



# Case Studies Report



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### **What is TeRRIFICA?**

Find out on our project website: [www.terrifica.eu](http://www.terrifica.eu) !

### **What else has been published in TeRRIFICA?**

*Report on Institutional Framework:*

Overview of the current state regarding climate mitigation and adaptation in the six pilot regions

*Guide on Engagement and Co-Creation:*

Supportive document on how to foster stakeholders' engagement and co-creation processes

***Free download is available on our project website!***

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<https://terrifica.eu/member/>

## 1. Introduction: Learning from exciting European examples

TeRRIFICA, standing for Territorial Responsible Research and Innovation Fostering Innovative Climate Action, is a European project aiming at developing innovative climate action through stakeholder engagement and co-creation.

Climate change and its effects are becoming more and more a globally discussed issue. Thus, the awareness that we have to start with concrete actions to adapt to and mitigate climate change effects is constantly increasing.

*But how should these actions look like? Who has to be included in these actions? What should be considered when developing new climate actions?*

These are important questions that probably not only arose in our TeRRIFICA project. Fortunately, there are already many exciting examples around the world that successfully initiated climate actions in a wide variety of ways. Consequently, within the TeRRIFICA project, we aim at learning from these experiences before we start developing specific actions in our pilot regions. These pilot region actions will be based on community-academia research partnerships and on the facilitation of an effective and productive co-creation process between all actors.

For this report, the TeRRIFICA pilot region teams from Belarus, France, Germany, Poland, Serbia and Spain identified case studies of community-academia research partnership from their regions or countries related to climate change adaptation and/or mitigation. The projects were analysed taking into account their aims and

objectives, the way of communication and participation, conflicts and barriers, and good participatory research practices.

This “Case Studies Report” includes a summary of these analysed projects that highlights common outstanding elements for the development of future climate actions with community-academia research partnerships. Additionally, each case study is presented in an individual profile with key information to give a more detailed insight into these exciting and supportive examples of climate action.

## 2. Summary: Outstanding factors

The six pilot region teams have identified 17 cases studies of interest for the TeRRIFICA project that highlight climate action diversity across sectors and across Europe.

The initiatives include a variety of different community groups: Almost half of the overall 17 initiatives, for example, are based on the engagement of stakeholders from the agricultural sector, like the long-term project in France called “Participatory selection of ‘produced in farms’ seeds” in which farmers together with scientists work on new wheat varieties which are more climate resilient. In Serbia, a project was successfully implemented in which wine producers were engaged in an important renewal process of viticulture zoning due to changed climate conditions.

There are also several projects that put their emphasis on the collaboration with schools. For example, a German project in which scientists initiate the establishment of extracurricular learning sites for school classes in companies with a bioeconomic background. Students get the chance to work in a small scale with innovative and climate friendly producing companies.

Of course, the interaction with local authorities, administrations and policy makers plays an important role in many projects. In Belarus, for example, the participatory planning of green zones in cities is an interesting project to have a closer look

at the interplay between local authorities and the public.

The citizens themselves, independent of any group affiliation are also asked to participate in various formats and ways. The europewide project COproductionN with NaturE for City Transitioning, INnovation and Governance (CONNECTING Nature), in which the Polish partners take part in, includes many different open events such as policy labs, investments forum, or Expos. The Spanish citizen science project, Mosquito Alert, is based on the participation of citizens since they provide important data regarding specific mosquito species’ occurrence which will be used for several scientific issues (e.g. public health and monitoring the effects of climate change on mosquito spreading).

Thus, a wide variety of projects related to climate adaptation and mitigation is included in this “Case Studies Report”. Despite the diversity of actions and partnerships, they coincide in identifying some relevant aspects for this type of climate action partnerships. The analyses of the case studies were performed based on the question: “What can we learn from these case studies for our future work regarding climate actions?”

**Trust** – This seems to be one of the fundamental aspects to be considered. It was mentioned in various analyses as an important driver. For example, a specific stakeholder group initially did not have trust

in the scientists' work or their approach. Consequently, to get a project going smoothly, trust-building among all actors and in all directions can be considered as one of the crucial first steps.

**Communication** – Several projects have a very intense communication strategy with, for example, a well balanced and timed mixture of face-to-face communication and online communication. The intensity of communication with stakeholders can also become an important factor to prevent an information overload and a “project tiredness”.

**Strategic thinking and planning** – The support of specific people or organisations can decide on the success or failure of the whole project. Thus, it might be valuable to invest time at the beginning of the project to investigate whom to include or to convince of the projects' relevance. “Local leaders” can play an important role in promoting the project or signing a support agreement with certain influencers might also help convincing other groups to engage in the project.

**Perception and way of thinking** – Working together with people always implies different perceptions and ways of thinking. Especially regarding the topic of climate change, there are already very opposing positions that should be taken into account. Based on the individual background, people have different perceptions in particular if issues or proposed changes touch their habits or the socioeconomic status.

To motivate, fascinate and convince people to act, their way of thinking should be considered and clearly addressed. Major challenges posed by climate change require changes in peoples' competencies, lifestyles and consciousness in order to be able to solve the climate crisis.

Scientists, but also other people from other working sectors, tend to do “silo thinking”. Choosing appropriate methods, an intensive communication and taking the time needed which is necessary to facilitate a “mind-opening process”, might help to overcome this barrier.

**Appropriate target groups** – It can be a key barrier if the target group is not well defined or thought of. The planned actions must show a clear connection to the everyday life of the stakeholders and the participants have to see their benefit from participating. This is also an important factor to reflect upon during the project progress since the actual target group might change with the lifespan of the project.

**Bidirectional knowledge transfer** – This aspect was mentioned in several analyses, only using different words for it. For scientists it can be very helpful and important, to actually listen to the “real-life feedback”. On the other hand, to communicate scientific knowledge in a way that community partners can understand it and see the use for their own issues is also essential.

Even though, this bidirectional knowledge transfer can be stated quite easily, there might occur a gap between theory and

reality: Actually “living” this principle means to work on eye level with all actors and to respect all experiences and opinions.

**Time and timing** – It is important to include sufficient time for certain processes, such as the trust building phase, in the overall project time schedule. Even though these phases can be a barrier regarding the financing since they normally do not produce any clear output.

Timing of stakeholder involvement should be planned thoroughly and it should be reflected on at what exact time points stakeholders are requested to engage and to what extent. Having a clear strategy on this might help to facilitate the overall interaction with stakeholders.

**Interests, needs and benefits** – Everyone needs some kind of motivation to not only be aware of an issue but also to be willing to act on it. For a new action, these individual entry points must be identified to somehow “break through to the people”. Often, seeing a clear benefit for themselves is an opener that helps people to be motivated to participate.

**Resources** – Normally, financial and human resources are always limiting aspects for projects. This can extensively influence the whole planning and implementation of actions. Of course, this aspect has to be taken into account and plays a major role, but ideas already exist where this issue was tackled in a more open-minded and maybe even creative way (e.g. using low-cost alternatives if there are no financial resources for large investments in technology).

Additionally, project planning offers the chance, for example, to ensure that one person can only be responsible to provide support in the co-creation process if this was specifically applied for in the project proposal.

**Hands-on** – Letting people work outside their normal (working or living) environment can have a positive effect on their way of thinking and the motivation. Besides, a joint hands-on activity can support a “horizontality between all stakeholders” which is seen as a crucial prerequisite for the co-creation process.

Field trips and seeing things with one’s own eyes are also mentioned as very supportive in motivating people and to gain a better understanding of specific issues.

**Supportive tools** – Many of the analysed case studies included a supportive tool, an app or a mapping system, for instance. These tools can help to get in touch with people, easily involve them in research tasks, but especially also helps to illustrate certain circumstances or finally let issues become visible so that they cannot be ignored, e.g. by local authorities, anymore.

Regarding the long-term effects of projects, these tools can be very powerful since there might be efficient options to implement them in a way they can be used even if the original project has finished.

### ***Impact on our TeRRIFICA project***

Following the Knowledge Phase, the Capacity Building Phase and the Action Phase in TeRRIFICA will focus on the work in the pilot regions and with the local actors. Thus, the findings of this Case Studies Report, together with the learning outcomes of the Co-Creation Guide, give us a basis on which we can plan the interaction with people in the pilot regions and, furthermore, future joint activities in the field of climate adaptation and/or mitigation.

Since the TeRRIFICA pilot region teams can be seen as facilitators for initiating, maintaining, and supporting local networks, structures, interactions and activities, it is important to have a broad background on the relevant factors that should be considered in these evolving co-creation processes.

With this coordination function, the pilot region teams are in the position to keep the overview of these factors and provide the necessary support to the local actors in setting up innovative climate actions.













In the Capacity Building Phase, for example, elements as trust building and the guarantee of a bidirectional knowledge transfer can be key and it will be in the responsibility of the pilot region teams to provide appropriate tools and methods for this.

Later, in the Action Phase, the results of this Case Studies Report will help to support the implementation of specific climate actions due to the awareness of several important aspects that have to be considered in a project planning phase.

These aspects include, for example, the budget planning related to particular project phases such as trust building, the identification of appropriate forms of engagement or the appropriate target group(s) for the planned action.

Due to the already gained experiences in TeRRIFICA, the pilot region teams will also be able to ensure that for future actions strategic planning (e.g. for communication strategies, persuasive efforts) is already performed in the set-up phase of a new climate action.

### 3. Categories: Sectors for classifying the case studies

Agriculture	
	Biodiversity
Buildings	
	Coastal areas
Disaster risk reduction	
	Energy
Financial	
	Forestry
Health	
	Transport
Urban	
	Water management

In 2018, the European Environment Agency published a document via the European Climate Adaptation Platform (Climate-ADAPT) presenting [“10 case studies – How Europe is adapting to climate change”](#). The TeRRIFICA project extends this brochure by further identifying good practice examples from the six European pilot regions of the project.

