BRIGAID

BRIDGING THE GAP FOR INNOVATIONS IN DISASTER RESILIENCE

Intermediate report on the activities of the Communities of Innovation

D7.9

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IN DISASTER RESILIENCE

Modification Control

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1. Introduction and Objectives

The establishment of Communities of Innovation (CoIs) at different scales is based on:

- providing structured opportunities either physically or virtually, for networking,
- to facilitate interaction and
- to allows us to explore what the key elements (drivers and opportunities) are to sustain this interaction over time.

This deliverable reports on progress made in BRIGAID in relation to the CoIs, both in terms of their conceptualisation and also on the pilot CoIs already identified in D7.8. It has the intention to confirm the track of task 7.5 activities related to Communities of Innovation and to make sure that project objectives will be met.

The deliverable thus reports on these main elements:

a) PART 1: Conceptual frame (revised from 7.8)
b) PART 2: First BRIGAID CoI Workshop (Cartagena, Oct 2018)
c) PART 3: Progress update on current BRIGAID CoIs as identified in D7.8
d) Next steps

2. CONCEPTUAL FRAMEWORK

2.1. Elements of innovation for a CoI

As identifed in BRIGAID D7.8, Communities of Innovation are defined as a "*form of **Communities of Practice** that are dedicated to the support of **innovation***" (Cookes and Smith, 2007). Innovation can be defined in different way, we compile the main elements to consider that innovation is taking place in Box 1. BRIGAID envisions the Communities of innovation (CoIs) as *"social networks, composed by several geographically connected actors in one field or in different disciplines but with a common goal or aim".*

The key elements defining the CoI are:

a) Champions and their networks

b) Safe places (real or virtual) for the creation and support of innovatory ideas

c) Network of motivated individuals working together towards a common goal, not because of orders from their superiors, but because they are convinced of their common cause

In our case the CoIs in BRIGAID are focused on providing solutions to the potential impacts from climate change.

Box 1. Potential elements for Innovation

- ✓ *innovation that results from research and development (R&D) activities*
- ✓ *developing new business models*
- ✓ *new uses or combinations of existing technologies*
- ✓ *new ways of interacting with users.*
- ✓ *commercial introduction of a new or significantly improved product or service,*
- ✓ *non-commercial applications e.g. better public services*
- ✓ *innovations to address social needs ('social innovation')*".
- ✓ *renewal and enlargement of products, services, and markets;*
- ✓ *development of new methods of production;*
- ✓ *establishment of new management systems*

As outlined earlier the role of CoI's is their potential to:

i) facilitate the sharing of knowledge;

ii) bringing or generating opportunities;

iii) incubation and prototype creation; and

iv) dissemination and upscaling of ideas.

Communities of innovation have existed or exist, we are not making a new concept. Thus, what we are aiming is to make a more structured analysis of their nature, their evolution and the potential to facilitate their emergence, the achievement of specific objectives and their success in stimulating and supporting innovation as a key element in innovation ecosystems.

Elements to monitor an identified or emergent CoI are defined in table 1.

Table 1. Elements of a Community of Innovation

KEY ELEMENTS	DESCRIPTION
Champion(s) of the CoI	Who leads, who supports, nature and type of social network
Nature of the CoI	who participates; composition diversity of actors; level of interaction; interdependency)
Focus of the CoI	thematic common objectives and motivation
Scale of the CoI	local, regional, national, international
Type of Innovation	technological, social, socio-technical, etc
Concrete outputs/outcomes (Sought; pursued; achieved)	selection of ideas Knowledge shared Prototype testing potential Replicate/Upscale potential
Intangibles	Opportunities available appropriate environment for innovation

2.2. BRIGAID Innovation ecosystems

One of the most important changes is the conceptualisation of innovation which has evolved from technology-based product and process management to network-based value creation. In the last years, we have gone from thinking in terms of Triple Helix and Quadruple Helix to ecosystem thinking. Thus, in BRIGAID we conceptualise our CoIs building on the key elements of a healthy ecosystem as listed in table 2.

Table 2. Similarities between Natural and Innovation Ecosystems

ECOSYSTEM ELEMENT	DEFINITION	BRIGAID INNOVATION ECOSYSTEM

Biotic Factors	any living thing found in the environment	People; ideas; needs
Abiotic Factors	any non-living thing found in the environment	Infrastructure; structure; investment
Habitat	environment where an organism lives and where they find food and friends	Incubators; accelerators; Living Labs; workshops and meetings
Niche	role of an organism in its ecosystem	Innovators; investors; policy makers; users…
Interaction	something that affects something else	Interaction
Symbiotic Relationships	special type of interaction between species	Collaboration, clustering…
Ecosystem	the network of interactions that link the living and non-living parts of an environment	Community of Innovation, Living Lab, ecosystem of innovation…it all depends on the scale.

3. PART 2: First Communities of Innovation Workshop

3.1. From theory to practice: how to incentivize Communities of Innovation?

One of the aims of BRIGAID is to bring actively together innovators and end-users in Communities of Innovation, to facilitate that opportunities for market-uptake emerge. For that reason, we have analysed the factors the contribute to provide effective Communities and Ecosystems of Innovation and support existing and potential communities of innovation at different scales and with different objectives (see chapter 5). On the continuous effort to facilitate interaction and actors´ exchange, it was decided to organize a workshop fully dedicated to promoting CoI support, co-analyzing with actors the main barriers and drivers

for innovation while at the same time a space for networking was provided. We aimed to test the theory with our own actor´s network.

The workshop took place in the framework of the project meeting Cartagena, Murcia, Spain. One day before the meeting started we invited a group of people related to three different hazards, to participate in group dynamics and present their perspectives on the matter. This workshop was linked to the session taking place on the external event of the project meeting "Connecting end-users and innovators through Communities of Innovation", where the main conclusions were presented and discussed with the overall Project and external guests, and to the market place that was organized on the same day.

3.2. Cartagena CoI Workshop- Facilitating a Community of Innovation and Innovation ecosystems

At the Cartagena workshop a series of exercises were facilitated with the objective to provide a framework able to provide valuable input, feedback and support for the creation of innovations. The community of innovation character means that these networks combine innovators, businesses, policy and management sectors, funders and financiers which are focused on bringing new products, new processes and new forms of organization to address identified problems where there is a potential interest to invest/finance.

Thus, for the Cartagena workshop we focused on the three key themes in BRIGAID and aim to bring innovators, managers, practitioners, researchers, funders, financiers, citizens and decision-makers in search of solutions for vulnerability reduction on specific conditions and hazards, to help stimulate innovation to address the potential impact of climatic events structures through adaptation solutions.

Together with BRIGAID, other initiatives discussed topics related to communities of innovation such as innovation ecosystems, multiactor Labs and Nature Based Solution´s start-up accelerators, with colleagues from Climate-KIC Spain (José Luis Muñoz), COASTAL H2020 (Joris de Vente) and Ecostar Hub (Yolanda Ambrosio).

In order to test different potential themes and scales the groups were structured differently. During the workshops the group was divided in the 3 main focus areas: Floods, Wildfires and Drought & Water Scarcity.

Table 3. Workshop structure in three thematic roundtables

Theme	Scale	CoI Champion(ess)
Water scarcity and drought	Local (Mar Menor and Campo de Cartagena)	FutureWater

Floods	European (Flash floods region)	ICATALIST
Wildfire	Eco-Regional (Iberian península)	ISA

3.3. Aim and Objectives of the CoIs workshop

The aim of the Workshop was to connect innovators with end users, potential funders and financiers to develop a deeper understanding of the nature, emergence, and evolution of communities of innovation (CoI's). This was achieved through action research via specific exercises and analysis bringing two main outputs:

- A conceptual output, by developing a deeper conceptual understanding of communities of innovation
- A tangible outcome, by stimulating the generation and support of communities of innovation around BRIGAID´s hazard themes and getting feedback on BRIGAID´s tools and methods.

The workshop had the following specific objectives:

1) To replicate the idea of BRIGAID Lisbon meeting end users´ event (see chapter 5) but adding an extra layer of providing opportunities for bilateral exchanges and facilitated dialogue between Innovators, End-users and Funders.
2) To focus the discussion on the three main areas of BRIGAID and potential communities of innovation: water scarcity (regional scale- Mar Menor lagoon associated water scarcity issues in Cartagena region), Floods (focus on Flash floods), Extreme events (focus on wildfires).
3) To identify common concerns and barriers, goals and potential solutions.
4) To identify potential means and aims to sustain the discussion/interaction beyond this workshop.

