



MANAGING RESILIENT NEXUS SYSTEMS THROUGH PARTICIPATORY SYSTEMS DYNAMICS MODELLING

Deliverable 7.2 – Visual Identity & Project Identity Material

WP7 – PATHWAYS TO IMPACT

www.rexusproject.eu

Edited by: Alexandros Kandarakis, Maria Livanou (GWP-Med)



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101003632.

Disclaimer

Any dissemination of results reflects only the authors' view and the European Commission is not responsible for any use that may be made of the information it contains.

Copyright

© REXUS Consortium, 2022

This deliverable contains original unpublished work except where clearly indicated otherwise. Acknowledgement of previously published material and of the work of others has been made through appropriate citation, quotation or both.

Reproduction is authorised provided the source is acknowledged. Creative Commons licensing level.



Document Information

Grant agreement	101003632	Acronym	REXUS
Full Title of the Project	Managing REsilient neXUS systems through participatory systems dynamics modelling		
Horizon 2020 call	H2020-LC-CLA-2018-2019-2020 / H2020-LC-CLA-2020-2		
Start Date	1 May 2021	Duration	36 months
Project website			
Document URL	Insert URL if it is public		
REA Project Officer	Giulio Pattanaro		
Project Coordinator	José González Piqueras		
Deliverable	Deliverable 7.2 – Visual Identity & Project Identity Material		
Work Package	WP7-Pathways to Impact		
Date of delivery	31 October	Actual	
Nature	R-Report	Dissemination Level	CO
Lead Beneficiary	GWP-Med		
Lead Author	Alexandros Kandarakis	Email	Alexandros.kandarakis@gwpmed.org
Contributors	Maria Livanou		
Internal Reviewer	IRSA		
Distribution to	All partners		
keywords	Communication, dissemination, identity, logo		

Revision table

Version	Date	Reason	Revised by
V1	10/10/2022	Submit for internal review	Alexandros Kandarakis, Maria Livanou (GWP-Med)
V2	17/10/2022	Internal review	Alessandro Pagano (IRSA)
V3	28/10/2022	Submission of final version	Alexandros Kandarakis (GWP-Med)

Table of Contents

1. Principles guiding the visual identity	5
2. Visual identity	6
2.1 Logo.....	6
2.2 Key visual	6
3. Project identity materials	7
3.1 Pilot areas map	7
3.2 Consortium Partners map.....	7
3.3 Nexus explanatory diagrams	8
3.4 REXUS project factsheet	8
3.5 Roll-up banner	9
3.6 Horizontal banner	10
3.7 Events template.....	10
3.8 Welcome pack	11
3.9 Pilot factsheets	11

1. Principles guiding the visual identity

The visual identity of the REXUS project was developed in accordance with the project's Communication & Dissemination Strategy (D7.1).

It follows the principles below presented in summary form:

- The overall visual identity is modern, digital, futuristic, to highlight the scientific and forward-looking nature of the project. It will create anticipation for advanced scientific tools, in line with REXUS' use of the latest scientific data and state of the art methods.
- This modern, 'digital' approach is balanced with the human element, in order to highlight that humans are at the center of the process of change, impact and transformation. They are active agents, rather than passive recipients of technology, tools and solutions.
- REXUS displays an image of resilience and (resource) security, of healthy, optimistic future outcomes for communities and for the environment.
- The visual identity embodies the project's philosophy of moving *from Nexus Thinking to Nexus Doing*, i.e. moving from thinking to action. REXUS is demonstrating the value of its approach in a tangible, concrete ways.
- REXUS does not take place in an academic ivory tower; it addresses real-world complications, frictions, uncertainty, to create realistic future scenarios. It engages with policymakers and stakeholders, to inform future decisions.
- Interconnections are crucial, most importantly interconnections between the sectors of Water-Energy-Food-Ecosystems-Climate.
- Breaking down silos is essential in the REXUS approach; bringing elements together, whether these are scientific tools, or groups of people, stakeholders and decision makers.
- REXUS is not talking abstractly about 'sectors' and 'security', but about people, communities, the environment, natural resources vital for life. The REXUS approach is inextricably linked with future of communities, with livelihoods and with the health of the planet.
- Feeling, and not just intellect, should have a place in the REXUS identity. Feeling is associated with a desire to move forward, to tackle perennial problems, to come together to produce better outcomes and achieve resource security. This is an essential driving force of the motivation to act, to move *from Nexus Thinking to Nexus Doing*.
- The visual identity clearly recognizes EU funding, in full accordance with EU funding rules.