For this initial collection of case studies, the European Environment Agency defined twelve sectors to which the different projects were assigned to: Agriculture, Biodiversity, Buildings, Coastal areas, Disaster risk reduction, Energy, Financial, Forestry, Health, Transport, Urban, and Water management.

For this report, we adopted the sector assignment and illustrated the individual sectors with [icons from the Green Map System](#) in accordance with Wendy Brawer, the founder of the Green Map System.

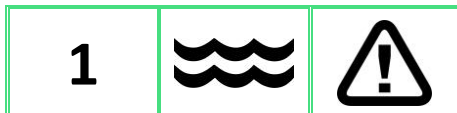


## 4. Profiles: The 17 case studies in detail

The case studies are clustered regarding their focus sectors or a synoptic topic:

	<b>Adaptation</b>		
1		M-CostAdapt – Adaptation Pathways to Climate Change in Spanish Mediterranean Coastal Zone	Spain
2		Network for Innovation and Entrepreneurship in Times of Climate Change (NIK)	Germany
	<b>Agriculture</b>		
3		Participatory Selection of "Produced in Farms" Seeds	France
4		labPSE - Laboratory for Payment for Environmental Services	France
5		CHASE – PL Climate Change Impact Assessment for Selected Sectors	Poland
6		Capacity Building and Technical Support for the Renewal of Viticulture Zoning and System of Designation for Wine with Geographical Indications	Serbia
7		Digitisation of Agriculture with AgroSens	Serbia
	<b>Education and Awareness</b>		
8		ESA – The Educational Anti-SMS Network	Poland
9		Learning Sites Bioeconomy - Conception, Organisation and Development in the Region Weser-Ems	Germany
10		Climate Culture Lab (CCL) - The Internet Platform for Climate Culture Change	Germany
	<b>Health</b>		
11		Revitalization of the Lake at the Locality of Tresnja by the System of Floating Islands	Serbia
12		Mosquito Alert	Spain
	<b>Urban Living</b>		
13		City-Gardens for the Biological Diversity in Mogilev	Belarus
14		Participatory Planning of Green Zones in Gomel	Belarus
15		COproductionN with NatureE for City Transitioning, INnovation and Governance (CONNECTING Nature)	Poland
	<b>Water management</b>		
16		Restoration of Drained Peatlands	Belarus
17		PIRAGUA – Evaluation of the Hydrological Cycle in the Pyrenees in the Context of Climate Change	Spain

## M-CostAdapt – Adaptation Pathways to Climate Change in the Spanish Mediterranean Coastal Zone. Beyond Adaptability Limits, Spain



The Mediterranean coastal area has a series of biophysical, socioeconomic and risk particularities, which make an analysis of adaptability of special interest. The Spanish peninsular Mediterranean is in this sense a good laboratory of the European Mediterranean coast. It is possible to develop efficient strategies for adaptation to natural hazards and climate change (in technical, social, economic and environmental terms) in the coastal zone. Adaptation strategies require the definition of clear and well-defined objectives depending on the type of coast. An appropriate adaptation strategy requires the establishment of adaptation pathways that include efficient measures for the type of coast considered and the tipping points identified in those that require the change or the combination of these depending on the time (or the magnitude of the planned changes). This project is a collaboration project between two complementary approaches: marine processes on coastal areas (leader is Universitat Politècnica de Catalunya) and the effects of extreme hydrological phenomena (leader is the Universitat de Barcelona).

### ***Aims and objectives***

- Carry out an analysis of the adaptability to climate change and the natural risks of the Mediterranean coast taking into account in an integrated way the events of maritime and terrestrial origin
- Propose a response strategy based on the design of adaptation pathways specific to the most representative management units of the Mediterranean coast that can be adapted locally and, for which their adaptation tipping points will be identified, the sequence of actions and their temporal dependence to adapt to the planned scenarios

### ***Participation and communication***

#### ***Who?***

- Municipalities in Catalonia and two provinces of Valencia (Castellón and Valencia)
- Representatives of the public administration such as municipalities, regional and central government
- Representatives of the tourism sector
- Socioeconomic representatives (i.e. social entities that work with conservation of coastal zone, interest groups), risk management ("Civil Protection")
- Citizens

### How?

- Large number of **face-to-face interviews** with the key stakeholders
- Surveys among the users of specific coastal areas
- Interviews and **surveys** aim to better understand the perception of the adaptation measures taken as well as to identify “desired” measures per stakeholder type
- In this first phase, communication was always face-to-face. In the second phase of this project social media and other digital communication strategies will be used

### Barriers and conflicts

- Municipalities in this area are facing **other more immediate challenges** and sometimes it is hard for them to have the resources (or time) for a challenge that is still in the future (despite the fact that it is getting closer by the day)
- Stakeholders are being contacted from different projects and initiatives. It is important to **contact** them **only for key information** and with very clear objectives. Stakeholders can otherwise **tire from participating** in research projects
- **Accountability and sharing the results** is a necessary good practice to avoid stakeholders from losing interest in collaborating with such projects

### Good practices of participatory research

Many feasible technological solutions exist that are affordable or not too costly to respond to the challenges that climate change will bring to the coast of the Mediterranean. However, local stakeholders may have high and often opposite interests in the different solutions. In this sense, taking into account these actors is essential to reduce and/or overcome social limits (conflicts) in developing and implementing climate adaptation measures.

**Accountability and sharing the results** is a necessary good practice.

This project goes **beyond technical and economic solutions** and takes into account, from the beginning, the **importance of the interests and needs** of the different stakeholders for successful adaptation measures.

### Positive effects on other strategic objectives

- Integrated coastal zone management (ICZM)
- Natural hazards

### Duration

January 2018 – December 2020

### Funded by

Ministerio de Industria, Economía y Competitividad (Spanish government)

### Contact

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<http://mcostadapt.upc.edu/es>



## Network for Innovation and Entrepreneurship in Times of Climate Change (NIK), Germany



The linkage of climate adaptation, innovation, and entrepreneurship at the regional level provides the framework for the Network for Innovation and Entrepreneurship in Times of Climate Change (NIK). NIK's goal is to cooperate with regional actors in identifying innovative solutions for adapting to the consequences of climate change and supporting ideas for start-ups.

Businesses are not only involved in causing climate change, they can also be adversely affected by it, and they can help solve the problem. The consequences of climate change can have negative impacts on businesses and their value chains around the world.

Businesses and other stakeholders in the economy, such as trade associations and chambers of commerce, must prepare for these risks due to climate change. At the same time, climate change risks also offer opportunities that businesses can exploit profitably.

### **Aims and objectives**

- Cooperating with regional actors in identifying innovative solutions for adapting to the consequences of climate change and supporting ideas for start-ups
- Expanding existing innovation centers and business incubators by adding consulting services concerning climate change and adaptation



### **Participation and communication**

#### *Who?*

- Project coordination at the Carl von Ossietzky University of Oldenburg
- Regional businesses (especially small and medium-sized enterprises [SMEs]) and Start-ups willing to work on climate change adaptation strategies
- Representatives of local authorities, industry, academia and civil society

#### *How?*

- **Climate Innovation Workshops** with companies
- **Climate Idea Jams** as sector-, industry- or issue-related workshops
- **Climate Business Jams** as specific workshops for concrete founding ideas
- In the development of the workshops, experts were included to investigate the feasibility of the founding ideas
- **ClimateInnovations – Contest for Innovators:** To intensify the dissemination of good-practice examples in the public
- Network meetings, such as **Climate Innovations Forums**
- Detailed **communication concept** to guarantee an effective external communication with relevant stakeholders and the public as well as the internal knowledge transfer and communication

### **Barriers and conflicts**

- Climate adaption was a **relatively new topic** in research as well as in the company practice. Thus, the **relevance was not seen** in many SMEs and Start-ups
- Climate change **effects are not recognized as business opportunities**
- **Complexity** of the climate change effects and **uncertainty** in the **individual concernment** makes it difficult to see the benefit of consulting workshops
- **Difficulty to position** a climate innovation network since the topic is cross-sectoral and cross-technological

### **Good practices of participatory research**

During the project, several innovative climate change adaptation ideas were developed and many of them reached implementation status. The network developed into a **competence center** regarding climate change effects and it will extend the consultation activities even after the official end of the funded project phase.

Furthermore, the network became an **important supporter** for the acquisition of funds and developed a role of a thematic-specific process promotor.

Through the **integration of the network in university structure**, it can provide knowledge and reputation resources for significantly promote innovation processes in the region.



### **Transferability**

A specific guidebook was developed giving valuable and extensive support for establishing a network such as the NIK. This guidebook can be downloaded for free from the project website. In addition, guidelines and supportive material is provided for planning similar workshops as they were performed during this project.

### **Lessons learnt**

The successful work of the NIK project showed how important such a network is to actually promote innovation processes within a complicated topic such as the adaptation to climate change effects. Relevant aspects are the extensive search for appropriate regional partners, the development of structures to ensure the ability to act, and the establishment of a target group specific communication concept. Additionally, the different roles of the actors within the network have to be determined and questioned.

### **Duration**

July 2013 – September 2016

### **Funded by**

Federal Ministry for the Environment, Nature Conservation and Nuclear Safety; Metropolregion Bremen-Oldenburg im Nordwesten e.V. (Association of the Metropolitan Region Bremen-Oldenburg in the northwest of Germany) and City of Oldenburg, Economic Development Office

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## Participatory Selection of "Produced in Farms" Seeds, France



The participatory selection of seeds on farm is a participatory action research that started through a farmer demand for crops more adapted to organic and agro-ecologic farming than commercial seed varieties.

