily accepted and possibly more successful.

At the time of planning and formulating adaptation measures, usually, in participatory processes, there is no direct conflict, but in the execution (definition of concrete actions), for example, measures of rehabilitation and valorization of ecological corridors in water courses vs. agricultural use.

However, when you are implementing these adaptation measures and with concrete intervention projects, then yes, when you are in public sessions and the participatory moment, moments of conflict appear that are natural from the diversity of users.

Improving the technical and scientific component of those who mediate in public sessions of awareness, information, and involvement is necessary. Technicians must be close to the population to help them adapt and increase their resilience.

Q3. How do we have to intervene in adaptation?

What are adaptation measures and how effective are they?

Adaptation measures are concrete actions that reduce the risk of being affected by the impacts of climate change. There are measures of natural and artificial origin that allow us to continue to live with less risk, in places with climatic risk.

Adaptation measures are strategic guidelines for operationalizing an adaptation strategy. In practice, they are the basis for defining the actions or projects to be implemented and for responding to identified adaptation needs. These are concrete projects to adjust to the current or future climate.

There are infrastructural actions – physical or engineering interventions, with the aim of making buildings or other structures better prepared to deal with extreme events and green infrastructures to reverse the loss of biodiversity or degradation of ecosystems, or the

restoration of water cycles, using natural engineering techniques.

Institutional mechanisms and solutions will make it possible to articulate the various actors to respond to common vulnerabilities, with a bottom-up dimension that needs to be of greater relevance. There are non-structural or “soft” actions correspond to political implementation, materialized in plans, processes, strategies, regulations, etc. Seeking that adaptation measures are considered in the various local governance policies and sectors. The role of schools in the process of adopting recycling in Portuguese homes in the 1980s stands out.

Thus, the dimension of non-structural actions is aimed at training and awareness, which aim to increase the response capacity of the various actors.

Monitoring actions must include:

- Regular monitoring of climate evolution and the impacts of climate change;
- The adaptive capacity of actors and sectors;
- Priority intervention criteria.

Adaptation measures allow us to reduce the risks associated with climate change, but they are not the same from place to place. A measure applied in the Algarve has no relevance in a region of Gerês.

Adaptation and mitigation measures must be linked to the territory, social agents (companies, farmers) and socio-environmental components.

It is necessary to align with the instruments that already exist, such as the ENAAC sectors, at the level of the national strategy for adaptation to climate change or the PT-A3C.

The importance of the place for adaptation and the integrated vision for the territory makes it necessary to articulate the Municipal Master Plan (PDM) and the Climate Change Adaptation Plan, as well as the capacity building and involvement of the urban planning, environment and urban divisions and civil protection.

Often the criterion used for evaluating measures is the price, but environmental and socio-cultural criteria must be used.

It is crucial to evaluate the effectiveness of the measure concerning the place where they are working. The measures should focus on risk reduction, on the reduction of potential risk losses and damages, or on the co-benefits associated with other social, economic, and environmental objectives.

Decision-making support methodologies should include the analysis of adaptation paths, with prioritization of adaptation measures taking into account a time interval and climate scenarios, up to a pre-defined risk threshold (which can be adjusted), with the participation of citizens.

The adaptation is going through a transition toward a more systemic and articulated management model, namely with the area of mitigation.

We must think that sometimes an adaptation measure harms mitigation and vice versa. Therefore, it is necessary to align public policies on climate operations and not just adaptation or mitigation. The Climate Action Plan will help this more integrated thinking, as is the case, for example, of the National Energy and Climate Plan 20-30, since adaptation is one of this plan's vectors—the decarbonization vector.

How are measures prioritized? In the case of AMAL, a priority sector was identified, water resources, and the measures are foreseen in the plan are being implemented due to a financial package – the Recovery and Resilience Plan (PRR).

Monitoring of adaptation measures

To monitor the impact of the measures, an a priori evaluation is suggested and then a posteriori evaluation with the same multi-criteria analysis, for example, through modelling.

The transversality of adaptation and the absence of clear metrics have been a barrier because, in mitigation, we talk about reducing greenhouse gases, in adaptation, it is not so linear in monitoring.

Therefore, it is essential to have clear indicators and metrics to assess the effectiveness of Local Adaptation Plans and Strategies.

The strengthening of reporting mechanisms and the review of progress at the European level is essential so that clear indicators are defined to be used by the most diverse agents responsible for the implementation of adaptation measures, which allow us to aggregate at the national level the information for community reports.

Establishing information management mechanisms to bridge the gap between the local and national scales is essential.

Monitoring the impact of measures should be a dynamic process of risk assessment and adjustment of measures since an action that is effective today, for some natural or human reason, may no longer be effective in 1, 2 or 3 years.

Financing

Due to its characteristics, adaptation lacks long-term funding, which is necessary for implementing measures, some by 2100.

Without the definition of strategies and the elaboration of plans, it is much more challenging to prepare applications for community funds consistently and robustly. Another difficulty identified is the existing human resources due to the technical complexity of this topic to transfer knowledge into Territorial Management Instruments (IGT) and regulations.

Regarding funding, it is essential to refer to the European Union Taxonomy Regulation since all community funding must respect it and ensure it is followed. It is crucial that in the elaboration of the measures, they must be included in the scope of this regulation so that they are considered environmentally sustainable and do not harm any of the six environmental objectives.

Governance

The integrated vision of climate action and the transversality of adaptation to climate change is evident in national public climate policies, both in the Strategic Framework of Climate Policy (2015) and in the Climate Law (2021).

In the operationalization of adaptation, the measures are aligned with the ENAAC sectors, and then there are other measures defined in a transversal way. Later, from this set of measures, a part considered a priority in the current context will be selected, which was done for the P3AC, for example.

Some sectors could also be worked on adaptation measures, such as cultural heritage.

Create local adaptation councils or adaptation communities, which will be heard in the construction of the action plan and even after the action plan is prepared; these councils will be involved in the biannual meetings so that they can follow up on issues associated with climate change.

Thus, it is possible to ensure monitoring of the Municipal Plan, if what was planned is happening, and if there is a need to correct trajectories.

Participating entities:

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Câmara Municipal de Mértola

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Câmara Municipal de Setúbal

Câmara Municipal de Vila do Conde

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Comunidade Intermunicipal do Baixo Alentejo (CIMBAL)

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