2. Visual identity

2.1 Logo

The REXUS logo follows a simple, modern and digital approach, that highlights interconnections, which stand for the interconnections between Water-Energy-Food-Ecosystems-Climate sectors, as well as the interconnections between sectors, between management authorities, stakeholders, users and communities. It also sets the main 'purple' brand colour, as a vivid core visual element of the project's identity.



2.2 Key visual

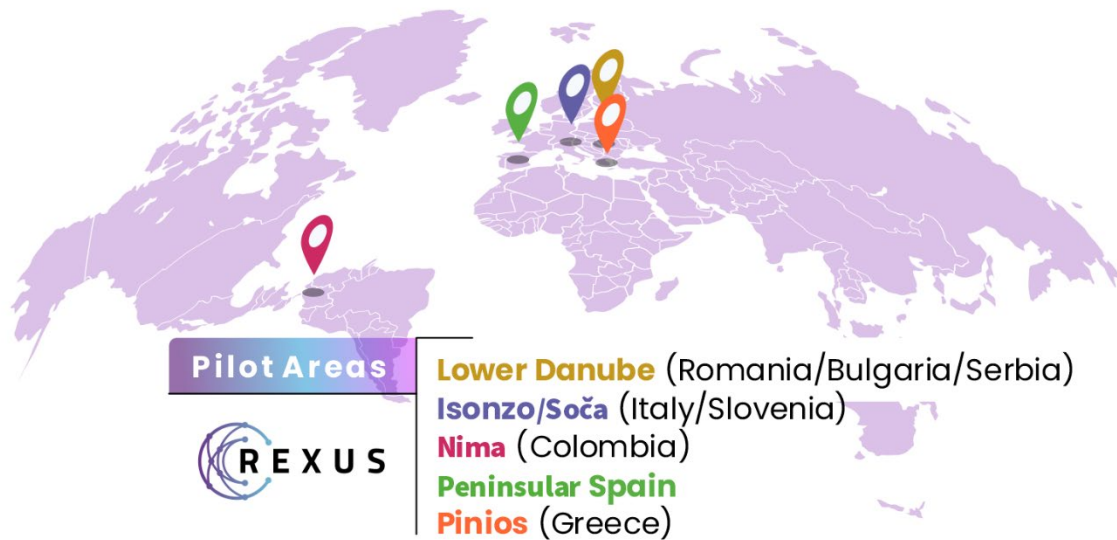
The REXUS key visual displays a tangram-like person, made of the different elements which REXUS is aiming to combine: the different Water-Energy-Food-Ecosystem-Climate sectors, while displaying a human, optimistic, and forward-looking image in the 'heart' of the REXUS person. It is a reminder that the REXUS approach, the with all the complex science behind it, is striving towards tangible positive impact on *people* and *communities*.