A team of researchers, Réseau Semences Paysannes (NGO; "Farmers seeds network") and farmers initiated a co-designed research to develop new wheat varieties from old ones that are directly tested and selected on farms by farmers, with the collaboration of researchers. These new varieties are more resilient to climate change.

### **Aims and objectives**

The research project of participatory selection of wheat seeds has four goals:

- 1) to develop "population-varieties" that are adapted to organic, agro-ecologic, low-input farming systems and for a high quality of seeds for transformed products;
- 2) to produce knowledge to maintain crop diversity via on farm dynamic management and farms breeding;
- 3) to strengthen farmers' empowerment through collective breeding management;
- 4) to build new and horizontal relationships between researchers and farmers networks.

The global goals are food sovereignty and resilience, including to climate change.

### **Participation and communication**

#### *Who?*

- Network "Réseau Semences Paysannes" with around 100 farmers today
- Researchers and students from the INRA (National Agronomic Research Institute), El Purpan (Engineering school), CIRAD (French Agricultural Research Centre for International Development) and ITAB (Institute of Organic Food and Farming)

#### *How?*

- Start of the collaboration: **joint journey** to Syria in 2006 to visit the pioneer of participatory selection of seeds
- Farmers not only chose the varieties they want to develop but also breed in their farm and **observe their properties in situ**
- Researchers carry on quantitative observations, data analysis and academic communications amongst others
- Animators coordinate the organisation and conduct communications
- The group **collectively defined an internal regulation for decision-making** and a charter formalising a common ground and shared principles. For instance, the charter includes the objective of co-producing and recognising farmers knowledge
- Analysis methods, selection of varieties, observations, field trips, selection, results and evaluation amongst others are **discussed collectively**
- A **complex collective organisation** has been put in place to share data, discuss the results, get feedbacks and exchange seeds

### **Barriers and conflicts**

**Time requirement:** Participatory research requires time to build trust, which does not necessarily fit the project funding and research timelines. This barrier has been overcome thanks to the engagement of actors and their shared vision and values.

**Tension between the “traditional” scientific method and the needs of practitioners** led to the creation of adapted and experimental analytic methods, after two years of discussions.

**Gap in languages:** a scientific article must often be written in English scientific jargon, whereas this language is not necessarily understandable for non-academic researchers. The group decided to first agree on the findings collectively, then researchers would translate it into an English scientific language to publish it.

As another example, the term “participatory” was conflicting: some farmers would find the term “patronising” but researchers argued that the wording “participatory selection” was a useful key word increasing the visibility of scientific articles. The group finally agreed on the term “sélection paysanne et participative”.

The **gap between the formalisation of the research in projects and the initial “grassroots” movement** has created other difficulties, such as the return of division of tasks between farmers, researchers and animators as the number of participants was growing, whereas the research spirit was precisely against this division of tasks. The group then wrote a charter and created new discussion spaces to strengthen the sustainability of this vision.

### **Good practices of participatory research**

This participatory research has implemented an **advanced co-production of knowledge process** and **constantly evolves for ensuring horizontality** between academics, farmers and animators.

In order to co-design and co-develop the research, the **process has been conducted in the long term**, i.e. in order to have the time to get to know and trust each other’s.

The group developed **tools for maintaining the traceability and sharing of information** and an easy transferability to new actors, in order to ensure the sustainability of the research in a context of project-based research.

The team **produced diverse outputs** to value their findings, including trans-disciplinary research journals, dissemination tools and collectively written scientific articles.

### **Positive effects on other strategic objectives**

The project has also positive impacts, including (but not only) in terms of 1) political recognition of the farmers organizations to manage crop diversity, 2) developing agro-ecologic and organic farming and thus, reducing the impact of farming on the environment, 3) recognition of participatory research.

### **Duration**

2003/2006 - ongoing

### **Contact**

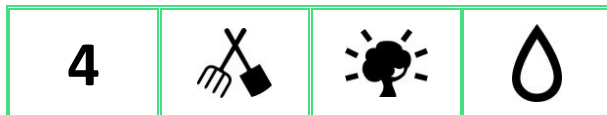
Isabelle Goldringer ([isabelle.goldringer@inra.fr](mailto:isabelle.goldringer@inra.fr))

Demeulenaere E., et al.: “La sélection participative à l’épreuve du changement d’échelle. A propos d’une collaboration entre paysans sélectionneurs et généticiens de terrain”, *Nature Sciences Sociétés* 25/4 (2017)

Demeulenaere E., Goldringer I., „Semences et transition agroécologique: initiatives paysannes et sélection participative comme innocations de rupture“, *Natures Sciences Sociétés* 25, S55-S59 (2017)

<https://www.semencespaysannes.org>

## labPSE - Laboratory for Payment for Environmental Services, France



The project LabPSE brings together researchers, farmers' networks, associations and mediators (CSOs, banks etc.) in order to develop knowledge and experiment the delivering and buying of Environmental Services (ES) in some territories in the West of France. These contracts are private, between farmers who produce an ES by their practice – i.e. preserving the environment – and a buyer (citizens, hunters, companies, water management trade unions, local public institutions) who wants to support the farmer for this. Thus, the contractors are free to choose and negotiate the price, the service and the expected result. The project intends to contribute to the transition towards agro-ecology through payment of environmental services (PSE), and thus, participate to the mitigation and adaptation to climate change.

### Aims and objectives

- Allow private actors to act responsibly
- Pay farmers for their services
- Foster the transition to agro-ecological systems
- Strengthen cooperation locally

### Participation and communication

#### Who?

- Farmers communities and networks: TRAME [coordinating organization], Fregda Bretagne, CUMA, CIVAM Bretagne
- Researchers: INRA, ESA, ESO, Groupe Saint Exupéry
- Water management organisations: Collectivité Eau du Bassin Rennais, Office international de l'Eau
- Private and public finance institutions: Caisse des Dépôts et Consignation Biodiversité, Crédit Mutuel
- CSOs: Terres en ville, tft

#### How?

- Locally, some farmers, "employed" (i.e. paid) by the project, are "**local leaders**", who know well the territories and actors: They **identify the key actors** who could be interested in experimenting PES and be part of local experimentation and evaluation committees
- **Local expert committees** to evaluate the environmental services, bringing together local stakeholders (e.g. teachers, citizens engaged in environmental CSOs, hunters)



### ***Barriers and conflicts***

The **communication is challenging**, as there are different representations of PSE depending on the territories. For instance, there is a bias on the economic retribution: farmers or business/CSO may focus on the price. Thus, the **communication is defined at each step depending on the audience**.

Another barrier is the **representation of farming systems “white and black”**, i.e. organic vs. conventional farming. It may raise some worries on the PSE, for instance that PSE implies the payment for farmers still using dangerous chemicals. However, the research project view is to develop freely PSE depending on buyers/sellers’ agreement.

### ***Good practices of participatory research***

There is a strong **commitment for an equal recognition of farmers, researchers and TRAME coordinators**.

The **decentralized local and plural expertise committee** is a good example of participants’ inclusion and recognition of knowledge of citizens outside the classical academic box. This is an alternative to expensive external audits.

The project management intends to involve local actors through **regional management**, which requires time but bring benefices. The project has **hired** a “Tiers-veilleur” (**facilitator**) **to ensure the co-creation** between stakeholders and increase the quality of citizen science in the project. The person has been chosen collectively through a standard job advertising process. The criterion for selection has been the knowledge and experience on the process, and not the topic of the research. The facilitator helps the community of research by observing and reflecting on the co-creation process and suggesting solution to develop the co-creation.

### ***Performance indicators***

- **Technical indicators** (e.g. number of methodological guides and scientific articles produced on PSE within the project)
- **Economical indicators** (e.g. environmental services for which the value has been evaluated [number and type/ total per territory], price defined for the various SE categories)
- **Environmental indicators** (e.g. environmental issues being opened for identified environmental services [number and type / total and per territory])
- Number of signed contracts and of written pre-contract (total and per territory)
- Number of farmers involved in the farmer groups in order to strengthen their services offer

### ***Positive effects on other strategic objectives***

Other strategic objectives are the remuneration of farmers, the creation of new local collaboration networks, and the promotion of the landscape and environment as a common good.

### ***Duration***

December 2018 – December 2021

### ***Funded by***

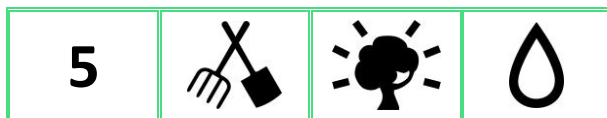
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## CHASE – PL Climate Change Impact Assessment for Selected Sectors, Poland



The CHASE-PL project contributed to the improvement of understanding of climate change in Poland and its impacts in selected sectors in the country. The project extended in numerous ways the state-of-the-art of the detection of change, projection of climate change and its impacts on water management, ecosystems and biodiversity, agriculture and food production.

The thematic area of climate change and its consequences, considered very important in Norway and many European Union countries, generally has no comparable status in public discourse in Poland. Poles are aware of climate change, but this issue is not widely recognized as a priority. The observed effects of climate change in the country have not been dramatic until now and their interpretation is complex since many factors have to be taken into account. A combination of high natural variability of hydro-meteorological phenomena and high uncertainty in future projections, impedes the public discussion.