3.4. Who was it for

The participants of the workshop, about 50 people, were selected among project innovators, end users, and regional and european potential interested actors including innovators, end users and decision makers, and innovation funders. We target different benefits for different type of actors:

- For Innovators: innovators can get useful information on the potential demand for their innovations, how this will help to reduce the risks related to climate change, making end users explicitly express their needs and exploring business models and funding and financing options.

- For end users: end users which are exposed to different risks can hear about potential solutions and get an opportunity in some cases to help co-design or adjust these solutions to better suit their needs, expectations, regulatory or funding constraints, or specific environmental context.
- For funders and financiers: meet the innovators that may need their support to further develop their solution and the end users that may be interested in these solutions to better gauge the demand for these types of products and the level of investment needed.

3.5. Main conclusions

Several needs and weaknesses were identified by the workshop participants. The main conclusions are summarized below:

- Blurry lines between innovators, investors, and end-users e.g. end users can fill many roles, they are often an important initial buyer, playing a role reminiscent of an investor. Additionally, end-users can be innovators themselves (e.g. Romanian Waters and their Flood Proof Romania testing site).
- End user needs include early warning systems, communication tools, maps, data, organizational innovation, among others.
- Different needs in different places. Innovators need to target their innovations to the right place.
- Need both "hard" and "technological" innovation (e.g. sensors) but also "soft" "social innovation " e.g. Flanders Environmental Agency and Segura River Basin both called for capacity building, communication tools.
- All present expressed that it is challenging to move away from standard flood defences e.g. grey infrastructure.
- Given the overlap between innovators, investors, and end-users, success lies on building personal relationships built on trust and individual champions within end-users. This implies that Communities of Innovation should work to build trust and develop personal relationships.
- Barriers:
- Timescale (Innovations quick, want long-term solutions), every region is different, the Portuguese way is not a good solution here because of the lack of humidity. innovations do not always match the scale of the problem that and users or critical infrastructure managers usually face
- Different regions need different approaches
- Drivers:
- Forest fires create revenue from prevention tactics (generate bioenergy), possibilities to reinvest in the forest.

- Biodiversity protection, protection of urban areas, create revenue by protecting the forest to reinvest in the forest (ideal).

We concluded on a few critical success factors for a CoI:

- Scale issues: How to connect the innovators to the necessities? We discussed that it is not uncommon to find innovations that do not match the scale of the end user need
- Trust and credibility
- When a problem is urgent, people are more willing to move
- You need technologies and innovative social solutions.
- You need organisational conditions: support from leadership, trust between government innovators and developers.
- Funding/investments conditions for living labs/test/field works is often a limiting factor.

4. PART 3: BRIGAID CoIs as identified in D7.8

4.1. Communities of Innovation as part of an innovation ecosystem

The challenge of innovation management has evolved from technology-based product and process management to network-based value creation. In the last years, we have gone from thinking in terms of Triple Helix and Quadruple Helix to ecosystem thinking.

What is ecosystem thinking, and how does it relate to innovation? Deborah Jackson compares the functionality of an innovation ecosystem with that one of a natural ecosystem (Jackson, 2011). Natural ecosystems are complex set of relationships among the living resources, habitats, and residents of an area, whose functional goal is to maintain an equilibrium sustaining state. In contrast, an innovation ecosystem models the economic rather than the energy dynamics of the complex relationships that are formed between actors or entities whose functional goal is to enable technology development and innovation.

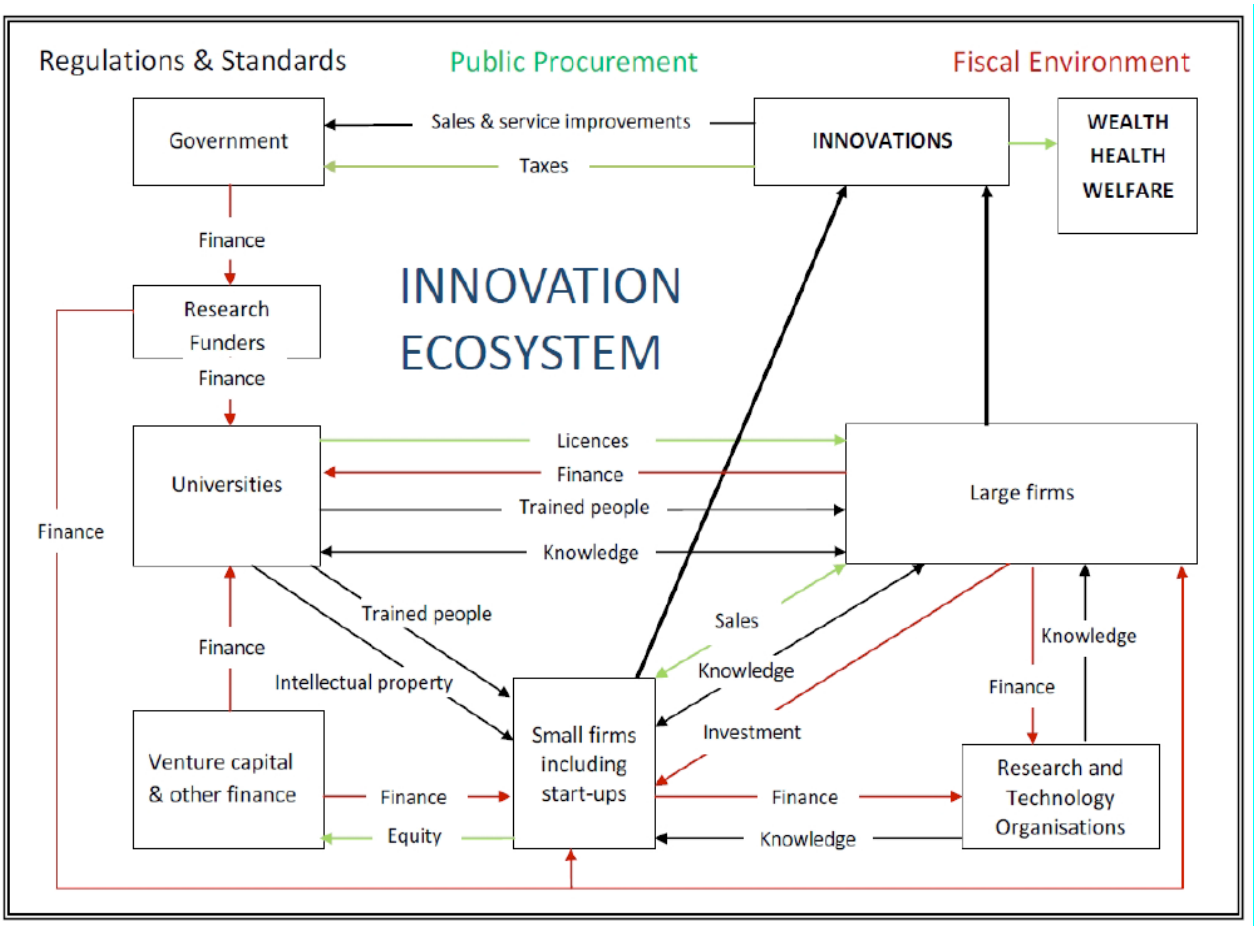

Figure 1. Innovation ecosystem framework. (Source: Georghiu, 2015)

In this context, the actors would include the material resources (funds, equipment, facilities, etc.) and the human capital (students, faculty, staff, industry researchers, industry representatives, etc.) that make up the institutional entities participating in the ecosystem (e.g. the universities, business firms, industry, university research institutes, federal or industrial supported Centers of Excellence, and state and/or local economic development and business assistance organizations, funding agencies, policy makers, etc.).

Maybe what makes ecosystems of innovation different to the other concepts, is the dynamism and complexity of the relationship of its components. The context for the whole ecosystem (see figure 1) is determined by the regulations, standards and the fiscal environment set by Government. As the Science and Technology Committee (2013) states:

> "*Universities and Public Sector Research Establishments attract finance and produce trained people, knowledge and intellectual property. Research and Technology Organisations perform a similar but more commercially oriented function. Finance flows from Government, larger firms, seed and venture capital organisations, banks and*

public markets. Ultimately the innovations that generate jobs and wealth are developed by businesses large and small and depend on a complex web of finance and knowledge transfer between these public and private organisations. The purpose of innovation policy is to ensure that both knowledge and finance flow efficiently to support the commercialisation of innovative products and services."