3. Project identity materials

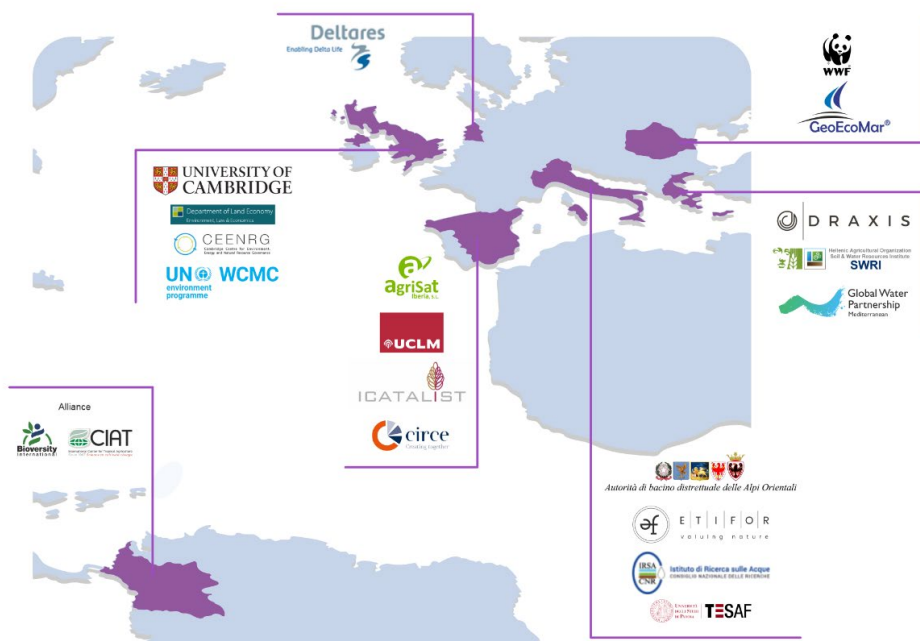
3.1 Pilot areas map

This [visual](#) shows the location of the REXUS pilot implementation sites, where the Learning & Action Alliances will be developed and the REXUS approach will be applied.



3.2 Consortium Partners map

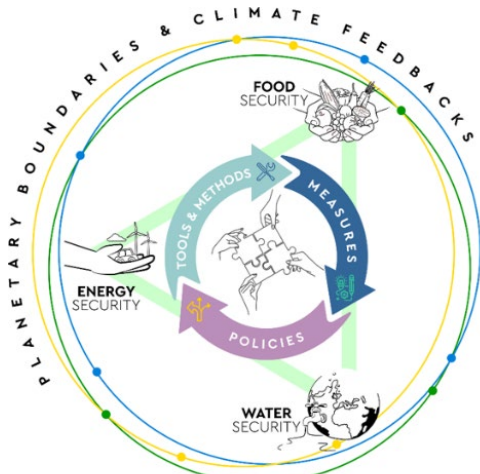
This [visual](#) shows the geographical spread of REXUS partners, a consortium straddling Europe and beyond.



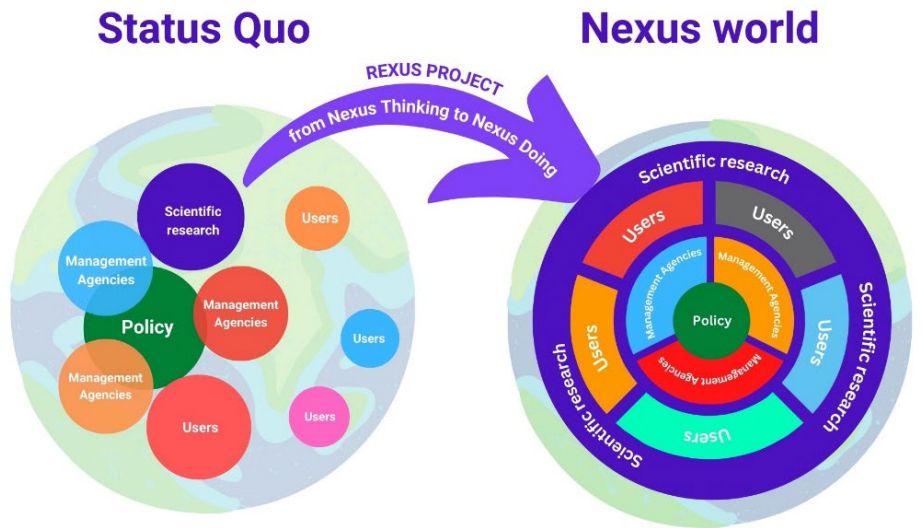
3.3 Nexus explanatory diagrams

These visuals show a. the interconnections between Nexus sectors, under an environment of climate change and b. the transformation between the fragmented state of Nexus sectors in the status quo, as opposed to the integration offered by applying the REXUS approach.

a. Sectoral boundaries & feedbacks



b. Nexus Transformation



3.4 REXUS project factsheet

The [project factsheet](#) offers a condensed view of the basic elements of the REXUS project and approach.