### **Aims and objectives**

- Change detection in observed climate of Poland
- Projections of climate variability and change for Poland
- Large-scale climate change impact study in the basins of two large Polish rivers,

the Vistula and the Odra, and in smaller sub-catchments

- Issuance of management and policy recommendations and identification of feasible adaptation measures
- Index-based assessment of climate change impacts for in-stream ecosystems, wetlands, and agro-systems
- Broad dissemination agenda, ranging from papers in ISI-rated journals, a book on climate change and climate change impacts in Poland and presentations at scientific conferences to media-oriented products (interactive web mapping system)
- Improving the understanding of the impact of climate change on selected sectors in Poland: water resources, reducing the risk of natural hazards, environment, agriculture and health
- Improving the state of knowledge in the field of detection of changes, climate change projections and their consequences, and interpretation of uncertainty



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## ***Participation and communication***

### *Who?*

- Research centers that conduct research on climate change and adapt to it
- Business and the society as final users of the research results
- Institute for Agricultural and Forest Environment (IAFE)
- Polish Academy of Sciences Warsaw University of Life Sciences, Faculty of Civil and Environmental Engineering
- Norwegian Meteorological Institute (MET Norway)
- Academic and scientific partners (e.g. Adam Mickiewicz University in Poznań)

### *How?*

- **Exchange of Norwegian experiences** on climate science **and Polish experiences** on the effects of climate change: Norwegian experts provided common climate foundations, creating scaled projections, while Polish experts played a leading role in analysing the effects of climate change
- **Free access** to prepared publications, website and geoportal

### ***Barriers and conflicts***

In Polish scientific research, **silo thinking** is deeply rooted and create a **barrier in the development of comprehensive research** aimed at solving e.g. climate issue.

**Institutional capacity is limited** and there is a **lack of effective mechanisms for mediating the dialogue** between scientists and practitioners. Free sharing of the CHASE Project results, and thus easy access to the latest information on climate change, both recently observed and predicted for the future, provides reliable, scientific arguments for discussion with climate sceptics. Their presence and activity in Poland results from the **lack of awareness and knowledge about climate change** (this applies to

society in general as well as decision-makers, and even scientists) and the close relationship between climate and energy policy (Poland has large coal resources and an ecological dimension energy policy is ignored).

There is unanimity in Poland between different decision-makers and political parties regarding the contestation of climate change. Attempts to introduce climate change policies were criticized since the policies were seen as inefficient and financially unfavourable. Most politicians, supported by the media, as well as the coal mining industry, and energy industry, explicitly challenge the scientific evidence of climate change.

### ***Good practices of participatory research***

**Geoportal** can be considered an **innovative form of data collection and dissemination of results** worth using in other projects. It can also be used as a teaching tool at high school and university level. Finally, the geoportal is based on a huge amount of data generated as part of the CHASE-PL project, which is available for download in open research data repositories.

The project's success was **establishing scientific cooperation** between "mentally disconnected" scientific disciplines.

### **Duration**

2014 – 2017

### **Funded by**

Norway Grants and EEA Grants

### **Contact**

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Kundzewicz Z., Hov O., Okruszko T (Eds), 2017, Climate change and its impact on selected sectors in Poland, Poznań

<http://www.chase-pl.pl/>

## Capacity Building and Technical Support for the Renewal of Viticulture Zoning and System of Designation for Wine with Geographical Indications, Serbia

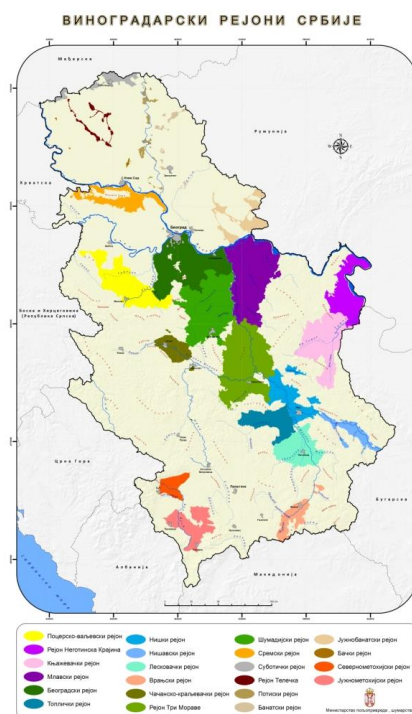
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The aim of this Twinning Project is to strengthen the viticulture and wine-producing sector in Serbia through harmonization with EU standards (first of all wine/wine products quality policy standards). In order to achieve recognition, quality improvement, and control of Serbian wines, it was necessary to renew viticulture zoning of wine-growing areas. It is also necessary to keep full and strong control of the production of wine with geographical indications through a system of geographical origin that complies with European Union requirements.

In order to analyse the most important terroir factors of 101 wine-growing areas of Serbia, detailed analysis of climate conditions in Serbia was done, and a set of regulations was conducted for each zone for varieties selection, breeding, grape and wine quality according to change in climate in the last 50 years. Information were disseminated to wine producers, and field excursions were performed to verify and finalize the standards.

Results were published in a Viticulture Atlas and a Wine Atlas. Also, part of the study became an integral part of the By-Law on the zoning of wine-growing geographical production areas in Serbia. Because of the climate change component and willingness of the producers to expand the practice, Viticulture Zoning is left open for the constant upgrade on the producers initiative, conditioned with needed documentation that includes latest climate information and other relevant parameters.



### Aims and objectives

- Improve sustainable capacities for implementing the system of designations for wine with geographical indications and viticulture zoning
- Collection and analysis of data for viticulture zoning
- Set up of a system of designation for wine with geographical indications and identification of a new system for viticulture zoning

## ***Participation and communication***

### ***Who?***

- Ministry of Agriculture, Forestry and Water Management
- Faculty of Agriculture, University of Belgrade
- Faculty of Agriculture, University of Novi Sad
- Center for Viticulture and Oenology
- Hydro-meteorological Service
- Republic Geodetic Authority
- Institute of Soil Science – Topcider
- Agricultural Stations/Extension services
- Associations of grapes and wine producers and NGOs
- Grape and wine/wine products and aromatised wine products producers

### ***How?***

- Team assembled from the Ministry of Agriculture representatives and relevant experts, **directly contacted** wine producers
- A **Project Steering Committee (PSC)** was set up with representatives of the key project stakeholders

## ***Barriers and conflicts***

Although most **agriculture producers do not have much trust in the benefit from collaborations with governmental institutions**, wine producers had positive attitudes towards the project. The wine producing sector, in a way, benefited from climate change, and now they are allowed to cultivate wine up to higher altitudes, assistance in quality assessment is provided, and varieties of high quality wine are now introduced in cultivation.

There was some **resistance to accept new procedures**, however since this change, that resulted from this project, became a part of legislative, it was obligatory for everybody.

## ***Good practices of participatory research***

Researchers learn a lot through **one to one contact** with wine producers, since models that you make as a scientist are mostly theoretical, and this is **real life feedback** that makes models much more accurate.

## ***Evaluation and Performance Indicators***

Following the analysis of climatic conditions, the creation of viticulture zoning of wine-growing areas, and thus the creation of conditions for the registration/protection of geographical indications within the new EU PDO/PGI system, eleven **associations of wine producer representatives** at the level of zoned wine-growing regions were set up, whose main objective is to protect new geographical indications. The producers' associations directly used the climate data from the study drafted within the project and prepared production specifications.

### **Duration**

January 2011 – May 2013

### **Funded by**

EU - IPA funding

### **Contact**

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<http://publikacije.stat.gov.rs/G2015/Pdf/G201514009.pdf>

[https://issuu.com/zavodstatistika/docs/vinski\\_atlas](https://issuu.com/zavodstatistika/docs/vinski_atlas)



## Digitisation of Agriculture with AgroSens, Serbia

7



AgroSens is a digital platform that provides support to farmers and agricultural companies in monitoring the growth of crops and planning of the agricultural activities. It was developed by BioSens Institute (Novi Sad) and represents an important step in digitisation of agriculture and an increase in efficiency and competitiveness of Serbian producers. The platform is based on a crowdsourcing approach: The farmers provide real data from the terrain which can be used by the BioSens Institute to train their algorithms. At the same time, the platform provides free data for the farmers to monitor their land, predict the amount of precipitation or weather changes. The AgroSens platform has more than 12,000 users by now.

### ***Aims and objectives***

The digital platform was developed to increase the efficiency and competitiveness of Serbian producers.



### ***Participation and communication***

#### *Who?*

- BioSens Institute
- Farmers community

#### *How?*

- **Free and monthly training** on how to use platform offered at BioSens Institute
- **Different networking events** are organized for active users, with the aim to gather their ideas about how to improve the platform
- For dissemination, **TV shows about agriculture** are used

### ***Barriers and conflicts***

There was a module for costs at the platform, where users were giving the information on how much money they invested in plants and products. This module was in a way making users scared, meaning that they thought that policymakers will know how much money they earn and they were afraid that someone will use this data to raise taxes.

**Timing:** Trainings can only be held during winter, since all farmers are highly occupied during summer time.

Republic geodetic authority, which is a public institution, has **exclusive rights over land books**, and they bill every land measurement. BioSens Institute, which is also a public institute, did land measurements to be able to perform parcelling of the land. These measurements were approximate and by using satellite data. Nevertheless, Republic geodetic authority wanted to sue the BioSens Institute for hacking and stealing data, although it was not the data of the geodetic authority that was used for the digital platform. The process of solving this conflict is still ongoing.

### ***Good practices of participatory research***

There is **a lot to learn from the users**, in order to improve the platform and make it tailored by people's needs.

### ***Positive effects on other strategic objectives***

An increase in crop yields can be observed with a simultaneous decreased usage of pesticides.

