

THE REALITY OF CLIMATE CHANGE IN CATALONIA

What challenges lie ahead?

The Earth's climate is **changing** and the **effects** are beginning to be felt **around the planet**.

The emission of greenhouse gases generated by human activity continues, and the **average temperature and carbon dioxide** concentration in the atmosphere continue to increase.

With the exception of the Vall d'Aran, **Catalonia** has a **Mediterranean climate** and contains a great diversity of microclimates within its geographical area. These factors make it more difficult to define future trends that can be applied to the region as a whole.

Scientific studies have identified certain environmental impacts, some of which can already be felt or observed, while the others will intensify in the coming years.



These impacts will not only affect **natural** systems, but also the health of people and economic activities. **Prevention and reducing our vulnerability** is the best action strategy.

RESILIENCE

THE ADAPTATION

TO CHANGES

How can we reduce our vulnerability?

MITIGATE AND ADAPT

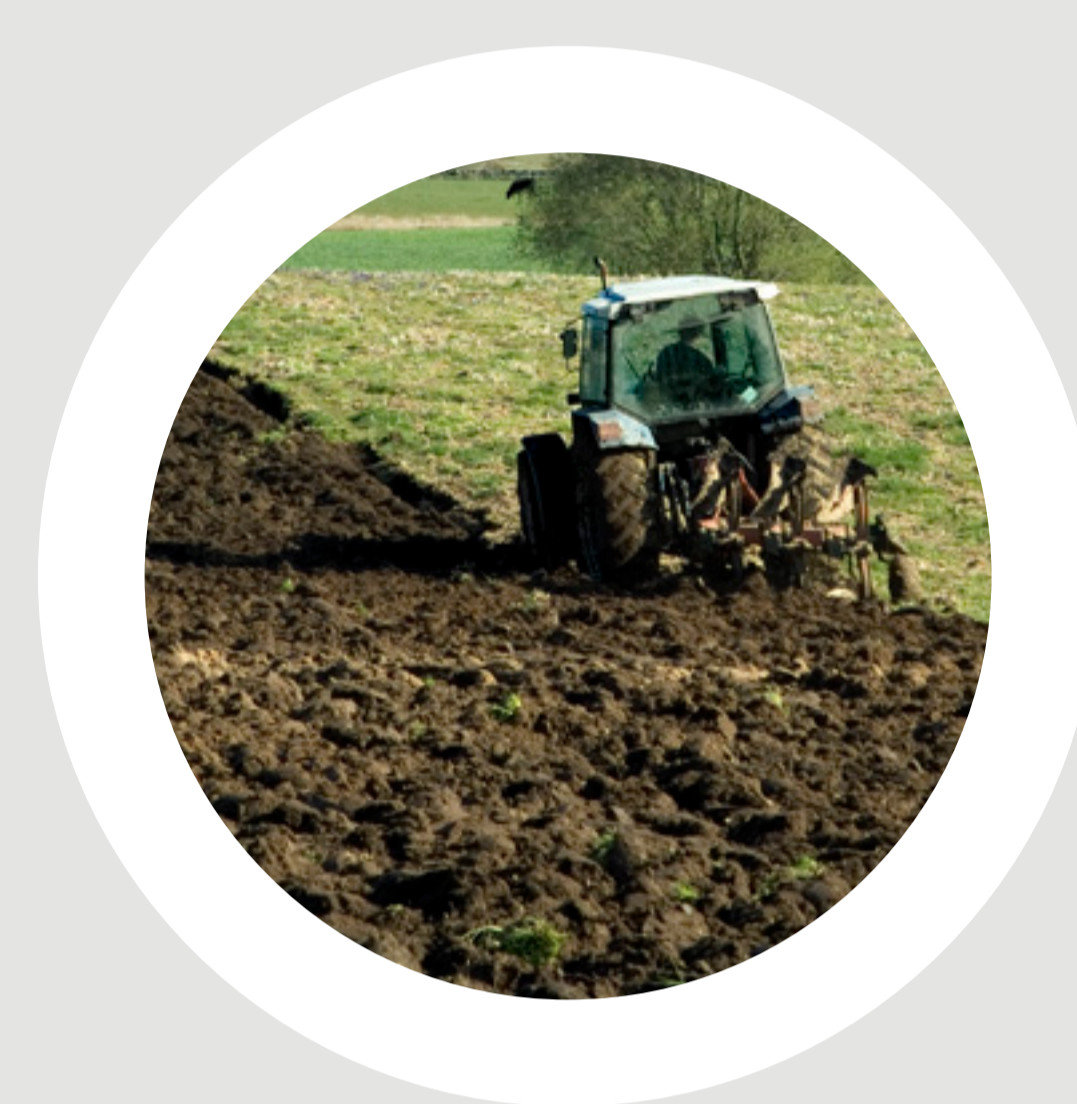
These are the two challenges we face when confronting **climate change**.

