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Pathways2Resilience (P2R)

Financing adaptation
Aradippou Municipality

14-10-2025

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The Pathways2Resilience (P2R) Program: Empowering Local Climate Action

EU-Funded Initiative:
Supports **over 100 European** regions and communities in developing transformative climate resilience strategies.

Core Purpose:
Drives systemic transformation and **co-design** of robust adaptation pathways and innovation agendas to become **climate resilient** by 2030.

Support Provided:
Offers **€21 million in funding**, **specialized capacity-building services, and technical guidance.**

Alignment:
Contributes to the *EU Mission on Adaptation to Climate Change* and European Green Deal
Enables the translation of high-level EU policy into tangible, context-specific actions at the local level

Key Deliverables Supported:
Facilitates the co-creation of the Climate Resilience Strategy (CRS), Climate Resilience Action Plan (CRAP) and Climate Resilience Investment Plan (CRIP),.

P2R Core Goals and Objectives:

Strategy & Vision	Empowering local and regional authorities to strengthen adaptive capacity and develop Dynamic Adaptation Pathways.
Integrity & Equity	Embedding Just Resilience, ensuring equitable outcomes encompassing environmental, social, and economic well-being.
Action & Investment	Enabling Strategic Investment and Action through the co-creation of the Climate Resilience Strategy (CRS), Action Plan (CRAP), and Investment Plan (CRIP).
Governance & Scope	Mainstreaming adaptation into all relevant policy sectors to effectively manage Cascading Impacts.

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The Regional Resilience Journey (RRJ): Guiding P2R Implementation

Implementation Methodology: The P2R program provides two integrated, evidence-based frameworks to guide regions through the transformative adaptation process

Regional Resilience Journey (RRJ): This is rigorous theoretical framework, that guides the transition to resilience, focusing on multi-level collaboration, and is driven by these core principles:

- **Systemic Approach**: Solving problems by looking at the whole interconnected system (e.g., Water and Energy together) and coordinating action across all departments and government levels.
- **Just Resilience**: Ensuring adaptation investments are fair and equitable, prioritizing vulnerable groups to address historic inequalities and maximize community benefit.
- **Transformative Innovation:** Driving fundamental, long-term change across key sectors, moving beyond short-term fixes to create a new, resilient future.

Adaptation Investment Cycle (AIC): This is the financial integration engine. It runs in parallel to the RRJ, integrating economic appraisal and resource mobilization from the earliest diagnostic phase (the practical 'how'). It ensures regions define total finance needs, appraise economic benefits, and structure bankable projects using a diverse range of instruments.

Practical Implementation Shift: The integration of RRJ/AIC moves local planning from reactive risk management to proactive financial stewardship. This results in economically optimized actions that are explicitly sequenced and costed to deliver a pipeline of projects that is not just a wish list, but a credible inventory of investments ready for mobilization.

Recognising the escalating climate threats to our community and key systems, we strategically engaged in the P2R.Our overarching objective is to move towards a more holistic, integrated, and transformative approach to building long-term climate resilience. More specific:

1. Risk Reduction: Addressing pressing vulnerabilities in priority systems.
2. Ensure Equity and Social Justice in Adaptation: Ensuring the benefits are distributed equitably, eliminating disproportionately burdened by climate impacts.
3. Capacity Building: Strengthening the foundational elements for sustained action.
4. Investment Mobilization: Addressing the financing gap, identifying diverse Sources and Instruments, and overcoming Strategic Barriers (policy, legal, and institutional).

Phase 1: Establishing the Foundation - Risk, Context, and Baseline

Establish a Baseline, Understand the System

Outputs: Defined the local profile, constraints, problem framing, hazard identification and established the initial financing baseline (fiscal landscape, barriers, opportunities).