### **Duration**

2007 – ongoing

### **Funded by**

Biosens Institute

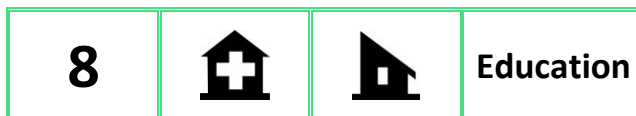
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## ESA – The Educational Anti-SMS Network, Poland



The aim of the project is primarily to raise awareness among Poznań Metropolis inhabitants about the importance of the air quality for their health and the quality of life. The project provides measurement systems for 160 schools located in the Poznań Metropolis. The system consists of a pollution meter (installed outside the school), an information monitor (inside the school) and a computer. The results of the measurements go to the website of the Educational Anti-SMS Network project: <https://esa.nask.pl/map>. The data are also presented on information screens located in schools, together with the educational content. In addition, as part of the project, the Poznań Metropolis Association together with NASK (Academic Computer Network - Research Institute) will organize at least one educational workshop in each municipality of the Association during the hot period of the year.

### Aims and objectives

- Educate children, adolescents, parents about the importance of clean air for health and the impact of everyday activities on its quality
- Provide tools for teachers regarding the air purity protection, with particular emphasis on smog issues: reasons for its formation, impact on health, and possible actions that allow to reduce air pollution

### Participation and communication

#### Who?

- Local self-government (institution supervising schools joining the project)
- Students (337 schools overall, 44,656 students) and residents
- Poland Smog Alert participating in the project, exchanging knowledge and raising their ecological awareness
- NASK and schools providing infrastructure and nodes of project related networks (measuring and educational hubs)

#### How?

- Engagement of various stakeholders through numerous meetings, discussions and mediations: **development of common sense of significance** in project participation
- **Active participation of teachers** in educational and informational activities
- **Trainings for teachers** (2,841 trained teachers) and project coordinators are carried out
- **Public monitoring** of air quality (external screens on school buildings)



© Poznań Metropolis Association



### **Barriers and conflicts**

At the very beginning of cooperation **the lack of trust between partners and divergence of interests**: Thanks to numerous meetings, discussions and mediations, common parts were found and solutions were developed that everyone could use. In addition, each of the project partners realized the seriousness of the problem and began to implement certain solutions / promote habits in their own environment.

The involvement of activists in the project, people who act effectively for air quality improvement and have appropriate substantive preparation (from Polish Smog Alarm [NGO]) also helped to break certain barriers and contributed to the increase of trust between project participants and recipients.

Teachers do not receive an extra salary for participating in the project, but it can be a part of their professional promotion (additional didactic and educational activity). It was treated as an element encouraging the teachers to participate in the project.

The **local community was often not interested in participating** in such meetings because they were aware that their behaviour/habits contribute to the formation of smog. Residents are aware of this but at the same time they are **not willing to change these habits**, what causes some conflict.

The **authorities** of some municipalities where air pollution is a big problem were **afraid of installing sensors**. They were aware that the **problem would be even more apparent** and thus there would be **greater social pressure** on them. Despite this, they decided to participate in the project because they understood that education and increased awareness of residents is extremely important, and at the same time, it will be an excuse to take further anti-smog activities not only by them, but also by the residents themselves.



© Poznań Metropolis Association

### **Good practices of participatory research**

**Active participation** of students, residents, teachers, scientists and local government. The project **responds to the social needs** related to the pursuit of life in better environmental conditions (clean air) by involving residents, including children, in efforts to improve them. They are based on the **involvement of knowledge and technological solutions** and making them available for use in monitoring changes in pollution levels - a measurement module responsible for monitoring climate change.

The project also assumes **active actions** to limit climate change. A series of training sessions for students and residents led by specifically educated teachers aim to identify and disprove "smog myths" and to give answers to "important questions about smog".

### **Duration**

2018 – 2021

### **Funded by**

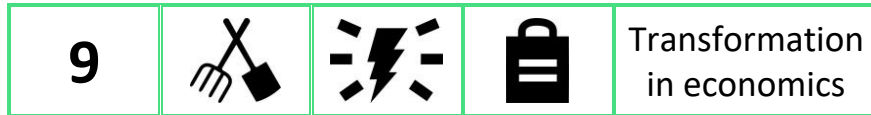
Polish National Fund for Environmental Protection and Water Management

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<https://esa.nask.pl/>

## Learning Sites Bioeconomy - Conception, Organisation and Development in the Region Weser-Ems, Germany



### Lernstandorte der Bioökonomie in der Region Weser-Ems

Bioeconomic companies become learning sites, so that the bioeconomic transformation process can be illustrated to students through on-site action-oriented learning and bioeconomy can be established as a segment of extracurricular learning.

In addition, in the context of career guidance, the students get to know innovative and climate and environmental friendly producing companies – as a perspective of the living and working in the rural area Weser-Ems.

The Weser-Ems region has focused on the development of a regional bioeconomy and therefore has defined concrete goals and measures. However, special competencies need to be developed. The lack of transfer of knowledge into society and the partial lack of acceptance is seen as a decisive inhibiting factor for further development.

The project is one element to work on these inhibiting factors for the future transformation process of the area.

#### **Aims and objectives**

This project is an information and education project. It aims at providing transparent information in institutional education and at engaging companies as well as students and teachers for an active co-creation of the region specific bioeconomy.

#### **Participation and communication**

##### *Who?*

- Project coordination at the University of Vechta
- 3N Competence Center Lower-Saxony (Network of Renewable Resources and Bioeconomy)
- Schools in the region Weser-Ems (students in the age of 15-18, grade 9 to 13)
- Specific regional companies with a focus on bioeconomic aspects

##### *How?*

- **Field trips** with classes to “unusual” learning environments combined with hands-on experiences
- The schools were contacted via the school management level
- Teachers and students have the possibility to **exchange on content-related issues** with the project coordination in advance to the field trips to the companies
- The companies were selected by the project coordinator and directly contacted. All companies agreed to participate after the first contact
- The preparation of the class field trips is done together with the respective company



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### ***Barriers and conflicts***

- **Initiation and maintenance of the contact** between the schools and the companies
- Due to the **teacher shortage**, the schools are **not flexible in scheduling** the field trips
- The **requirements** and tasks for the different types of schools **vary extremely** and thus, must also be adapted accordingly

### ***Good practices of participatory research***

During the project, researchers together with teachers, students and representatives of the companies **develop the concepts** for the extracurricular learning on-site in the bioeconomic companies.

Strategic cooperation partners are included in the development process to ensure the inclusion of valuable experiences with extracurricular learning sites.

The **developed and tested concepts** for the different types of the bioeconomic companies are **published online** via the project's website and can be downloaded for free.

The concepts are built on the principle of field-trips, so that the students are able to learn in a totally different environment. Besides, via hands-on activities the students have the chance to directly transfer theoretical knowledge into practical experience.

### **Duration**

2017 – 2020

### **Funded by**

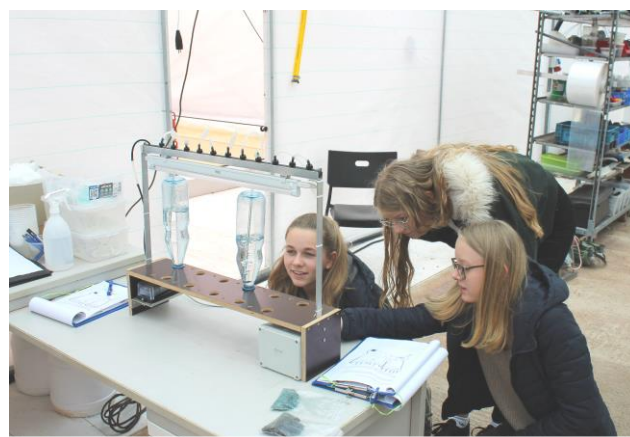
The German Federal Environmental Foundation

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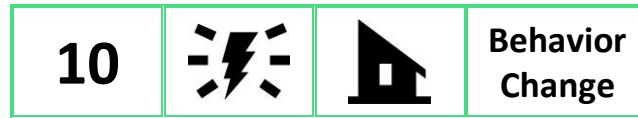
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[www.lebioekonomie.de](http://www.lebioekonomie.de)



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## Climate Culture Lab (CCL) - The Internet Platform for Climate Culture Change, Germany



The major challenges posed by climate change require changes in peoples' lifestyles and consciousness in order to be able to solve the climate crisis.

The Climate Culture Lab (CCL) is a nationwide collaboration and learning platform with analogue and digital elements for the self-directed development of climate-friendly cultures at the local level. CCL supports local climate-cultural activities within the framework of global and national climate protection goals. Networking and community building play an important role in the CCL concept. CCL is a growing and constantly learning community, which aims at discovering how a climate-friendly cultural change can succeed more easily and with joy. Joint motivation is a central aspect in the project.