BRIGAID acknowledges that the Communities of Innovation are a part of the broader innovation ecosystem and that connections with other elements of this ecosystem are required for upscaling of activities and dissemination of results. Thus, the linkage with the WP6, which deals with market analysis, business models and funding mechanisms, is key to effectively contribute to BRIGAID aims.

4.2. Examples of other communities of innovation

Many innovation initiatives have been promoted during the last years, in different organizational and institutional forms (see Table 1 and annex 3). Some of these initiatives have been selected as a means to gain insight and look for lessons learned that in the future may be taken into consideration by BRIGAID.

Table 4. Types of Communities of Innovation, according to who hosts, funds and CoI focus (Source: Lippitz et al, 2012)

GENERIC TYPE OF INITIATIVES	ACTUAL EXAMPLES
University-led groups where executives share case studies and lessons in innovation and entrepreneurship management and implementation *Host*: University *Funding*: Government, business or non-profit *Focus*: Business	• Cardiff University Innovation Network • Berkeley Innovation Forum
Government-sponsored agencies that foster collaboration among businesses and connect them to academia and government *Host*: Government. *Funding*: Government or business *Focus*: Business	• Nordic Innovation, • Colorado Innovation Network
University-led groups where executives share case studies and lessons in innovation and entrepreneurship management and implementation *Host*: University *Funding*: Government, business or non-profit *Focus*: Business	• Cardiff University Innovation Network • Berkeley Innovation Forum

Business executive groups that share best practices in innovation management *Host*: Business *Funding*: Business *Focus*: Business	• Club de Paris des Directeurs de l'Innovation
Nonprofit organizations that promote sharing of business-building skills among independent entrepreneurs *Host*: Nonprofit *Funding*: Government, business or non-profit *Focus*: Business	• The Massachusetts Institute of Technology (MIT) Venture Mentoring Service • The Honey Bee Network
Groups of government or nonprofit organizations that share innovation *Host*: Government or non-profit *Funding*: Government or non-profit *Focus*: Government or non-profit	• The Urban Sustainability Director's Network (USDN) • Mistra Urban Futures

Two examples considered as particularly interesting for BRIGAID CoI's, in terms of methodologies applied to dynamize innovations and the thematics covered, are (see more information in annex 3):

- the Climate-KIC initiative, managed by the European Institute of Innovation and Technology (EIT), acts as an accelerator of innovations through an integral approach that includes education, research and innovation independently but simultaneously. This provides an example of a CoI supporting supply-driven innovation.
- We@eu: Water Efficiency in European Urban Areas, which is a project funded under FP7 and finalised in 2016. It was a research-driven project focused on the activity of four water related innovation clusters. This enabled the participating clusters and regions to bring together knowledge and innovation potential through trans-national collaboration and mutual learning. This provides an example of a CoI aiming to hinder the drivers of demand-driven innovation.

4.3. The expected added value of CoI's for BRIGAID

The concept of Communities of Innovation is often referred in the Description of Actions (DoA) that specifies the main actions to be implemented by BRIGAID. However, the DoA does not include specific targets for the number of CoI's to be involved nor a detailed description of their characteristics and expected actions to be developed.

The main goal expressed in the DoA for the Communities of Innovation is "*facilitation of the market outreach and uptake of innovative and operational products and solutions*".

In order to achieve this goal, BRIGAID acknowledges that climate change adaptation is a place- and context-specific process. This motivates that each CoI shall aim to involve and bring together several actors, -specifically innovators, end users, leading sectoral users, investors and societal interest groups-, in areas with common problems, e.g. risk reduction to a specific hazard or cluster of hazards, and environmental conditions.

The DoA mentions that CoI's shall be structured based on the premise that "*innovation requires involvement from many actors and effective interaction amongst these, whilst recognizing the influential role of institutions in shaping how actors interact*". Therefore, it is intended that BRIGAID CoI's emerge as a set of networks of actors combining business, innovators, policy and/or management sectors, focused on bringing new products, new processes and/or new forms of organization into climatic events structures around adaptation solutions.

Another reference is done within the DoA to the innovation ecosystem, considered as a broader sphere which encompasses the potential activities of the CoI's. It is anticipated that the effectiveness of the actions performed by the CoI's depends on "*drivers and barriers to innovation in relation to the institutions and policies that affect the way different agents interact, access, exchange and use knowledge and in short, bring these innovations into action*". These aspects shall be considered as part of the elaboration of the plans of intended actions and activities in the local CoI's.

Building on these generic goals, this document aims to provide a more specific definition of how it is expected that BRIGAID CoI's may facilitate the market outreach of BRIGAID results, i.e. innovations supported by BRIGAID, the Climate Innovation Window and the methods developed by BRIGAID to advance technical, social and market readiness of innovations.

At this stage, it is relevant to mention that BRIGAID acts as a facilitator and promoter of the establishment and activity of different types of CoI's, also supporting the mutual learning among these CoI's. However, the involvement of a large number of actors outside of BRIGAID is a required condition for the full effectiveness of these CoI's, i.e. CoI's that move beyond dissemination of information but actively forge multi-actors partnerships for innovation to achieve market outreach. Their involvement or comittment cannot be ensured by BRIGAID and thus, the achievement of our goals for the BRIGAID CoI's cannot be fully guaranteed.

The CoI's identified in this document have to be considered as options that are going to be explored. BRIGAID is fully commited to provide support to these initiatives although there is a number of conditions that cannot be controlled beforehand – interest of key persons and actors in innovation, changes in institutional or regulatory frames, budget constraints for end-users, etc. Therefore, a relevant aspect is the regular monitoring of the development of the

activity of CoI's. In those cases when a CoI is underperforming a decision on whether continue or increase the support shall be made, e.g. when a CoI does not achieve the expected involvement or representativity of key actors, or presents a very limited activity. On the other hand, BRIGAID will keep exploring for new potential CoIs to be engaged into our activities.

It is anticipated that the initial set of CoI's identified by BRIGAID will probably differ significantly from the final map of BRIGAID CoI's. A number of CoI's may not prove to provide real added-value to the achievement of BRIGAID expected impacts and thus, may be discarded whereas new opportunities are also expected to be detected in the future for new effective CoI's.

As a conclusion, the BRIGAID CoI's are expected to be formed by an integrated set of actors interested in reducing the current and expected vulnerability to natural hazards in a specific geographic area by facilitating the market outreach and uptake of innovative and operational products and solutions. This goal shall be operationalised through:

- The participation in BRIGAID demonstration events, and ideally the provision of further support to operational testing of innovations in real environment conditions.
- The identification of the actual needs of end users and the further discussion on how these needs can be translated into clear requirements to be incorporated in the final design of the innovations.
- The support to the dissemination of BRIGAID results.
- The elicitation of drivers and barriers to innovation in relation to institutions and policies.
- The sharing of experiences and lessons learnt with other CoI's and an interest in mutual learning among CoI's.

4.4. Initial planning

A first factor to be considered is whether to promote the establishment of new CoI's or to engage with existing ongoing initiatives. The first option allows to plan and control the activities for the CoI since these can be 'tailor-designed' and more fitted to the goals of BRIGAID. Nonetheless, the engagement with other communities having a related aim provides some key advantages. In particular, existing communities are formed by actors having a real interest in collaborating and being active and moreover, these communities are already operating together and possibly have good knowledge on more relevant constraints and limitations. However, the number of operative communities of practice dealing with the promotion of innovation in the fields of Disaster Risk Reduction (DRR) or Climate Change Adaptation (CCA) is limited so in many of the cases is not expected to find an active CoI working with a similar scope to BRIGAID.

As a consequence, BRIGAID will ideally build an integrated approach by first promoting the creation of new communities focused on a hazard or a cluster of hazards and second, mapping related initiatives and operational communities in that area and looking for ways to engage and collaborate with these.