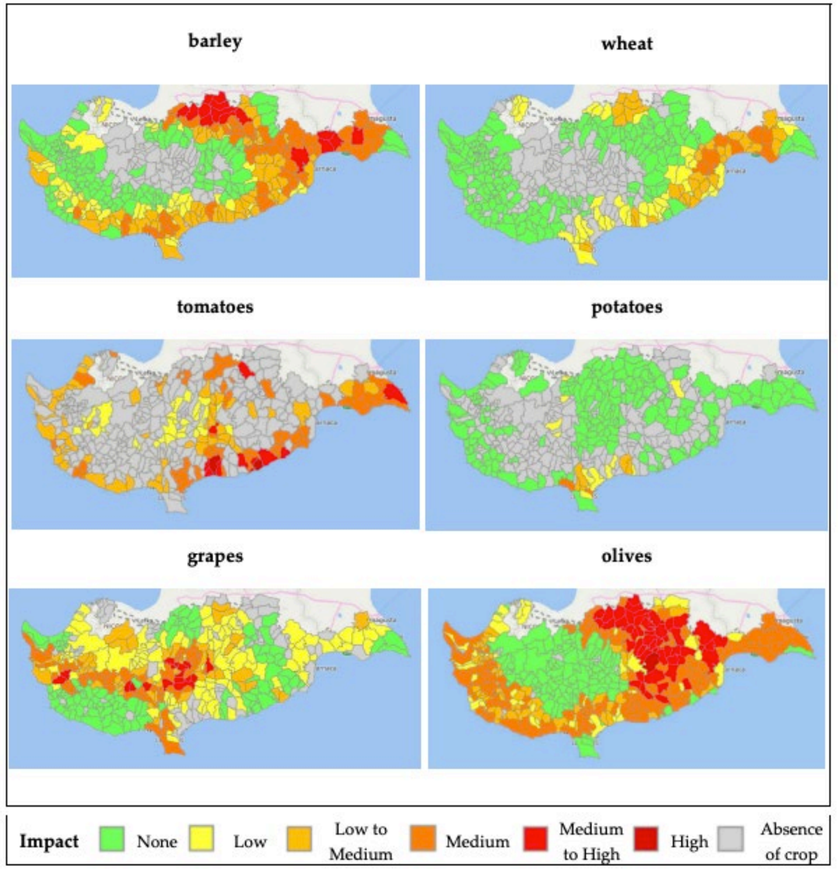
Understand the Systems

Output: Completed Systems and Stakeholder Mapping to identify critical interdependencies and local champions essential for implementation. We established a common, shared understanding of the local system behaviour and identified key points of stakeholder contribution and influence on the functioning of the system.

Assess Climate Risks and Vulnerabilities

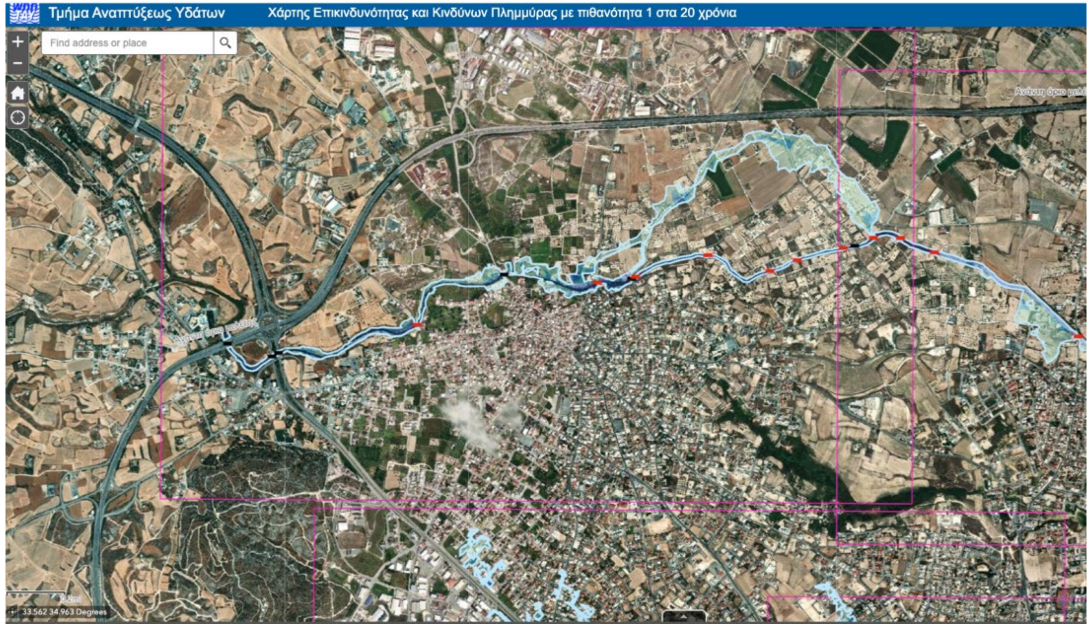
Output: Comprehensive assessment of current and potential future climate risks upon which we will formulate Aradippou Climate Resilience Strategy