### **Aims and objectives**

- To be able to cope with this profound shift in consciousness, new values must be developed at the local and individual level
- In addition, alternative, climate-friendly lifestyles need to be cultivated
- Support of the self-organised individual and/or joint active contribution to the climate culture change within local communities. This means that the project

aims at supporting people to self-reflect their own beliefs and perspectives on the world

- CCL aims at providing impulses for a change of the everyday life culture and our own habitats (private and professional)
- Set-up of a ClimateCulture Lab for inspirations, guidance, videos, workshops and appropriate collegial advice

### **Participation and communication**

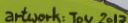
#### *Who?*

- Pestel Institute (independent research institute)
- Climate Alliance
- Solar-Institute Jülich of the University of Applied Sciences Aachen
- Participation open to everyone! (Climate Culture Creatives, climate protection officers, members of networks regarding climate action and sustainability, interested persons from all parts of the society)

#### *How?*

- Interactive online platform with video sessions, texts and a community area
- Nationwide workshops/labs regarding climate change education and personal reflexions on local level
- Online meetings about communication and mutual coaching circles
- Social media campaigns on Facebook





- **Technical issues** occurred while setting-up an interactive online platform
- The **continuous work on group subjects without** having direct **face-to-face contact**
- **Fear of dissemination of data** since the participation happens to a great amount via the online platform

- Variety of methods from very different disciplines is used, tested and adapted
- Participation is open to everyone via the online platform and mutual support is seen as a central element in the change process

## October 2016 – October 2019

- Publication of an **E-Booklet**: Excerpts of the practices of the CCL-Community – recommendations of action from nationwide workshops and presentation of useful communication models, new approaches and tools for the “local change”
- Vivid linkage of scientific backgrounds with hands-on experience and guidelines

Federal Ministry for the Environment, Nature  
Conservation and Nuclear Safety, National  
Climate Protection Initiative

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[www.climateculture-lab.de](http://www.climateculture-lab.de)

## Revitalization of the Lake at the Locality of Tresnja by the System of Floating Islands, Serbia



The forest complex Tresnja was one of the favourite excursions and picnic areas 30 years ago. Today, the lake at this locality is heavily polluted due to the construction of weekend settlement without sewerage system. The whole complex is neglected and effluents from septic tanks are filling the lake with wastewater for years. Project initiative is to protect the lake. Given that water of good ecological status is one of the most desirable natural elements of any excursion site, lake revitalization has multiple implications for the site and could become a starting point for rebuilding an entire forest complex and restoring its multifunctionality.

The Project is offering an environmentally friendly, efficient and economically viable solution for the treatment of the polluted lake. It is expected that the installed system of floating islands will be very effective in removing pollutants, which will inevitably lead to an improvement in the ecological status of the lake. It is also expected that this example of good practice will come to an understanding of the authorities and other stakeholders so that the floating islands will continue to treat contaminated water until the resolvment of wastewater discharge into the lake.

### **Aims and objectives**

The aim of the project is to offer an environmentally friendly, efficient and cost-effective solution for the treatment and revitalization of polluted urban waters.

The project objective is to enable the revitalization of polluted lake by installing floating islands, which can treat water based on natural processes occurring in aquatic

ecosystems. Polluted water is purified due to the symbiotic relationships between their basic components (plants, microorganisms, etc.), without the use of chemicals and without the creation of by-products, which can have a negative impact on the environment.

### **Participation and communication**

#### *Who?*

- Citizens
- Scientific community
- Potential investors
- Local authorities and relevant state institutions

#### *How?*

- **Direct communication** with participants and public was conducted on the site
- **Project presentations** were given at different scientific conferences
- Several **scientific papers and professional articles** have been written, so far
- A separate **page** has been created for the project logs within the professional network of scientists and researchers **"Research Gate"**
- The project has been featured within the **LinkedIn** business social network, with a number of different posts. Each post had a large number of views and positive reactions
- The **education and training** of future floating island managers on this site is planned for the year 2020



### ***Barriers and conflicts***

The **non-acceptance** of the floating island by lake visitors and swimmers has been overcome. During the research, it was noticed that the biggest obstacle for the implementation of floating islands, as alternative biological systems for the treatment of polluted and waste water, is that they are **not recognized in the laws** and other relevant regulations of the Republic of Serbia.

### ***Good practices of participatory research***

**Transparency and involvement of all stakeholders** at the beginning of the project implementation enables interested groups to easily grasp all the benefits of the System of floating islands and thus **mitigate their potential resistance** to the use of plants for water treatment.

In the project, the model of floating islands which is the result of many years of research, was applied for the first time in practice, in a real environment, on Lake Tresnja. The implementation of floating islands as a green technology on the lake will provide an opportunity to **balance economic, ecological, social and cultural sustainability** at the site and beyond. From an economic aspect, with minimal financial investment, the main goal (to improve water quality) will be achieved, and thus the economic growth and development of

the site and the wider area. In terms of environmental sustainability, the integrity of the floating Islands and environment would be established based on the structure of the flora and fauna. This is particularly significant in degraded areas with poor biodiversity. From the aspect of social sustainability, a better quality of life for the population and visitors would be provided. From the aspect of cultural sustainability, conditions would be created for eco-development that would respect local economic, cultural and social specificities.

### ***Positive effects on other strategic objectives***

In addition to water treatment and lake revitalization, as direct benefit, floating islands also provide other positive effect: an increase in biodiversity within and around water, protect banks from erosion, increase the value of land and real estate near a water with good ecological status, contribute to the aesthetic value of the landscape, and increase the potential for tourism development.

### **Duration**

May 2018 – November 2020

### **Funded by**

City of Belgrade - Belgrade City Administration – Secretariat for Environmental protection, Serbia

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[www.linkedin.com/in/nevena-čule-13a2b633](https://www.linkedin.com/in/nevena-čule-13a2b633)



## Mosquito Alert, Spain

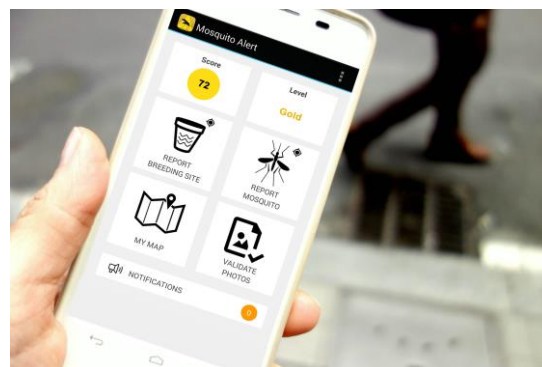


Mosquito Alert is a cooperative citizen science observatory coordinated by different public research institutions. Its main objective is to fight against the tiger mosquito and the yellow fever mosquito expansions, two invasive species vectors of global diseases like Zika, Dengue and Chikungunya. Climate change is facilitating the expansion of these insects in Europe and other areas (and will continue to do so). With the Mosquito Alert app anyone can report a possible finding of tiger mosquito or yellow fever mosquito and their breeding places on the public road by sending a photo. The photo collects the GPS position along with other detailed information. Afterwards, a team of expert entomologists validates the photos received. The result of the validation is sent directly to the participant and published in the observation map. In it the user can consult and export all observations from 2014 to the present. This information augments the scientific work on disease risk prediction, and allows public health managers to use this information to monitor and control the spread of mosquitoes in neighbourhoods and cities.

### Aims and objectives

- Citizen observations and collecting data to fight against mosquito-borne diseases
- Generating a participatory alert system to improve the management of certain mosquito species and minimize the risk of disease transmission
- Expert validation of entered data
- Publishing of collected data and validated sightings on an interactive map, where their details can be viewed, analysed and shared

- Science using data to model the distribution and spread of tiger and yellow fever mosquitoes, and together
- with more data, assess the transmission risk in the territory
- Promotion of direct communication between public health managers, mosquito control services, and citizen through notifications
- Rising awareness and communication
- Involvement of schools using open schooling methodologies



### Participation and communication

#### Who?

- Citizens
- Public health agencies
- City councils

#### How?

- The type of engagement that took place with the health agencies and city councils has evolved **from purely informative** to having city councils and public health agencies **taking actions on the hotspots identified** by the citizens (i.e. case of the city of Barcelona)



- With the app Mosquito Alert anyone can **send observations** of tiger mosquito, yellow fever mosquito or breeding places in urban space
- **Strong communication team** that has strategies to reach citizens (via social media) and schools and civic centers
- Some of the city councils also prepared communication actions to reach their population (i.e. street posters informing asking for contributions to identify the specific mosquitoes). One of the items in the agreements with the city councils participating in the project is their **commitment to disseminate the app**

#### ***Barriers and conflicts***

- **Bureaucratic and political:** Slow and lack of commitment from leading stakeholders in the public administration, despite the tool being recognized as very useful
- A **complex ecosystem of actors** related to mosquito-borne diseases in the territory that makes it **difficult to build up trust-relationships**. **Resources:** Lack of resources for the project itself as well as in the public administrations to act upon the findings (plague control, etc.). Some city councils or stakeholders see the project as a map of problems and complaints from their citizens and do not have sufficient resources to manage the information provided by citizen in any way in their municipalities or to provide solutions to the hotspots detected
- **Technical:** Background tracking information and technical aspects of the app and data collection. IT developments generate strong dependencies that are difficult to reverse or eliminate

#### ***Good practices of participatory research***

- Anonymous contribution by participants
- Fitness for use of the data collected: Have a clear concise objective and only ask for that information (more information can be added as the project evolves)
- Adaptability: capacity to adapt, when working with participatory research adaptation and flexibility

Mosquito Alert is a project based on scientific inquiry and uses participatory research to gather data. At the same time, the project includes a strong science education approach by providing information on mosquitoes and how to prevent mosquito transmitting diseases from spreading.

#### ***Positive effects on other strategic objectives***

This project is directly related to public health and anticipation/adaptation/mitigation to climate change. Gathering information on where the mosquitoes appear and reproduce is key for the next 10-15 years, when rising temperatures will make disease transmitting mosquitoes able to survive and thrive in areas where they are now non existent.

#### **Duration**

2014 – ongoing

#### **Funded by**

Ministerio de Economía y Competitividad (Spanish government), Obra Social “la Caixa”, Fundación Española para la Ciencia y la Tecnología (FECYT), Lokímica, RecerCaixa, Diputació de Salut de Girona (DIPSALUT), Departament de Salut (Convocatoria PERIS)

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## City-Gardens for the Biological Diversity in Mogilev, Belarus

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The initiative “City-Garden, City-Meadow” is being implemented under the project “Communal Management in Cities (KOMGOR)”, funded by the European Union. The organizer is the Mogilev Regional Department of the Belarusian Geographical Society together with Mogilev State University named after A.A. Kuleshov, public associations "Ecoproject" and "ENDO" and with the support of the city executive committee. In the framework of the project, a garden with medicinal plants arose on 15 acres of the park Podnicolye. Organizers planned to grow pharmaceutical herbs not on an industrial scale, but for the biological diversity of the park in the center of Mogilev. During the project, it was planned to grow about 20 different types of pharmaceutical plants and create meadow forbs that have historically been in the city.