Although some effects already seem to be irreversible, we must continue to take measures to **reduce emissions** and prevent them from becoming more serious.

Transforming the model of **production and consumption** and developing a low-carbon society are both essential steps in advancing the **mitigation** process. Most greenhouse gas emissions are associated with the use of energy and, most notably, **the burning of fossil fuels**.



Now though, it is not enough to avoid additional emissions. Given the seriousness of the **inevitable impacts** of climate change, each country must also take measures that will allow it to **adapt** to the changes to come and improve its **resilience***.



Therefore we must...



minimize **vulnerability** to risks and negative impacts



identify **positive impacts** and transform them into **opportunities**

*RESILIENCE: The capacity to adapt to changes and adverse situations.

At this time, most regions have still not prepared sufficiently to guarantee **sustainable activity** in the **new climate scenario**. The actions that are promoted over the next few years will determine our future.



LIFE CLINOMICS

A SHARED PROJECT

What can we do at a local scale?

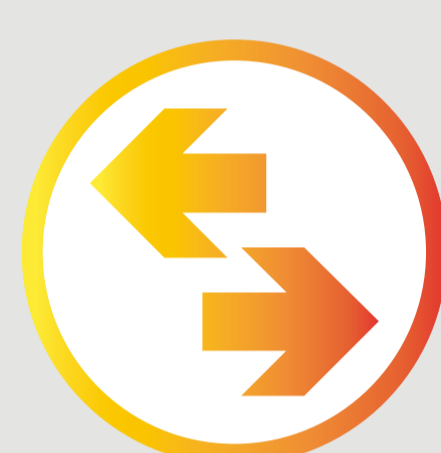


Adapting to climate change is a **collective challenge**.

It calls for a **shared effort** on the part of all social and economic agents, organisations, groups and public institutions, in all sectors and at all levels.



The **European Life Clinomics Project** aims to stimulate at the municipal level, new **investment strategies**, both public and private, with the intention of...



advancing the modernization and transition of local economies towards the new global scenario.



improving competitiveness and opening new employment niches.

In the face of climate change, Life Clinomics proposes defining a **new model of local governance** based on the active participation of all **agents and sectors involved**.

The project identifies three regions with ecosystems that represent the vulnerability of Catalonia; the coast, the mainland and the mountain range. The knowledge and expertise that will be gained from the project will permit:



the adaptation of local socio-economic policies and activities to the impacts of climate change,



and serve as a replicable model in other Mediterranean areas of southern Europe.