REXUS
From Nexus Thinking to Nexus Doing

Managing REsilient neXUS Systems through Participatory Systems Dynamics Modelling

The Project

REXUS ambition goals is to bring transformative change in the way our societies approach the Water-Food-Energy-Climate Nexus. The project argues that this is possible only through the activation of inclusive Nexus partnerships, the Learning & Action Alliances (LAAs). The objective is to Co-Develop and Co-validate knowledge and tools that facilitate the transition from the status of fragmented and the REXUS to Nexus Doing to strengthen resilience.

LAAs will:

- (a) co-produce new knowledge regarding Nexus interactions to inform the development of Participatory System Dynamics Models (PSDMs) that take spatial and temporal scales into account
- (b) explore multiple co-developed scenarios of demographic change, climate change, socio-environmental, economic, technological and regulatory policies.

Thus, PSDMs will serve the means to:

- (i) develop a stakeholder platform for trust,
- (ii) test the efficiency of integrated cross-sectoral policies, and
- (iii) build legitimacy for evidence-based decisions towards sustainable transitions.

PSDMs will inform climate risk assessments for combined resource management strategies by comparing the cascading effects among Nexus domains.

The pilot cases will be the best bed for the integration of methods, such as thematic biophysical modelling, Integrated Climate Action, environment of cost-benefit analysis, as well as other according to explore case-specific challenges. In response to these challenges, Ecosystem-based Adaptation (EbA) measures will be planned for these regional and transboundary systems.

On a policy level, for the first time, REXUS will explore the opportunity to link Climate Adaptation (i.e. the Paris Agreement framework) to Nexus management as a means to plan for the Nexus agenda. This approach will support REXUS' vision for Nexus systems that are managed with a renewed natural resource constraints and in appreciation of climate feedbacks.

DATA & MODELS
Biogeographical data and indicators (in-situ and remotely sensed)
Socio-economic data and indicators
Empirical and physics-based or statistical outputs

APPROACHES
Learning and Action Alliances (LAA) for Nexus challenges
Policy and legal instrument analysis
Ecosystem-based Adaptation (EbA)

Environmental economics
Participatory System Dynamics Modelling, Decision Support & Integrated Modelling

LAA Visioning Pilot Scenario Co-Development & Testing

Nexus-level sustainability transitions & Pathways to Resilient WEFC Nexus Systems

Monitoring and Evaluation Cycles Driving Actions and Policies in Pilot environments

ENVIRONMENT **WATER** **ENERGY** **FOOD**

Pilot Areas **Consortium**

Impacts

- Provide more accurate evaluations of future demands for water, energy food and related infrastructure at both local and global scales, taking into account natural ecosystem needs.
- Enhance the understanding of the cascading and feedbacks in Climate-Water-Energy-Food Nexus assessment and management and help create critical mass on capacity to resolve.
- Improve integrated water resources management and increase resilience to climate change, considering the value of water for ecosystems and their services and a more good quantitative and qualitative status of water, sustainable agriculture, food and energy production, as well as water, food and energy security.
- Reduce water risks for the energy sector and optimize market and trade solutions across the Nexus.
- Assess the impacts of EU regulatory framework (e.g. RED) on a sustainable Water-Energy-Food Nexus.
- Reduce institutional fragmentation while increasing cross-sector Water-Energy-Food collaboration and inclusive multi-stakeholder engagement.
- Strengthen EU role in formation of water issues, and become a leading actor on water risk to policy.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101003632.

3.5 Roll-up banner

The [roll-up banner](#) displays the project's key visual, adapted in roll-up banner form, for use in physical events.



3.6 Horizontal banner

The [horizontal banner](#), is inspired by project's key visual, adapted in horizontal digital banner form, for use in online events.



3.7 Events template

Inspired by the key visual, the [events template](#) provides a template that all partners who are organizing an event can use to produce an invitation, or a background visual for an online event.

(please click on the image to download)



3.8 Welcome pack

A [PPT presentation](#) that summarises the approach of the REXUS project. It can be sent to stakeholders and other potential REXUS partners to acquaint them with basic information about the project.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101003632.