### **Aims and objectives**

The example of a local initiative is supposed to show how to improve the urban management system, promote the implementation of the principles of green urban planning and improve the quality of life of citizens through effective cooperation between local authorities and the population.

### **Participation and communication**

#### **Who?**

- Local authority of the city of Mogilev
- Citizens of the city of Mogilev
- Students from Mogilev State University named after A.A. Kuleshov
- Adolescents from Scientific library
- Experts from the NGO “Ecoproject”



#### **How?**

- Representatives of the city authority and the citizens from NGOs at general meetings within the framework of the KOMGOR project
- **Study visit of a pharmacy garden** in Germany
- Project competition between the participating cities in the KOMGOR project
- **Expedition training** with citizens to identify sources of pollution in the valley of the small river Debris and to clean its banks of garbage
- **Photo contest and training sessions** on “Biodiversity in the cities” and “Insects in the city”
- The **planting of a pharmacy garden** itself together with residents, the city administration, university staff and libraries

### ***Barriers and conflicts***

Barrier with authority approval regarding the planting of a garden: **Without the support of an organization that the administration has confidence in, it is difficult to develop a local initiative.**

### ***Good practices of participatory research***

It was a good practice to prepare and show the actions to city authority before the mini-grants competition. Within the framework of the KOMGOR project, the administration and members of the public, as part of a study visit to Germany, were able to see with their own eyes the creation of a pharmacy city. Then they continued their reflection and learned that in Mogilev in the 19th century there was a pharmacy garden. Therefore, the **key moment for the implementation of joint actions** of the authority and the public was the preparation and the **opportunity to see how this would happen in reality**. Thus, the authority plus the support of the university plus the historical background and information work through lectures allowed to implement this local initiative in Mogilev.

Mainly, the **regular meetings and feedback between the NGO and professors** of Mogilev State University during the project and the **agreement signed** between these institutions provides the **framework for more effective cooperation in future** and smoother start of the upcoming projects.

### ***Positive effects on other strategic objectives***

First, landscaping is directly related to climate change. The authority considered this park not only as a green zone, but also as a recreational zone. The city wants both a green zone and recreation. An objective was to show that there are other ways of organizing spaces and that the

public is not only interested in beer. Participants held contests and informational meetings about wildlife, changing the composition of animals and plants, a special emphasis on plants. It is necessary to leave spaces that are seeded with natural plants.



### **Duration**

March 2019 – October 2019

### **Funded by**

European Union

### **Contact**

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<https://ekapraekt.by/gorodskaya-sreda/video-initsiativy-gorod-lug-gorod-sad/>

## Participatory Planning of Green Zones in Gomel, Belarus



Above 78% of the population of Belarus (7.4 mln) lives in cities but they still have a formal right of participation in urban planning projects – masterplans, detailed plans of the cities or other specific urban projects. This situation leads to the conflicts between citizens, local authorities and planners and to a purely formal procedure of participation. To change this one of the leading institute in urban planning (Institute for Regional and Urban planning) take a social responsibility for strengthening of the participatory planning approach in Belarus.

The project aims mainly to test the participatory planning approach in Gomel, one of the largest cities in Belarus and to engage stakeholders in discussion of the development of green areas at early stages of the planning process. It will helps to develop more balanced and complex common Vision for citizens. The results of the project will be replicate in other cities of Belarus.

### **Aims and objectives**

To create a database of green areas and to establish urban planning regulations (restrictions) on the use of green areas with the involvement of different stakeholders on early stages of the planning process.

### **Participation and communication**

#### *Who?*

- Local authorities
- NGOs
- Business
- Media

#### *How?*

- Public discussions
- Meetings and presentations
- Online and offline surveys
- Official letters
- Phone calls
- Publications at local newspapers
- TV interviews
- Social networks

#### **Barriers and conflicts**

- **Misunderstanding of the roles** and competence between urban planners and local authorities leads to unrealistic expectations and conflicts from citizens. It is urgent to clear the responsibility of each group from the early moment of the meetings.
- **Rising of urban literacy** and of the possibility to influence on the process of developing of green territories in Gomel.

People want to see more authorities responsible for making decisions on such events and become disgruntled if it is not happens. In addition, people can use such events to talk about overall cities problems or in opposite about very specific, local personal problems that are not link to the main topic directly.



### ***Good practices of participatory research***

**Public discussion is good for clear understanding** what planners and people can make for their city. It helps to clarify their needs better. The usage of online surveys is a very cost-effective way to reach out for everyone.

### ***Positive effects on other strategic objectives***

The project mainly aims on **strengthening the role of public participation**. As an indirect result, territories became more sustainable to climate changes.

### ***Performance indicators and evaluation***

- Number of participants
- Number of appeals
- Number of accepted appeals
  
- Quantitative and qualitative analyses of the interim results of surveys
- Public meeting with the presentation of the interim results to the citizens, local authorities, NGOs, business

### **Lessons learnt**

For good communication strategy and understanding, it is better to organize working group unchangeable and stable by its persons during the whole period of the planning process. Usually, the representatives of local authorities do not want to participate in such events. To pressure them, it is good to use mass media sources and NGOs.

It is good to have a specific platform to represent the process flow and results of the project.

Urban problems often seem overwhelming, and only focusing on problems can be demotivating, so start with a positive vision of the future, and the make a balanced assessment that identifies assets and opportunities, as well as problems.

### **Duration**

January 2019 – December 2019

### **Contact**

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<http://www.ctv.by/novosti-gomelya-i-gomelskoy-oblasti/v-gomele-sozdayut-zelyonuyu-kartu-parkov-i-skverov-gorozhane>



## COproductionN with NaturE for City Transitioning, INnovation and Governance (CONNECTING Nature), Poland



The overarching objective of Connecting Nature is to position Europe as a global leader in the innovation and implementation of nature-based solutions - actions which are inspired by, supported by or copied from nature (e.g. green roofs and walls, rain gardens, swales, ponds, community gardens, parks and pocket parks, natural playgrounds, urban farming).

Most innovation occurs in cities, but cities are also the location where most of the present major and urgent challenges occur; challenges such as climate and environmental change. Connecting Nature will devise and test approaches using multi-disciplinary methods where solutions are designed and created collaboratively that will lead towards the creation of resilient, greener, healthier cities, leading to a more sustainable living for their citizens.

### **Aims and objectives**

- Develop an urban planning process that will 'burst open' silos, enrich and nurture social, business and governance innovations and focus on the scaling-up of nature-based solutions in cities
- Develop a new master planning process that accelerates the scaling of nature-based solutions in cities by connecting policy and market needs and turning

barriers into opportunities for innovations

- Develop a guiding process for identifying funding and financial mechanisms that establish nature-based solutions as evinced valid solutions for sustainable and resilient cities that are climate prepared
- Valorize knowledge and market mechanisms of nature-based solutions' scaling for stimulating the market for new innovation
- Experiential learning building on effective knowledge sharing and mentoring between front-runner cities and fast-follower cities and the use of proven curatorial planning processes
- Develop sustainable support for innovation, exploitation and enterprise development
- Connecting Nature will examine five key categories of nature-based solutions influence (climate change adaptation and resilience - sustainable use of resources; health and wellbeing; social cohesion; economic development potential; and green business opportunities).



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## **Participation and communication**

### *Who?*

- Partnership of more than 30 organizations (16 European countries, Brazil, China, Korea and The Caucasus)
- Front-runner cities (e.g. City of Poznań) and fast-follower cities
- Academic and scientific partners (e.g. Adam Mickiewicz University in Poznań)
- Stakeholders from all sectors of the quintuple helix (e.g. kindergartens, pre-schools, local NGO's [e.g. community gardens], residents and small entrepreneurs)

### *How?*

- **Local meetings and workshops** devoted to issues of development and implementation of nature-based solutions (NbS) in cities and to initiate the process of co-creation
- **Open events** accompanying the Annual General Meetings and other consortium meetings: **Policy Labs, Investments Forum, EXPOs** (e.g. NbS EXPO in Poznań 6-8 July 2020)
- **Extensive communication strategy** – internally within the project consortium as well as externally with the society

## **Barriers and conflicts**

An important barrier was linked to **funding opportunities for introducing nature-based solutions in real life**. It was overcome by including investments costs of NbSs in the project budget.

**Silo thinking** between different city hall units was also identified. This issue was only partially overcome by involving representatives of these units to take part in the workshops or surveys.

## **Evaluation and Performance Indicators**

Project partners are working together on Monitoring and Impact Assessment Plans, in which different types of indicators (environmental, social, economic, other) will be co-created to measure the effectiveness of implemented nature-based solutions.

In total, 27 impact indicators will be developed within the project (e.g. “Engagement of quintuple helix actors in development of all urban plans by year 3”).

## **Good practices of participatory research**

Good practice in this project can be seen in the structure of partners and stakeholders involved. Each front-runner city (main partner) is supported by a scientific institution (e.g. City of Poznań is supported by Adam Mickiewicz University in Poznań) ensuring a proper theoretical and methodological basis. Each fast-follower city is analogically supported by scientific partners and also by a given front-runner city (**mentoring**). This **scheme of interactions is efficient, scalable and transferable**.