The set of BRIGAID partners and the existing core of end users having expressed their aim to collaborate with BRIGAID through letters of commitment will be used as initial seed for different CoI's (see Table 2). In particular, BRIGAID partners being potential end-users of climate resilience innovations, i.e. NAAR and AKPT shall be given a central role in the creation of CoI's. In addition, the connections to be established during testing activities within the three BRIGAID innovation cycles (WPs 2-4) and the application of the BRIGAID's Market Analysis Framework (WP6) should feed the existing CoI's.

Table 5. List of End Users that provided a letter of support to BRIGAID proposal

Country	End User	Signed by	Country	End User	Signed by
Albania	Ministry of Environment	Alqi Bllako	Israel	Peleg Hagalil	E. Schossev
Albania	Ministry of Agriculture	V. Bregu	Netherlands	Ministry of Infra-structure & Environment: Department Climate Adaptation	W.J. Goossen
Albania	Directorate of Civil Emergencies	S. Prençi			
Albania	National Agency of Protected Areas	Z. Dedej	Netherlands	Netherlands Safety Institute	M. Luttik
Albania	Municipality of Lezha	F. Frokaj	Netherlands	RWS	R. Allewijn
Albania	Municipality of Shkodra	V. Ademi	Netherlands	Water board Rivierenland	R. Bleker
Albania	Municipality of Berat	Petrit Sinaj	Netherlands	City of Rotterdam	J. Jacobs
Albania	Inst. of Geosciences, Energy, Water and Environment	F. Hoxha	Netherlands	STOWA	J. Bunstma
			Netherlands	Safety Region ZHZ	C. Post
Belgium	VLARIO	W. Franken	Portugal	ICNF	J. Pinho
Belgium	City of Gent	R. Coene	Portugal	UNCCD NFP	L.P. do Rosário
Belgium	Infrax	R. Bellers			
Belgium	Farys	D. Verbeelen	Romania	Agrozootechnica	T. Ion
Belgium	City of Antwerp	F. Lenders	Serbia	Dutch Embassy Serbia	H. vd Dool
Curacao	Ministry of Economic Development	L. Girigorie			
Germany	StALUMM	K.Sommermeier	Spain	Duero River Basin Authority	J. P. Alonso
Italy	Venice Water Authority	F. Riva			
Italy	Consorzio Venezia Nouva	H. Redi	Spain	Segura River Basin	J.C. González Martínez
Italy	Comune Monterossa al mare	E. Raso	Spain	Murcia's Regional Development Agency	F. Martínez Ferández
EU	EIP-Water Action Group River-Res	C.M. Primo			
Global	World Bank	A. Simpson	UK	UKCIP	R. Street

Our objective is to grow these new CoI's through partners and collaborators networks and by liaising with key existing networks around climate adaptation. A first step will be the mapping of past and ongoing related initiatives at a local or regional level. Then, the potential synergies with these initiatives and the opportunities for collaboration are to be identified. In a next stage, a similar analysis may be conducted at a national or even European scale for the

identification of other initiatives and communities as a way to get more solid conclusions and support to innovators, to reach a wider audience and to foster mutual learning.

BRIGAID already cooperates with other H2020 projects for the setting up and enlargement of the CoI's, in particular with those integrated into the DRS9 topic, i.e. PLACARD, RESIN, RESCCUE and EU-CIRCLE. Moreover, the participation of this group of projects in the EC's Common Dissemination Booster is seen as an opportunity to strengthen this cooperation and ideallly link the CoI's activity with main existing platforms on climate change adaptation (i.e. by proving good examples as substantive content) and networks designed to foster innovation (e.g. EIP Water, innovation platforms).

4.5. Segmentation of the context for implementation

The aspiration of BRIGAID is to develop and support CoI's that address the range of hazards covered by the project and operate in areas that are representative of each hazard at an European level. This should guarantee good support to innovators and, as commented before, facilitate a generalised feedback on lessons learnt about the feasibility and effectiveness of CoI's.

4.5.1. Thematic segmentation

Innovations are often addressing the risk linked to a specific type of disaster. Thus, the action of a CoI is expected to be more effective when linked to a specific hazard. The hazard list for BRIGAID[1] (see Table 1.1 of the DoA) which considers 8 separate hazards: River floods, Coastal floods, Droughts, Heavy precipitation, Storms, Hail, Heatwaves and Wildfires. These are grouped into three clusters of hazards: Floods, Droughts and Extreme Weather (see Table 3).

Table 6. List of hazards considered by BRIGAID

CLUSTERS OF HAZARDS	HAZARDS
Floods	River floods, Coastal floods
Droughts	Droughts
Extreme weather	Heavy precipitation, Storms, Hail, Heatwaves and Wildfires

[1] The definition for these hazards is provided in the Deliverable D6.1 of BRIGAID: Market scoping report (see Annex IV).

It is expected that BRIGAID develops CoI's covering most of the hazards.The exceptions may be those hazards that so far have received a lesser number of innovations throughout the BRIGAID's stocktaking process, i.e. hail or heatwaves.

4.5.2. Spatial segmentation

As defined by the DoA, the results from the market scoping exercise (Task 6.1) is "*direct input for the development of CoI's*". Climate change adaptation is often local and context specific and very dependent on the spatial variability of the expected impacts.

As an initial step, we have taken into consideration the work undertaken by ESPON-Climate project (ESPON, 2011). This includes a map of the "typology of climate change regions" which groups the european regions according to expected changes in eight climate variables, i.e. annual mean temperature, mean number of summer days, precipitation in winter and in summer months, days with snow cover, heavy precipitation, evaporation, and number of frost days. By clustering regions according to these variables, a number of five clusters with different climate change profiles were identified, namely Northern Europe, Northern-Central Europe, Northern-Western Europe, Southern-Central Europe and Mediterranean region (see Figure 2).

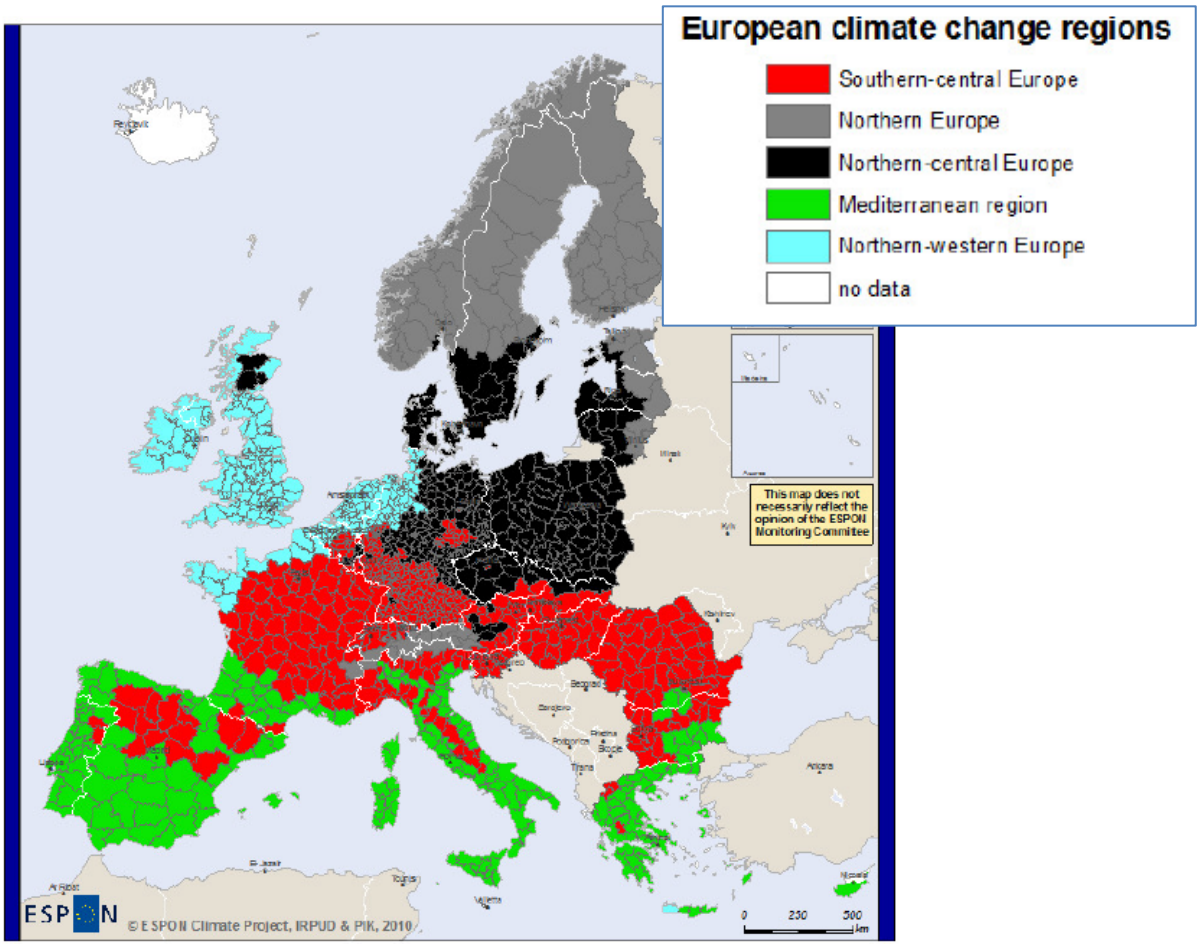

Figure 2. European Climate Change regions (according to ESPON-Climate)

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As a second step, we have adapted this classification by considering the seven maps of potential impact for the hazards considered into the market scoping exercise and upscaling the classification from NUTS3 to NUTS2 level (see Annex IV).