Tourism sector



Montserrat (mountain range)

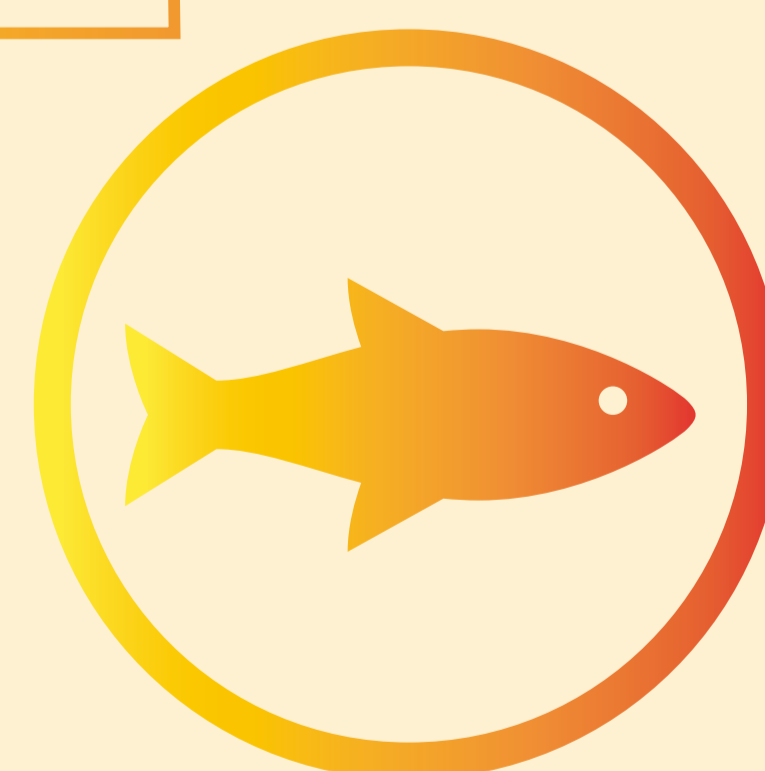
Alt Penedès (mainland)

Terres de l'Ebre (deltaic / littoral))