## **Duration**

2017 – 2022

## **Funded by**

European Union's Horizon 2020

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## Restoration of Drained Peatlands, Belarus

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Peatlands are recognized as one of the most valuable around the world and at the same time the most dangerous types of natural habitats. Peatlands help maintain soil integrity and groundwater resources. In accordance with the strategy for the implementation of the United Nations Convention to Combat Desertification (UNCCD), the Republic of Belarus plans to provide ecological rehabilitation of at least 10,000 ha of damaged peatlands from 2015 until 2030. Besides, the area of restored peat bogs shall be increased to at least 60,000 ha by 2030 and the area of degraded land with peat soils decreased to 190,000 ha by 2030.

Peatlands degradation was identified as a hot spot during a pilot project on neutral land degradation. Special measures are indicated by the Government of Belarus in accordance with the national action plan to prevent land degradation for 2016 until 2020. Degraded peatlands are excluded from the economic turnover due to their low productivity. Waterlogging and reforestation activities will provide an opportunity for people to return lands to their original natural state, as well as return their economic efficiency and create opportunities for the local population to generate additional income. In addition, recovery will help reduce CO<sub>2</sub> emissions.

### ***Aims and objectives***

The aim is to reduce the impact of climate change on sustainable economic development and protect the welfare and health of the population.

The objectives are to improve the living conditions of the local population of the Mogilev region by increasing their potential in the field of sustainable management and use of natural resources through the restoration of drained peatlands in Belarus and other activities.

### ***Participation and communication***

*Who?*

- National Academy of Science of Belarus: Research in the framework of the GEF / UNDP project “Management of peatlands based on landscape approaches with the aim of obtaining multilateral environmental benefits” with suggestions on ways to restore wetlands and financial costs of the project.

*How?*

- Development of documentation for restoration of selected sites
- Participants surveys
- Publication in media
- Reports on seminars, training events
- Information provided on the public website



### ***Barriers and conflicts***

**Lack of local initiative** is smoothed out by providing information and raising awareness, which is part of the initial project activities.

### ***Positive effects on other strategic objectives***

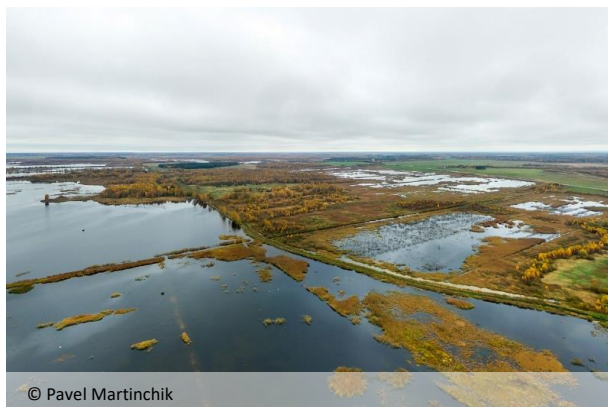
One of the most practical applicable methods of restoring drained peatlands is to rewet them with restoration of black alder forests.

Restoring drained peatlands will prevent the occurrence of peat fires, **improve the environmental situation, and create conditions for the restoration of flora and fauna**, which will ultimately lead to a reduction in greenhouse gas emissions.

### ***Performance indicators***

As a result of the project activities, an objective is to at least increase the awareness of the local population by 10%.

- Number of public awareness activities
- Number of locals involved in events
- Informing about the number of participants



### **Duration**

April 2018 – April 2020

### **Funded by**

Korean Forest Service

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<http://minpriroda.gov.by/ru/news-ru/view/perspektivnye-napravleniya-dvustoronnego-sotrudnichestva-v-oblasti-okhrany-okruzhajuschej-sredy-obsudili-2885/>

<http://greeneconomy.by/news.html>

## PIRAGUA – Evaluation of the Hydrological Cycle in the Pyrenees in the Context of Climate Change, Spain



Evaluation and prospective of the water resources of the Pyrenees in a context of climate change and adaptation measures with an impact on the territory. PIRAGUA addresses, through cross-border cooperation, the evaluation of the hydrologic cycle in the Pyrenees in the context of climate change, unifying and homogenizing existing information, prospecting future scenarios, developing indicators and proposing adaptation strategies with an impact on the [POCTEFA](#) territory, with the ultimate goal of supporting investment aimed at adapting to climate change in relation to hydric resources.

### **Aims and objectives**

- Improve the adaptation of territories to climate change
- Evaluation of the hydrological cycle in the pyrenees in the context of climate change by unifying and homogenizing existing information, prospecting future scenarios, developing indicators and proposing adaptation strategies with an impact on the POCTEFA territory
- Supporting investment aimed at adapting to climate change in relation to the water resource
- Characterize the surface and groundwater resources of the Pyrenees and their recent evolution (1951-2015; 1985-2015)
- Evaluate the future water resources (horizons 2030 and 2050) on the basis of projections of climate change and future water uses

- Quantify the impact on surface and groundwater resources of the main economic activities in the Pyrenean territory, and explore adaptation options
- Promote knowledge dissemination of the impacts of climate change on water resources and their management among the population
- Collaboration with the agencies responsible for water resources management in the POCTEFA territory.

### **Participation and communication**

#### *Who?*

- Agence de l'eau Adour-Garonne (AEAG)
- Agencia Vasca del Agua
- Uraren Euskal Agentzia (URA)
- Compagnie Nationale du Rhône (CNR)
- Société Hydroélectrique du Midi (SHEM)
- Agence de l'eau Rhône-Méditerranée & Corse (AERMC)
- Confederación Hidrográfica del Ebro (CHE)
- Parque Nacional de Ordesa y Monte Perdido (PNOMP)
- Geoparque del Sobrarbe
- Parque Geológico de los Pirineos (GEOPIR)
- Agència Catalana de l'Aigua (ACA)
- Comunidad de Trabajo de los Pirineos, Observatorio Pirenaico de Cambio Climático (CTP-OPCC)

### How?

- **Combined online** (e.g. videos, social networks, TV interviews) and **offline** (e.g. leaflets, workshops, reports) **communication strategy**
- Participation through **offered courses, surveys and outreach activities**

### Barriers and conflicts

- The **information availability** and the **homogenization of data** from the Pyrenean regions and/or water agencies
- **Technological barriers** related to the use of the App, especially among older people
- The **wrong perception** of some people and administrations about the importance of floods in the Pyrenean region, their socioeconomic and environmental impacts and their relationship with climate change

### Good practices of participatory research

The **citizen science approach** with the improvement and development of an App (FLOODUP): In this App, questions about climate change and adaptation in the Pyrenees have been included, besides the collection of impacts observations. The sustainable use of water taking into account available resources, natural hazards and the impact of climate change.

This **strong collaboration between academia and citizenship** includes three main aspects: **transference of knowledge** to society, **sensibilization** in front of risks and climate change, and **citizen collaboration** to build new scientist knowledge and improve their empowerment

### Positive effects on other strategic objectives

- The improvement of the knowledge of the impacts of economic activities in surface and groundwater resources in the Pyrenean territory
- Increase of knowledge of the population about water resources and their management
- Improvement of social cohesion through participatory processes



### Duration

January 2018 – December 2020

### Funded by

Programa INTERREG V A España-Francia-Andorra (POCTEFA) 2014-2020. Fondo Europeo de Desarrollo Regional (FEDER)

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## 5. Next Step: Delphi Study as a wrap-up of the Knowledge Phase

The first phase of the TeRRIFICA project – the knowledge base phase – will be completed by the performance of a Delphi study with international experts on co-creation processes and climate adaptation and/or mitigation. The Delphi study is based on all the knowledge and data, which have been collected and generated in the first ten months of the TeRRIFICA project. With the Delphi study we will be able to bring together the findings from interviews, questionnaires and analyses in the pilot regions for the State-of-the-Art Report, the Co-Creation Guide and this Case Studies Report. In addition, two TeRRIFICA Online Conferences in May 2019 and September 2019 also revealed important knowledge and experiences from international experts and participants regarding co-creation processes in climate actions.

These findings about trans-regional best practices and overall success factors will be aggregated in the first questionnaire and evaluated by international experts who were recommended by the pilot region teams.

Thus, the Delphi study serves as a validation of the generated and collected knowledge and provides the basis for our future work within the TeRRIFICA project. It aims at evolving a common understanding of success factors and the conditions for successful co-creation and climate adaptation and/or mitigation (consensus building among the experts).

Since it is planned to publish the final results of the Delphi study not only via our TeRRIFICA dissemination channels (website, social media, newsletter) but also through a scientific publication, we ensure to provide the gained information to a wide interested public. Additionally, the Delphi study results can also be part of a conference contribution of TeRRIFICA in summer 2020 (e.g. Living Knowledge Conference) to further disseminate the results.

Key aspects of the set-up of the Delphi study are:

- We will perform one Delphi study overspinning the collected knowledge and data from all six pilot regions
- International experts as participants of the Delphi study will be proposed by all project partners. The experts will have a connection to climate actions ideally in combination with experience in co-creation processes. All relevant sectors – policy making and administration, academia, industry, education, and NGOs/CSOs – should be represented within the field of experts
- The Delphi study will be performed using an online questionnaire. The focus of the questionnaires will be on the assessment of trans-regional best practices and success factors
- It is planned to perform two rounds of questionnaires with an optional third round depending on the results after the first two rounds

The proposed timeline for the Delphi study:

- **November 2019:** start of the Delphi study (questionnaire design and contact of experts)
- **December 2019:** First round of the Delphi Study
- **January 2020:** Analysis of the first round results and set-up of the second round (questionnaire design)
- **February 2020:** Second round of the Delphi Study and final analysis or depending on the results set-up of an additional round (in march 2020)