As a result, we identify six different regions in terms of expected climatic changes and expected impact from the hazards considered by BRIGAID. The resulting map is shown as Figure 3, and the rationale behind this grouping is summarised in Table 4.

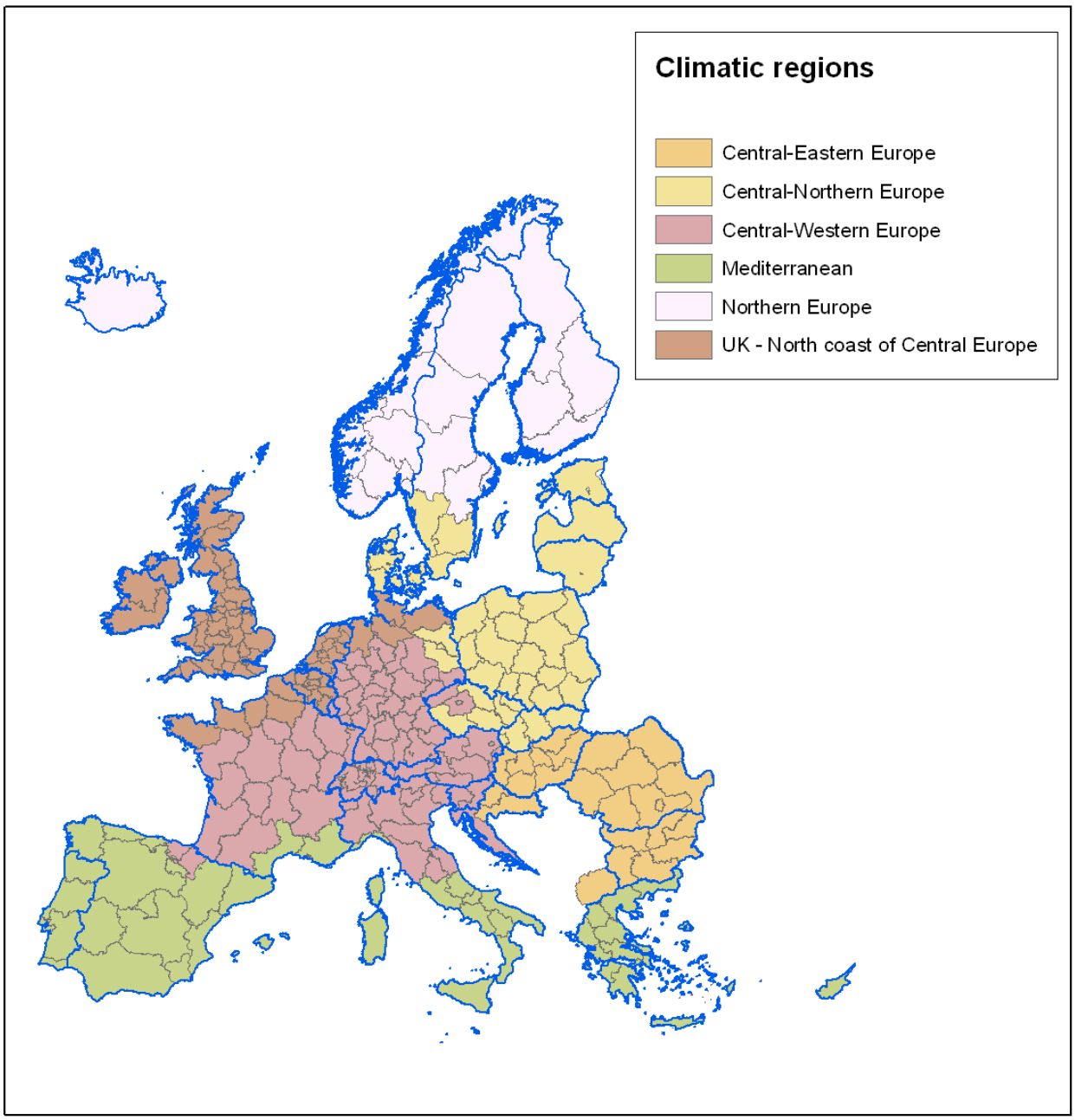


Figure 3. Segmentation of climate change regions based on BRIGAID's market scoping exercise

Table 7. Hazard potential per climatic region (based on BRIGAID's market scoping exercise)

HAZARD	REGIONS					
	Medite-rranean	Central Europe	UK - Central Europe North coast	Central – Eastern Europe	Central-Northern Europe	Northern Europe
Fluvial floods						
Coastal floods						
Droughts						
Heatwaves						
Wildfires						
Heavy rain						
Wind storms						

High expected impact (region with hazard potential values in the upper 20%)

Medium-High expected impact (region with hazard potential values between 60-80% of the overall values)

The individualised maps of expected impact per hazard produced as part of the market scoping exercise (see Annex IV) shall be used as support information for identification of optimal locations for CoI's at a higher scale.

4.5.3. Stakeholder segmentation

As introduced in the DoA, the CoI's aim to include a broad range of actors by considering innovators and innovation catalysts, different types of end-users, involvement of policy or decision makers, public/private sector, financers and incentives providers, etc.

Table 8.Role of different Stakeholders within a CoI

Type of stakeholder	Potential role and interest in the CoI
Innovators (start-ups, SME)	Owners of the solutions. They can get useful feedback to create

	a more grounded innovation, while getting closer access to the market.
End user	Direct beneficiaries of innovations. Support to the development or ideally co-creation of different solutions that will meet their needs.
Policy maker / Decision maker	Provide the necessary incentives, in a broader scale and framework, that will hinder or promote innovation.
Public investors	Closely linked with policy and decision makers, they will incentivize innovation.
Private Investors	Act as Innovation catalysts, lowering the risk of their investment by participating in the innovation process.
Scientific Community (Research Centers and Universities)	Share their knowledge and experience, acting as innovators.
NGO´s, Civil Society Organizations	Collaborate with other actors pursuing a social or environmental goal