Agroforestry sector



Fishery sector

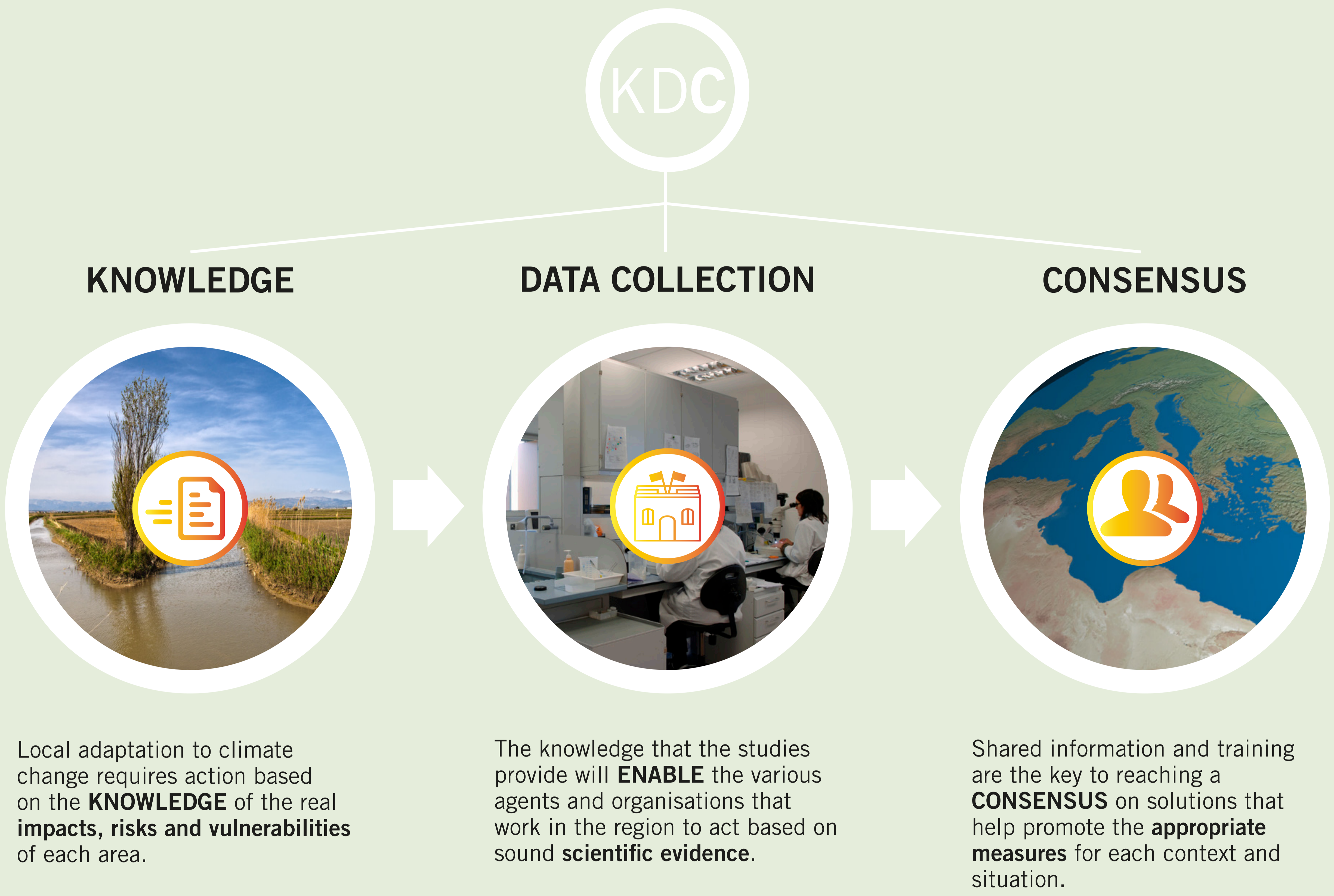




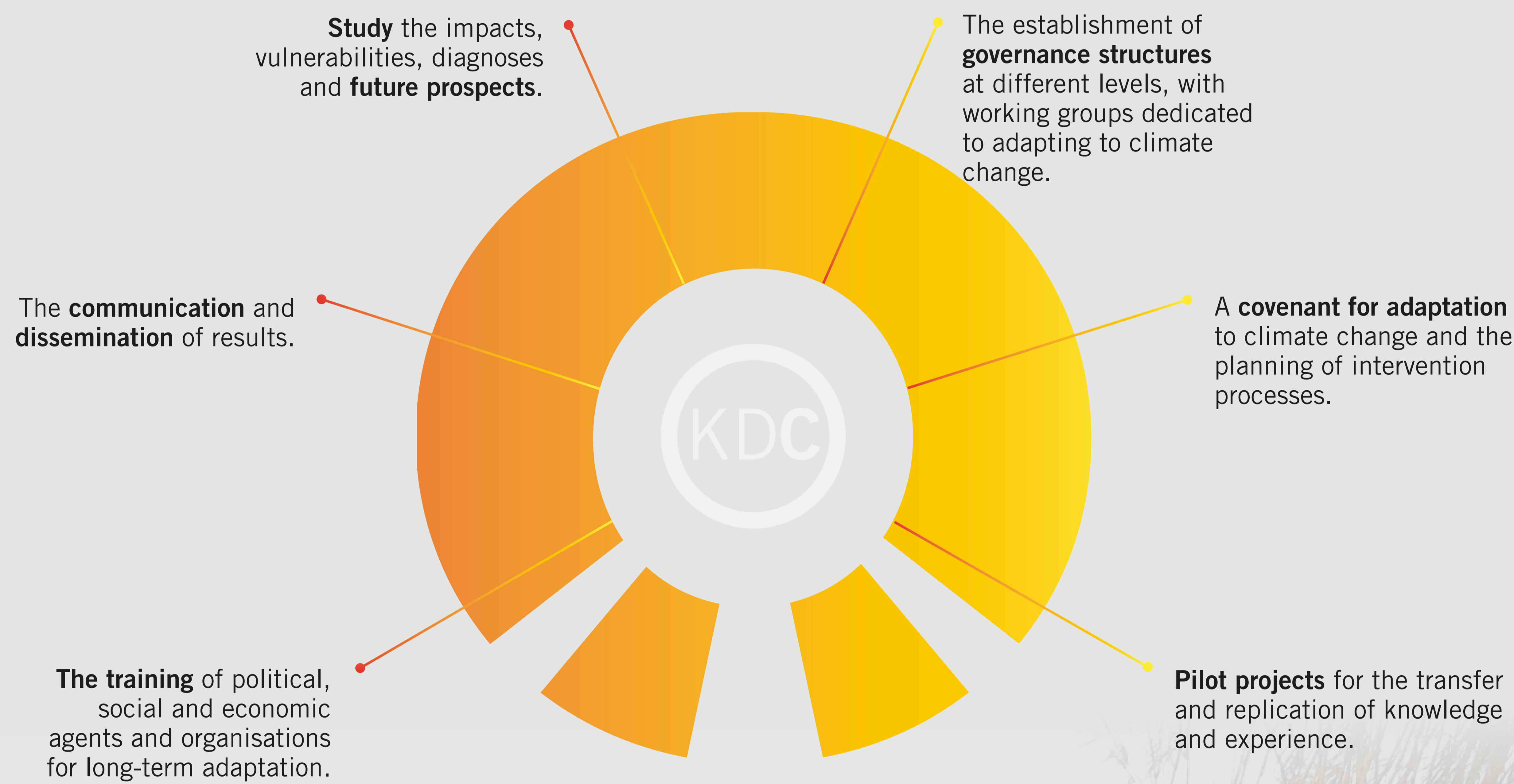
REGIONAL KNOWLEDGE, DATA COLLECTION, CONSENSUS