3.9 Pilot factsheets

The pilot factsheets describe in summary form the key facts about each of the 5 REXUS pilots, the key aims and approach of the REXUS project. *(please click on the images to download)*

[Pinios, Greece](#)

[Peninsular Spain](#)

[Nima river, Colombia](#)

REXUS Project Pilot Areas: Pinios River Basin, Greece
Bringing together a range of stakeholders to tackle the Water-Energy-Food-Climate (WEFC) Nexus issues in the Pinios River Basin

General Characterization

- Area: 1,100 km² (Sakthi) changed into agricultural area 40%
- Arable crop: Corn & wheat, other annual crop cover over 50% of the total area (off-season forest is 10% of the total area)
- Water demand for agricultural irrigated basin: 120 MCM/yr
- Groundwater contributes the rest of water, although surface water is a contributing element to water requirements

Water Framework Directive (WFD) River Basin Management Plan outcomes

- Less than 1% of the water bodies meet the quality standards
- Less than 1% of the water bodies meet the ecological status
- Intensive agriculture is the main land use in the basin
- The water bodies in large parts of the basin are deficient, leading to a high risk of water scarcity in the near future

REXUS Goals

- Water Use Efficiency: There is a need to increase water use efficiency in the intensive sugar cane cropping system
- Water Quality: There is a need to improve the pollution of water bodies, which the community has recognized as a concern

REXUS Project Pilot Areas: Peninsular Territory of Spain
Overcoming administrative barriers for effective Water-Energy-Food Nexus management

General Characterization

Peninsular territory of Spain
Total population: 47,214,223
Area: Spain: 505,984 km²
Peninsular Territory: 452,475 km²

Place within the Nexus: Lower River Basin
The Lower River Basin, in the South East Mediterranean coastal area, has been selected because of its location in a sunny climate area

- Surface area: 42,725 km²
- Population: 3.5 million
- Climate: Mediterranean
- Precipitation: Around 500 mm, fluctuating between maximum annual values of 700 mm for the wet years and just over 100 mm for the dry years
- Land use: Agriculture (30%), urban (15%), and industry and energy (5%)

REXUS Goal

The main goal of the REXUS project in the Spanish Pilot Case is to help overcome administrative barriers that lead to fragmented natural resources management, by providing a comprehensive Nexus framework that will allow implementing exemplary practices in Nexus management from River Basin to River Basin.

Objectives

- Agriculture-Ecosystems-Energy-Climate Nexus interactions: REXUS will explore specific policies based on one sector, analyzing their impact on other sectors for possible development of cross-sectoral policies
- Light of the analysis of Nexus dynamics between sectors, REXUS will provide a blueprint for sustainable practices on a national scale that include one of the most critical challenges: Production costs must be optimized to achieve the viability and improve the competitiveness of agriculture, while preserving the quality elements of products produced in harmony with the environment, to increase the added value in the market
- Climate: Reduce the vulnerability of production sectors and especially agricultural production to climate risks, by the use of resilient and sustainable practices

REXUS Project Pilot Areas: Nima Watershed (Cauca Valley Department, Colombia)
Participatory System Dynamics Modelling (PSDM) will support understanding of the Water-Energy-Food-Climate (WEFC) Nexus

General Characterization

- Location: Cauca River Valley in the Central Andes of Colombia
- Elevation: Ranges between 1,200 and 4,100 MASL (Las Hermosas National Natural Park)
- Population: By its surrounding water supply to 9 adjacent cities in the municipality of Palmira for 312,539 inhabitants, a hydroelectric plant, and an irrigation district that benefits 6,900 ha of sugarcane in the downstream area
- Dry seasons: January-March & June-September
- Wet seasons: April-June & September-December
- Precipitation: 1,500 mm/year (lower middle area) - 2,100 mm/year (upper area)
- Average temperature: 19-24°C
- Agriculture: Sugarcane 35.4%
- Other land uses: Natural forest (23.0%), extensive cattle ranching (17.9%), Pasture vegetation (10.3%)

REXUS Goals

- Water Use Efficiency: There is a need to increase water use efficiency in the intensive sugar cane cropping system
- Water Quality: There is a need to improve the pollution of water bodies, which the community has recognized as a concern
- Climate Risk Assessment: A 1.5°C temperature and 30% precipitation increase by 2050 is projected in the Municipality of Palmira, which might increase drought and flooding risks over the watershed


Isonzo/Soča river

REXUS Project Pilot Areas:
The Isonzo/Soča River
Overcoming transboundary management challenges by applying the integrating Water-Energy-Food-Climate Nexus