4.5.4. Scale of the CoI's

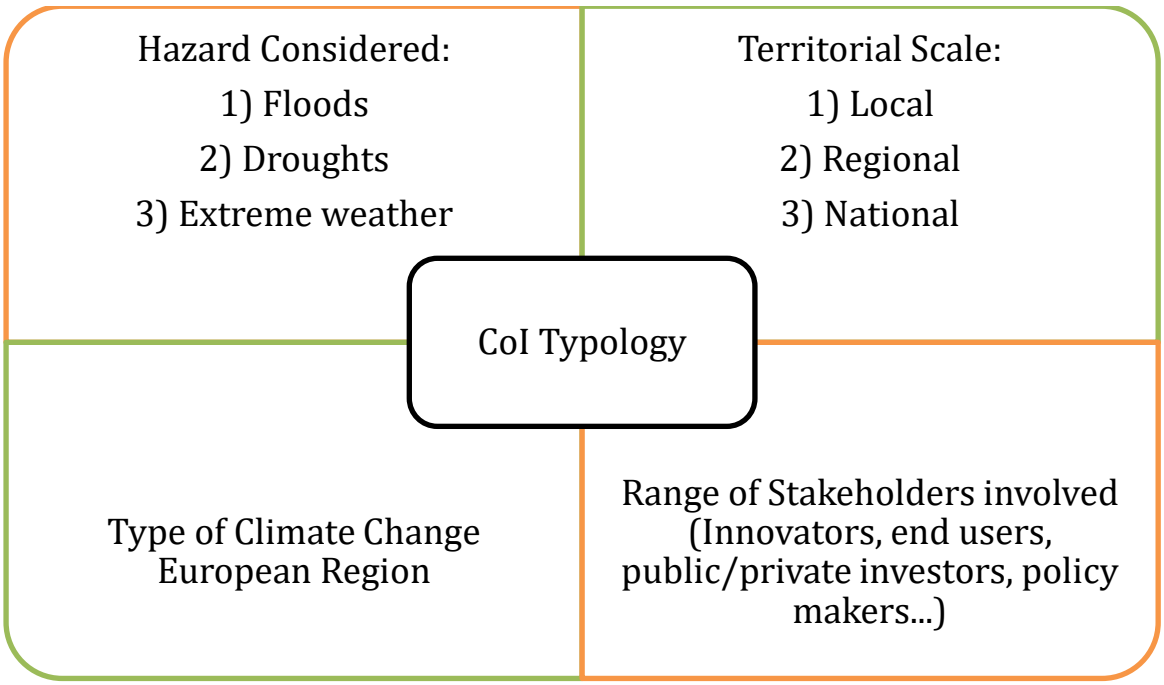
A final and relevant factor for the creation of the CoI's is the scale of operation. As previously mentioned, adaptation is often a local or regional process that is based on the application of solutions either at regional or at city or municipality level to deal with specific problems at this scale. Hence, the creation of local CoI's in a city acting in a similar way to a Living Lab and thus, involving end-users and local communities in the co-creation and exploration of emerging ideas and the polishing of solutions, is one of the expected CoI typologies. Moreover, another example of CoI falling into the same frame could be built around the actors testing solutions in one specific testing facility.

On the other hand, the CoI's can operate at a broader scale. For example, national institutions have the potential to drive innovation through a wider resource availability, i.e.national adaptation programmes and strategies, and their capacity to facilitate interaction among stakeholders. A thematic CoI operating at regional or national scale as an innovation cluster and supported by a public management body can provide an effective contribution to technology transfer, networking and dissemination of outputs and innovations.

The activity of large scale CoI's may follow a top-down approach to inform other actors on the main findings and lessons learnt. This transfer may be more difficult for local CoI's which have to follow a bottom-up approach and require the contribution of 'scaling agents' which should facilitate the knowledge transfer to actors operating at a larger scale.

A regional/national CoI should usually involve a bigger amount of actors than a local CoI and requires a larger critical mass of these to be effective.

BRIGAID aims to consider local and national CoI's which provides an exceptional opportunity to analyse the advantages and constraints linked to the scale of operation of each CoI as well as the drivers for the knowledge transfer across actors operating at different scales.



4.6. Role of BRIGAID partners in the creation and promotion of CoI's

The DoA states that all BRIGAID partners will be involved in the support to the activity of the CoI's, e.g. "*The CoI's will be established using input from all partners. Based on the characteristics of the CoI (location, topic, etc.) partners will join these communities. All partners will participate in the CoI's.*"

ICA as task leader will coordinate the involvement of BRIGAID partners in the creation and promotion of the BRIGAID CoI's.

4.7. Synergies with other BRIGAID activities

There are several activities contemplated in the BRIGAID workplan that directly underpin and strengthen the interaction with end-users and therefore the action of BRIGAID CoI's:

- Testing of BRIGAID innovations. Generally, thiswill be carried out in BRIGAID test facilities , Living Labs or wherever testing can take place . Any interested end-users may be invited to get involved in the testing activities. In addition to these existing facilities also other facilities may be proposed and used with collaboration of local end-users. Testing covers the technical effectiveness of innovations, insight in the realized risk reduction in socio-economic sectors, post-implementation requirements and operational, organisational and governance needs.

- Demonstration events (WPs 2-4). Once developers (or end users) are satisfied with the test outcomes, the innovations can be demonstrated in events. These demonstrations shall be utilized as a platform for networking and business opportunities.

- Organisation of workshops or specific meetings. BRIGAID partners may organize specific workshops or a round of interviews involving innovators, end-users and other relevant actors to gain insight in end-users' needs as well as drivers and barriers for the adoption of innovative solutions.

- Outputs from BRIGAID conferences and organisation of specific side events or activities. The BRIGAID CoI's may take advantage of the attendance of a range of end-users, innovators and investors to the BRIGAID conferences to organize some specific activities. These conferences will take place at Venice (November 2017), Romania (January 2019) and The Netherlands (February 2020).

- Specific dissemination and communication actions, i.e. conferences, social media, support through the Climate Innovation Window.

- Application of the Market Analysis Framework (MAF+) for the identification and segmentation of target end-users.
- Sharing experiences and lessons learnt among CoI's.

4.8. Tentative BRIGAID CoI's

A number of BRIGAID CoI's are already emerging as a result of the activities being conducted by BRIGAID partners (see section 3.2). In addition, there are other CoI's that are planned to be pushed forward by some other partners in the near future. This process for the definition of CoI's have been supported by previous activities mainly developed in BRIGAID consortium meetings, e.g. workshops on end-user involvement in Berlin meeting in May 2017, Lisbon meeting in April 2018 and Communities of Innovation workshop in Cartagena, October 2018.

All these are considered as the "frontrunner CoI's" and provide a good representation of the different possibilities for the development of CoI's in terms of hazards considered, scale of application and climatic regions in terms of expected impacts and changes (see Table 5 and Figure 4).

Table 9.Tentative BRIGAID CoI's starting their activities in 2017

CoI	HAZARDS considered	SPATIAL DOMAIN	Climate Change region
Albania	Multi-hazard	National	Eastern Europe / Mediterranean
City of Antwerp	Heavy rain	Local	Central Europe / UK – Coastal central Europe
Facau polder (Romania)	River floods	Local – although scalable to national scale	Eastern Europe
Netherlands	Floods (river and coastal)	National	UK – Coast of central Europe
Portugal	Wildfires	National	Mediterranean
Spain	Droughts / Flash floods	National / Regional	Mediterranean
Venice region	Coastal floods	Local	Central-Western Europe

As an overview of the distribution and segmentation of the “frontrunner CoI’s”:

- There are several initial scales of operation for the BRIGAID’s CoI’s:
  - There are three CoI’s that are designed to operate at national scale, i.e. The Netherlands, Spain and Albania. These cover hazards that generally need to be managed at a broader scale: floods and droughts.
  - The Portuguese CoI deals with wildfires and shall operate at a regional/national scale.The emerging Spanish CoI on drought aims to operate at regional scale (dealing with Mar Menor lagoon issues)
  - The Venice CoI is designed as a local/regional initiative
  - The Romanian and the Antwerp CoI’s are initialising their activities at the local scale, i.e. city and controlled environment test-site.
- Most of the CoI’s will intend to transfer their activities to a different scale of operation:
  - The Albanian and Spanish CoI’s will explore the downscaling of their activities into regional level.
  - The two CoI’s operating at local scale will explore potential actions useful at a regional level.
- The “frontrunner CoI’s” deal with five different hazards: river floods (Netherlands, Romania, Albania), coastal floods (Venice, Netherlands), droughts (Spain, Romania, Albania), pluvial floods (Antwerp, Netherlands, Venice), and wildfires (Portugal).
- All these CoI’s will initiate new communities although some of them aim to engage with other existing communities, e.g. The Netherlands and Spain.
- In all the cases, a wide range of different actors and stakeholders are being contacted for their inclusion into the CoI’s.