What tools are available to us?

FROM KNOWLEDGE TO ACTION



The actions being instigated in the three regions identified within the framework of the Clinomics project are:



THREATS

THE IDENTIFICATION OF THE RISKS

What are the conclusions of the studies?

Climate change is a global phenomenon, but its effects on coastal regions will be very different from those experienced in mountainous areas or inland. The studies on the **degree of vulnerability** for each region - Tierras del Ebro, Montseny, and Alt Penedès - clearly demonstrate this.

The **identification of the risks** that affect the agroforestry, fishing and tourism sectors is the result of combining the available technical information on climate change with local knowledge from the various social and economic groups within each region.



ALT PENEDE`S

RISKS	SECTOR	VULNERABILITY
Decrease in the flow rates of rivers and streams	Agricultural	6
Changes in crop types	Agricultural	5
Loss of landscape quality	Tourism	5
Increased risk of fire	Agricultural / Forestry	4-5
Changes in the productivity of vineyards due to drought	Agricultural	4
Decrease in the quality of groundwater	Agricultural	4
Reduction in the land area available for grapevines and pasture	Agricultural / Livestock	4

MONTSENY

RISKS	SECTOR	VULNERABILITY
Reduced duration of snow cover	Agricultural / Livestock / Tourism	6
Reduction in the flow rate of rivers and streams, and an increase in the incidences of rivers running dry.	Forestry / Tourism	5
Loss of Biodiversity	Forestry / Tourism	5
Changes in the distribution of species of interest	Forestry	4
Reduction in forest exploitation	Forestry	4

TERRES DE L'EBRE

RISKS	SECTOR	VULNERABILITY
Sea level rise (coastal morphological changes)	All sectors	10
Changes in livestock exploitation methods	Livestock	10
Impact on dryland farming	Agricultural	8
Increase in invasive and / or disruptive species	Agricultural / Fish-aquaculture	8
Increased demand for irrigation	Agricultural / Livestock / Tourism	7
Impact on crops: nuts, vines, and olives	Agricultural	7
Greater risk of fire	Forestry	6
Loss of Biodiversity	Forestry / Tourism	6
Decrease in groundwater quality	All sectors	6
Loss of landscape quality	Tourism	6
Impact of heat waves	Public Health	7