Phase 1: Establishing the Foundation - Risk, Context, and Baseline



Estimated total climate change impacts on the agricultural sector of Cyprus (RCP4.5). Aradippou's Olive, barley and wheat crops will be impacted significantly in the near future, (Christina Papadaskalopoulou et al, 2020, Atmosphere, 11(6), 608).

Systems Mapping



Flood risk map of Aradippou, probability of 1 in 20 years (high probability) (Water Development Department,2025)

Phase 1: Establishing the Foundation - Risk, Context, and Baseline

Multi-Model Ensemble climate projections of Aradippou in different different projected time periods and Shared Socioeconomic Pathways (SSPs) (Climate Change Knowledge Portal, 2025)

		Magnitute				
Systems Impacted	**Climate Impact**	**Exposure**	**Sensitivity**	**Impact Assessment**	**Adaptive Capacity**	**Urgency to Act**
Land Use & Food Systems	Increased heat stress on livestock.	Very High	Very High	Very High	Low	High
Land Use & Food Systems	Worsening water scarcity.	Very High	Very High	Very High	Low-Medium	High
Land Use & Food Systems	Lowering of groundwater tables and increased risk of salinization.	High	High	High	Low-Medium	High
Land Use & Food Systems	Yield loss due to extreme events	High	Very High	Very High	Low-Medium	High
Land Use & Food Systems	Increasing need for irrigation	Very High	Very High	Very High	Low-Medium	High
Land Use & Food Systems	Increase in soil erosion and soil fertility	High	High	High	Medium-High	Medium
Ecosystems & Nature-Based Solutions	Degradation of Rizoelia Park biodiversity and increased desertification risk.	High	Very High	Very High	Low-Medium	High
Ecosystems & Nature-Based Solutions	Loss of habitats.	Medium:	Very High	High	Low-Medium	High
Ecosystems & Nature-Based Solutions	Increased flammable vegetation and wildfires	High	Very High	Very High	Low	High
Ecosystems & Nature-Based Solutions	Increase in the need for shading	High	Very High	Very High	Low-Medium	High
Cultural Heritage	Increased material stress and accelerated degradation of historical buildings	Medium	Medium	Medium	Medium-High	Medium
Critical Infrastructure	increase in cooling demand and requirements for electricity grids	Very High	Very High	Very High	Low-Medium	High
Critical Infrastructure	increase in energy demand for irrigation, desalination, water reuse and treatment	Very High	Very High	Very High	Low-Medium	High

Compiled assessed aspects of the climate impacts considered in the analysis.

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Phase 2: Formalizing the Shared Vision for Transformation

We are moving from diagnosis to Strategic commitment. The objective is to co-develop a shared vision of Aradippou future climate resilient state, that will guide the long-term Climate Resilient Strategy and Action Plan.

Key Activities:

1. Building Collective Understanding and Ownership
2. Stakeholder Deep Engagement
3. Developing Collective Understanding

Shaping Long-Term Resilience

The formal adoption of the Shared Vision creates the necessary mandate for RRJ Phase 3 (Design Pathways). It serves as the definitive North Star by:

- Setting the Ambition
- Prioritizing Investment
- Securing Buy-In

AIC: The Local Challenge of Adaptation Finance: Realities

The financial diagnosis confirms that adaptation action is constrained not just by lack of capital, but by systemic policy and institutional barriers that the AIC must dismantle.