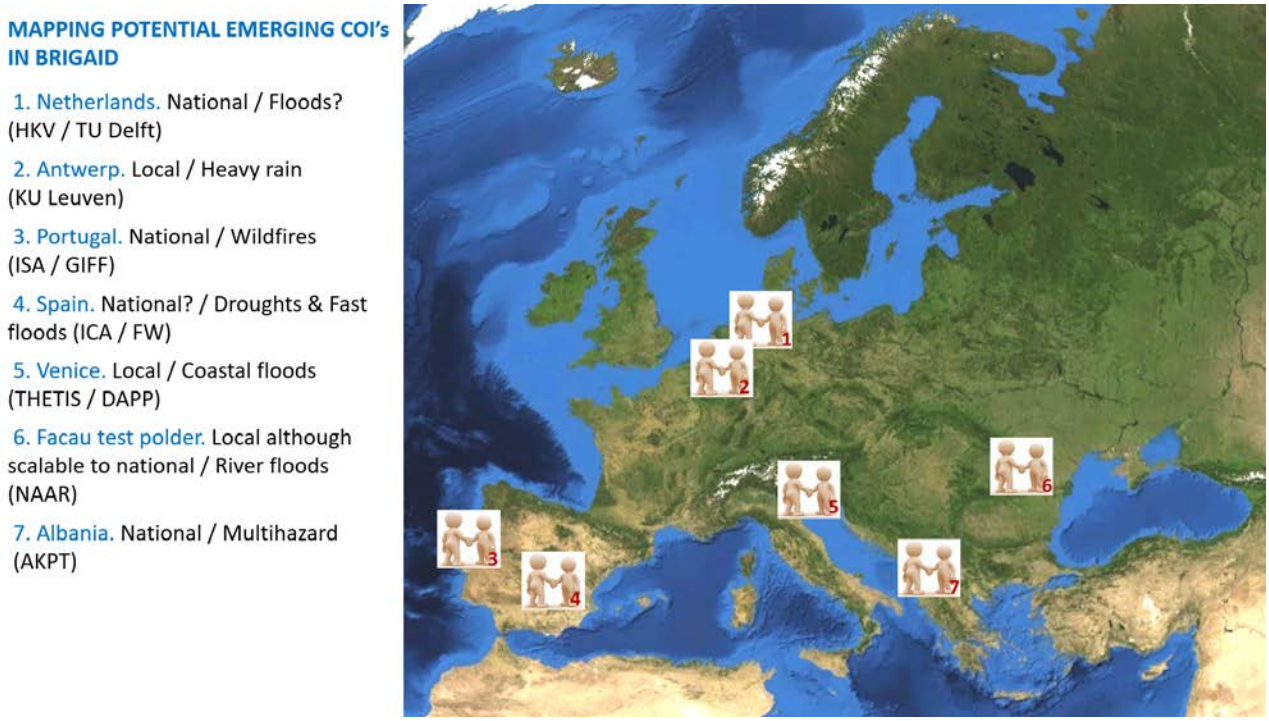


Figure 4. Map of emerging CoI's in BRIGAID as for 2017

It must be noted that this is not a closed list and that other CoI's may be organised in the next months or that some CoI´s are not becoming active as input from organisation outside BRIGAID is lacking.

5. Monitoring the activity of BRIGAID CoI's

This document, i.e. D7.9 on the intermediate report of CoI's activity, is directly linked with two other BRIGAID deliverables:

- The D7.8 'Design of communities of Innovation' submitted in October 2017 (already delivered).
- The D7.12 'Final report on the activity of communities of Innovation' to be issued at month 48, i.e. April 2020.

The last deliverable will describe the activities performed under the umbrella of each CoI and analyse the outputs produced. It will also contain guidelines and lessons learned from a

methodological point of view, on the best practices designing and dynamizing and building capacities on a Community of Innovation.

Also, the fulfilment of the commitments expressed in this document shall be monitored and any deviation from the current plan in terms of activities and objectives shall be explained and justified.

5.1. Update of the D7.8 expected activities of BRIGAID CoI's

This section explains the general objectives and structure for each CoI. Here, also the activities that have been undertaken or are currently in progress are explained and those to be conducted or explored in the future are indicated. In general, in the coming months, a number of meetings, symposiums, and educational sessions are planned to be organized, with higher or lower extent in each of the CoIs.

5.1.1. CoI in Albania

The Albanian CoI is organised by the a BRIGAID partner (AKPT) which is the Albanian National Territorial Planning Agency (NTPA). This CoI will act on a national scale and aims to deal with risks related to floods, droughts and extreme weather.

A kick-off "First National Meeting" was organised by NTPA for building stakeholders network in the framework of BRIGAID in Tirana on 21/04/2017.

The meeting had a turnout of about 80 guests and was honored by the Albanian Minister of Urban Development Mrs. Gjermeni and the Ambassador of the Netherlands in Albania, Mrs. Dewi van de Weerd.

Following are listed some of the organisations represented in the meeting:

- Representative of line ministries: Ministry of Environment, Ministry of Agriculture, Rural Development and Water Administration, Ministry of Energy and Industry, Ministry of Urban Development, Directorate of Environmental Protection, Directorate of Biodiversity and Protected Areas, General Director of Water Administration, National Secretariat/Committee for the Big Damps, General Directorate of Natural Resources Development Policies, Albanian Geological Services, National Agency of Natural Resources, National Environmental Agency and Regional Environmental Agency, Institute of Geoscience, Environment, Water and Energy (former Institute of Hydrometeorology), Technical Secretariat of the National Water Council, Civil Emergencies, Water - Supply enterprises/utilities, Albanian Regulatory Authority of the Water Supply and Waste Water Disposal and Treatment Sector, ASIG Geoportal Albania, Tirana Municipality, etc.
- Representatives of science, academic institutions, NGOs, donors representatives, and private companies: Faculty of Civil Engineering, Center of flora and fauna studies, Agricultural University of Tirana, Albanian Energy Association of Albania (AEA), iC-Group, Plan- Consult, The Institute for Nature Conservation in Albania (INCA), Albanian Centre for Energy Regulation and Conservation – ACERC, Eco Movement, Regional Environmental Center (REC), Foundation for Local Autonomy and Governance (FLAG), Milieukontakt Albania, Protection and Preservation of Natural Environment in Albania (PPNEA), EDEN Centre, UNDP, GIZ, USAID, OSCE, Albania - KfW Entwicklungsbank, Customeyes, Co-Plan Albania, GDi GISDATA, Meteoalb Albania, Gjeo-Vjosa, IMB (Institute of Business Modelling), etc.

The meeting was held in the framework of the promotion of BRIGAID project for Building the Stakeholders' Network. One BRIGAID partner attended, Thetis SPA, presented "The Toolkit Method (TM), from the safeguard of Venice to a general approach for the protection of urban historical settlements from flooding". The meeting highlighted the project objective and end user benefits being part of this initiative.

The guests attended at this meeting were informed about the project through the presentations and the dissemination materials put in their disposal.

The meeting concluded with questions and interests of the stakeholders for a further collaboration on behalf of BRIGAID project. Specifically, the stakeholders showed their contribution and development opportunities. For instance, stakeholders responsible for database networks or digital platforms showed their possibility to support with existing data and available to create new ones. While end users showed their necessity in conformity of

our national civil emergency and solution to solve these emergencies, as well as they request for an authority right reserve for innovation ideas coming out on behalf of this project.

Many of the actors involved in this meeting are interested in getting engaged in the BRIGAID CoI. As an overview, the expected core actors for the CoI are: i) Civil Emergency; ii) Administrative Units (Berat, Shkodër, Lezhë, Tiranë); iii) Public Universities (University of Durres "Aleksandër Moisiu", Polytechnic University of Tirana, University of Shkodra "Luigj Gurakuqi", University of Mining and Geology in Tirana); iv) Public institutions (Line Ministries, Agency of Research Technology and Innovations, IGEWE); and v) innovators, e.g. companies with business profile in environmental consulting and with profile in applications' development.

As a follow up of this meeting, a series of activities will be implemented or explored:

- Albania is classified as an operational test site in BRIGAID project and thus, testing is expected to be a core activity for the CoI.

  In the next months, NTPA is planning to organize testing/promotion activities for BRIGAID innovation product in a potential test site in Albania. Ideally, it is expected that this activity will be attended by: BRIGAID partners, innovators, national end-users, companies, research units (public and private), universities representatives as well as students.

  An important point will be promoting/marketing these test events. This will be undertaken by publishing the event in the NTPA's electronic platform and informing the current list of contacts about the agenda and the program. These events are intended to be livestreamed and this will be accompanied by other dissemination actions.

- Albania, as an operational test site would be an attractive environment to demonstrate innovations from BRIGAID partners. In this kind of activity NTPA will contribute in organisation and dissemination. NTPA will identify and invite institutions, companies interested for business opportunities developing as well as individuals, universities interested for further researching.