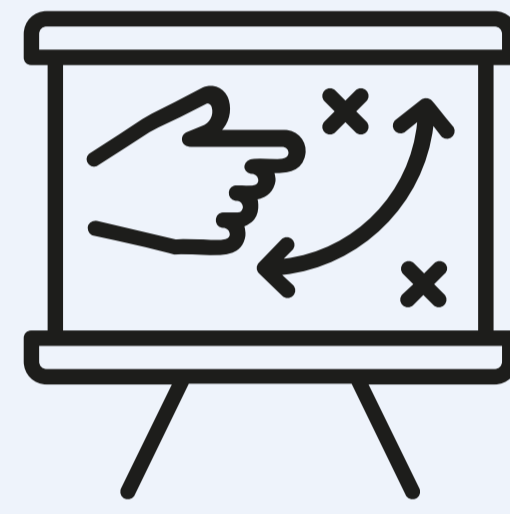
What are the strategic priorities?

Involvement and collective commitment are not only fundamental in order to confront the threats of climate change but they are also able to detect future opportunities that may arise.

The **LifeClinomics project's strategy for the adaption to climate change** is the tool that will enable us to move forward thanks to its participatory, integrated and transparent approach, it proposes action in several areas:



The definition of a **NEW MODEL OF GOVERNANCE** that gives a voice to all organisations and groups within the region to facilitate agreement on priorities and aid decision-making.



The formulation of **ACTION PLANS** that take into account the individual requirements of each regional area and identify the actions required for each sector.



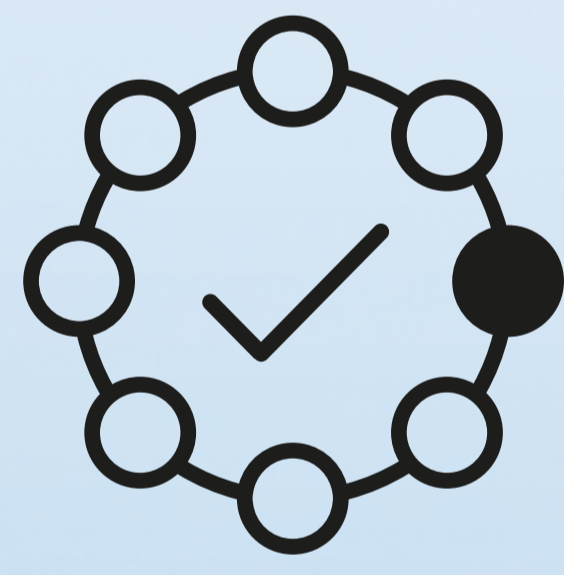
The opening of permanent **CHANNELS OF COMMUNICATION** in order to promote the transfer of knowledge, experience, and best practices.



The promotion of **ADMINISTRATIVE INSTRUMENTS** that incorporate environmental and climate change adaptation criteria in order to approve more favourable legislation and taxation.



The creation of **MECHANISMS FOR PUBLIC-PRIVATE COOPERATION** in order to promote action plans and build a viable financial and socio-economic scenario in the long term.



The development of a **SYSTEM OF INDICATORS** to measure progress in the adaptation to climate change in the regions and the various activities involved in the project.



A word cloud featuring 12 key concepts in various shades of blue, set against a background of a light blue sky with white clouds. The words are arranged in a non-uniform, overlapping manner, with 'Cooperation' and 'Observation' being the largest. Other prominent words include 'Action plans', 'Local networks', 'Agreement', and 'Awareness'.

Key concepts identified in the word cloud:

- Action plans
- Indicators
- Local networks
- Incentives
- Cooperation
- Governance
- Planning
- Observation
- Regulation
- Agreement
- Communication
- Funding
- Awareness
- Empowerment