Financial Realities: Sources and Limitations

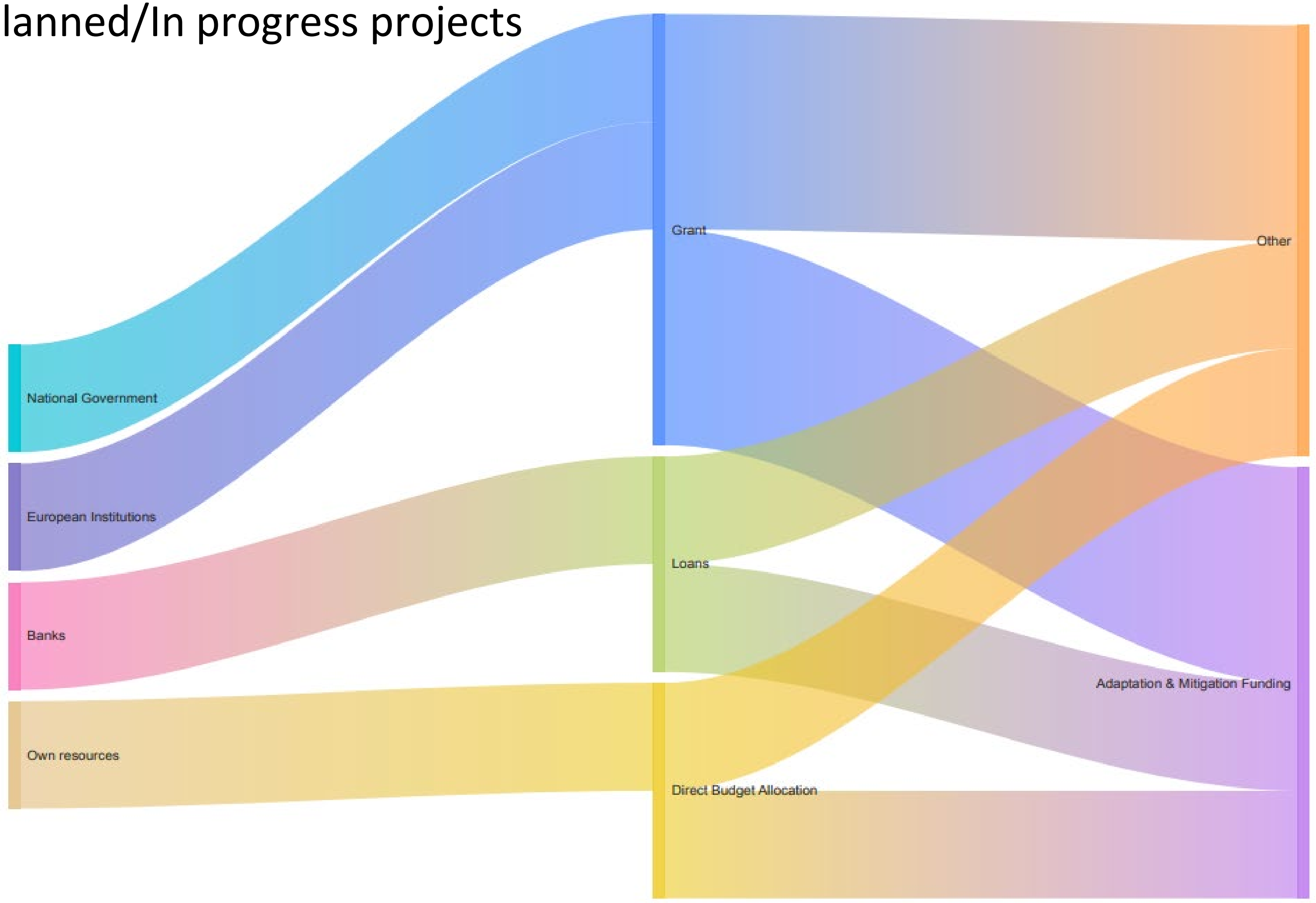
Capital expenditures (2019-2028) of €52.1M, of which €22M (42%)
is directly allocated Climate financing.

- Strong commitment

Public Grant Dominance

- Funding relies heavily on the public sector, with National Government and European Institutions supplying 73% of the dedicated climate funds.
- Local Financial Stewardship: Aradippou demonstrates strong commitment in Climate Adaptation efforts (26% of total own financing CapEx)
- Currently, Climate financing requires Bank loans (18% of climate financing), which are inevitable due to limited public fiscal space. Tension between high mobilization (the need to act) and the lack of diverse revenue streams & financing (the financial reality).