Assessing the Water-Energy-Food-Climate Nexus in transboundary river basins represents a significant challenge. In these contexts, there is heterogeneity in environmental data, flood risk management plans, climate change assessment methodologies, and resource views of the nexus, which often prevents the implementation of effective basin-wide strategies. The case study of the Isonzo river basin, which crosses between Italy and Slovenia, represents an exciting ground to demonstrate the effectiveness of the solutions developed in the REXUS project. It also presents an opportunity for the District Basin Authority of the Eastern Alps (AMBA) River District, to understand the impact of the Water-Energy-Food-Climate Nexus in its basin planning activities following Directives 2007/60/EC and 2009/80/EC.

General Characterization

- **Transboundary River** originates in the Alpija Valley of Trenta in Slovenia. It flows into the Adriatic Sea, with a delta near Monfalcone (Italy).
- **Total surface area of the basin:** Approx. 3400 km².
- **Water management in Slovenia:** The basin is strongly affected by presence of dams/barrages.
- **Water management in Italy:** It depends on the fact that the flows of the Isonzo river are regulated by the artificial barriers built on Slovenian territory between Most na Soči and Sočane for hydroelectric purposes.
- **The mountainous section of the Isonzo/Soča ends** at Solkan-Sakane (Nova Gorica), on the border between Italy and Slovenia.
- **Regulation System:** The management of the Solkan dam has a significant influence on the Italian part's flood management and irrigation system.
- **Issues:** The basin presents flood risk areas according to 2007/60/EC.
- **Challenges:** There is a lack of shared framework focusing on nexus issues for the whole basin.



REXUS Goals

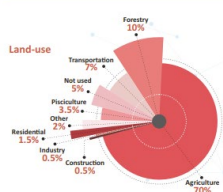
- Provide valuable scenarios to estimate the impact of climate change on the area and current strategies (e.g., flood prevention, etc.), also in the view of the next updates of the current management plans.
- Finding and testing best solutions/best practices to ensure sustainability, e.g., flood risk reduction measures, including environmental value within project, and transition to Nature-based Solutions approach, instead of standard grey infrastructure.
- Find a balance between various water uses (food/food/energy), e.g., a balance between flood security and economic development.
- Estimate the future behaviour of the economy to help decision-makers (Socio-economic Assessment).

Lower Danube


REXUS Project Pilot Areas:
Lower Danube (Romania, Bulgaria, Serbia)
Integrating solutions through participatory approaches: Enhancing Lower Danube's Water-Energy-Food-Climate Nexus resilience

The REXUS project aims to assess the Water-Energy-Food-Climate Nexus of the European Lower Danube River system through an integrated analysis, working with stakeholders to overcome administrative barriers, to improve the local population's living conditions. The Lower Danube area faces significant challenges, such as the continued exploitation of the Danube River resources, especially for navigation, hydropower production, and the higher water quotas for agricultural irrigation, especially during periods of drought. As a result, the water level may drop below the safety margin. Therefore, local communities may be forced to rely on groundwater resources, which are also limited, for drinking water supply.

General Characterization



- **Total population:** ~1.2 million inhabitants.
- **Area:** 236,930 km² (29% of the total Danube basin area of 817,000 km²).
- **Climate:** Temperate (rains occur throughout the year, hot and dry summers, annual average temperature 11.5°C).
- **Precipitation:** West to East decreasing trend, from over 600 mm/year to less than 500 mm/year in the East Romanian Plain and about 350 mm/year in the coastal region.



REXUS Goal

The main challenge to overcome is the continued overexploitation of the Danube river's water resources. A critical factor to be included in the WEFCC Nexus analysis is sustainable exploitation, as it generates less impact on the natural environment and improves ecosystem services.

Activities related to flood risk management, such as cost-benefit analysis, economic, social, and environmental impact assessment, and land use planning, require better coordination by Nexus stakeholders.

REXUS plans to bring together key stakeholders from government institutions, such as minister and national administration, local administration, NGOs, insurance companies, and citizens, with the aim of overcoming some of the expected bottlenecks, such as lack of transparency, high bureaucracy, and divided decision-making, through the implementation of REXUS project measures.