Landscape of capital expenditure, Aradippou 2025
Planned/In progress projects



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AIC: The Local Challenge: Barriers to Strategic Investment Mobilization

Demand side (Aradippou Municipality)	Supply-side	Enabling Environment
Limited fiscal autonomy and heavily reliance on public funds	Prioritisation process biased against long-term, innovative adaptation	Short-term political cycles vs. long-term adaptation needs
Historical disconnection from National public planning cycles	Lack of capacity to assess climate resilience	Inadequate legal/regulatory environment to support urban adaptation investement
Centralised channelling of EU Funding	Rigid financing models	Poor policy environment to encourage investment
Cities lack capacity to formulate investable, climate resilient projects	Limited financial instruments specifically dedicated to urban adaptation, forcing cities to compete with larger national projects.	Market environment does not support adaptation investment
Limited revenues		Knowledge gap in advanced finance instruments
Urban management responsibilities are often fragmented		Insufficient legal support
Data/information gaps		

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AIC: Exploring Creative Approaches to Fund Local Adaptation

The strategic necessity is to transition from grant dependency to resilience investment by maximizing local financial capacity and attracting external capital.

Strategic Focus Area	Key Strategies and Solutions
1. Budgetary Mainstreaming & Fiscal Efficiency	• Integrate adaptation fully into core municipal budgets to ensure spending shifts from reactive compliance to strategic investment. • Enhance financial capacity by systematically realizing mitigation savings (e.g., energy efficiency) and reallocating those funds to adaptation deficits. • Prioritize projects based on multi-criteria objectives (economic, social, and environmental benefits) to maximize value-for-money.
2. Public-Private Structuring & Value Capture	• Structure complex, high-cost projects (using Public-Private Partnerships and concession models to transfer long-term operational risk and mobilize commercial capital. • Value capture mechanisms to create guaranteed revenue streams that convert public benefits into financial returns.
3. External Capital Mobilization	• De-risk investments using a blended finance approach, strategically mixing Public-Private debt to bridge the supply-side gap.
4. Enhancing Enabling Conditions (KECs)	• Launch strategic policy advocacy to the National Government to improve local fiscal autonomy and introduce flexible financial frameworks. • Advocate for the establishment of Regulatory Sandboxes to pilot and formally validate innovative adaptation technologies and solutions before widespread scaling.

Key Takeaways: Core Lessons from the Municipal Perspective

The implementation of the integrated RRJ and AIC frameworks reveals three fundamental lessons for regions committed to climate resilience:

Adaptation is Integrated Developmental Investment

- The national commitment to adaptation can be met by streamlining adaptation targets into broader developmental investments (e.g., in infrastructure, health, and education). This ensures resilience is built into high-volume investment streams rather than being funded only by limited environmental budgets
- The strategic shift requires political and financial leadership that treats adaptation as a mandatory investment, justified by the avoided economic losses (the true cost of inaction) that surpass the cost of action.
- Ensuring rigorous criteria are integrated into annual financial and capital planning cycles to maximize every euro spent.

Solutions Require Enhancing Private-Public Finance

- Since public funds alone are structurally insufficient, the primary financial solution is embracing Blended Finance and Public-Private Partnerships to mobilize external capital.
- The public sector' role is to act as the catalyst by providing first-loss capital (grants) and ensuring reliable internal revenue streams through Value Capture Mechanisms (e.g., targeted fees/levies). This essential structuring de-risks projects, making them financially attractive to commercial lenders and institutional investors.

Governance and Autonomy are the Enablers

- Investment decisions must use Multi-Criteria Assessment to formally quantify the full economic, social, and environmental value of proposed solutions. This justifies long-term, systemic projects that traditional financial metrics would otherwise fail to fund.
- Autonomy & Innovation: Sustained investment depends on strengthening Key Enabling Conditions (KECs), requiring local authorities to advocate for greater Fiscal Flexibility and the establishment of innovative frameworks like Regulatory Sandboxes.
- Just Resilience: Strategic investments must prioritize Equity and Social Justice, focusing on reducing vulnerability for the most at-risk populations and ensuring that adaptation benefits are distributed fairly across the community

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