- In the framework of BRIGAID project, NTPA plans to organise workshop/s with a specific thematic scope to promote BRIGAID and its innovations products, e.g. specifying in more details the usage of some products. In this workshop/s we expected to invite project innovators as well as national innovators. Furthermore, this organization we expected to be attended by representative of civil emergency, administrative unit's representative, universities representative, research units and enterprises.

- NTPA also expects to contribute to the BRIGAID international conferences by sharing the experience gained in the Albanian CoI.

Updates for the Albanian Community of Innovation and next steps:

The Albanian CoI champion, AKPT, is an active partner fostering innovation related events and bringing innovators into the BRIGAID framework of support. Eight Albanian innovations applied to the BRIGAID open call for the third cycle of innovation, adding up to 12 innovations being part of the CoI.

Three forums on three main pillars of the Project: Flooding, Drought, and Extreme Weather Conditions.

- **Where and when did the event take place: At the end of year, the BRIGAID Project Unit in Albania organized three consecutive forums on 17, 19, and 21 December 2018. Each of them focused on one of the pillars of the Project – Flooding, Drought, and Extreme Weather Conditions respectively.**
- **What was the objective of the forums: These forums introduced twelve Albanian innovations that have already become part of the Project, and can be considered as solutions or ideas that are sustainable, contemporary and financially affordable. The audience was a mixture of representatives from national authorities, relevant institutions and academic personalities, also all parties that first face the emergencies.**
- **Who attended the event and why: The participants included all twelve Albanian innovators that belong to the Project, in a face to face discussion with members of public institutions, agencies, and universities. All those involved could provide their comments, remarks or suggestions for improvement.**

Besides the forums presented in the box, the Community of Innovation leaders have organized and actively participated in different events (table 10):

Table 10. Activities performed by the Albanian CoI during the last year

- September, 2018: The European Union to Albania and the National Agency of Scientific Research and Innovation organized the Horizon2020 InfoDay,
- June, 2108: BRIGAID ALBANIA SECOND NATIONAL MEETING
- March, 2018: BRIGAID/AKPT organized the workshop "BRIGAID innovation and meteorology, or vice versa."
- January, 2018: Student training: "Approach to learning outside Auditors on floods in Albania' 2017"
- October, 2017 – November, 2017: BRIGAID was invited to participate in seminars, workshops, conferences and One to One Meeting:
    - Workshop: Financial Project, Programs of the EU and Industrial Property. View more
    - International Conference of Civil Engineering (ICCE 2017) in Albania.View more
    - Western Balcan Waste Solution Conference (WBWS 2017) in Albania.
    - Internacional Conference on Economics, Business Trends and Technologies (ICEBTT 2017) in Albania.View more
- October, 2017: Online Media article: Mjedisi SOT

5.1.2. CoI in the city of Antwerp (Belgium)

This CoI is being developed on the city of Antwerp (Belgium) and deals with urban flooding due to extreme weather, in particular due to extreme precipitation and heat stress.

This CoI is being led by a BRIGAID partner, e.g. KU Leuven. It currently incorporates four municipal departments of the city of Antwerp:

- Ecological Management unit: responsible for the ecological management of the city;
- Climate Adaptation unit: responsible for the implementation of climate adaptation plans;

- Water Management unit: responsible for the flood management of the city;
- Emergency Planning unit: coordinating the emergency planning of the city.

Other key actors are:

- Water-link, which is company responsible for the sewer system management;
- Le Prieuré / Vegetal i.D., which provides an innovation named HYDROVENTIV that works as a smart green roof system;
- Fire Brigade: responsible for the urban flooding, wind storm and other extreme weather related interventions; they also conduct post-event surveys;
- Regional Traffic Centre: responsible for the traffic management of the region, providing traffic information to the wider public;
- Police of Zone Antwerp: responsible for the law and order of their citizens, which may be impacted by urban floods, such as the impacts on the traffic; they have to facilitate evacuations, etc.;
- National Defense Belgium: same as Police but for larger event to be coordinated nationally such as evacuations;
- Regional Defense Province of Antwerp: same as Police but for larger event to be coordinated regionally such as evacuations;
- Main hospitals: they will receive the victims of the extreme weather events; they may not be accessible or more difficult to access in case of an urban flood in the city;
- Main schools: large groups of students affected at the same place in case of an urban flood; they cannot reach the school or their home place in case of an urban flood in the city;
- Main elderly homes: large groups of elderly people affected at the same place in case of an urban flood; they may not be accessible or more difficult to access in case of an urban flood in the city;
- Federal Health Institute: responsible for the regional health management of the citizens;
- Association of Cultural Heritage Exploitants: representing the cultural heritage owners and exploitants; the cultural heritage in the city may be impacted by urban floods;
- Local citizens of city area Sint-Andries.

The city has suffered some severe episodes of pluvial floods, the most recent in May 2016. According to the indicator of hazard potential calculated in the market scoping exercise, the city is located in an area of high exposure, and events of intense precipitation that are expected to increase due to climate change.

The Antwerp CoI is structured as a “Living Lab” with a strong involvement of end-users and local citizens. So far, this collaboration is focusing on the testing of innovations helping to reduce the effects of heavy rain.

The HYDROVENTIV innovation (see http://climateinnovationwindow.eu/innovations/hydroventiv) has been selected to initiate this testing. The city of Antwerp actively helped in finding a test location for the HYDROVENTIV smart green roof system (to be tested within the scope of BRIGAID). They launched an open call to their citizens, announcing the BRIGAID plans and asking for citizens who are willing to make their roof available for the testing. The call and BRIGAID testing activities were announced on their website[2].

More than 10 citizens expressed their interest to make their roof available for the BRIGAID testing. Together with the innovator, all these potential test locations were studied, the best locations visited and a final choice made on the best test location: the Beweging.net building at the Nationalestraat 111, Antwerp (see Figure 5).

[2] *http://stadslab2050.be/klimaatadaptatie/intelligente-groendaken/een-intelligent-groendak*

http://stadslab2050.be/klimaatadaptatie/klimaatrobuust-een-verkenning/maak-kans-op-europese-steun-voor-jouw-innovatie

Figure 5. Testsite for HYDROVENTIV in Antwerp

It is agreed together with the city of Antwerp that KU Leuven will conduct the testing together with the innovator and that KU Leuven will upscale the results to a larger area based on a hydrological and hydraulic simulation model.

The installation and testing of the smart green roof system is considered by the city of Antwerp as an opportunity to make local and regional promotion around sustainable (blue-green) solutions to cope with the negative effects of climate change. The green roof system will be considered as one of such solutions. Local promotion events will be organized and delegations from other cities and events will visit the test location.

The BRIGAID testing on the HYDROVENTIV innovation will be considered for demonstration purposes. As explained before, KU Leuven will upscale the results from the local test site to a larger area. This will be of direct support to the local and regional urban water management. Most likely, this can be utilized as a unique opportunity for networking and dissemination (drawing attention to the need for sustainable blue-green climate adaptation solutions; promotion of the innovations being tested; impact analysis and planning based on upscaled results). Whether this will also provide a business opportunity has to be checked at a later stage; BRIGAID will in any case support the business opportunities of the innovators.

In relation to this, the involvement of Antwerp CoI in the BRIGAID conferences to share the main findings and lessons learned is an activity that will be explored.

Maybe at a later stage of the BRIGAID project (cycle 2 or cycle 3 of the project) other BRIGAID innovations will be tested in the same area of the city of Antwerp. In this way, clusters of innovations can be considered there.

It is already agreed with the Emergency Planning department of the City of Antwerp that BRIGAID will explore the opportunity to develop a service to cope with the negative impacts (e.g. more frequency and more severe urban flooding) that the changing climate will bring.

Update of the CoI

On 27 October 2017 a workshop was organized with several stakeholders to discuss the needs for the emergency planning in the city of Antwerp.

In spring 2018), after the HYDROVENTIV system has been installed and first test results obtained, a local event was organized to promote and disseminate the BRIGAID testing activities and innovation. This was done in cooperation with the city of Antwerp. In this session both professionals (during an afternoon event) and the public (during an evening event) were familiarized with our BRIGAID "smart greenroof" and providing inspirational examples about greenroofs

More information here: https://brigaid.eu/brigaid-community-of-innovation-easme-visits-the-greenroofs-project-in-antwerp/

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5.1.3. CoI in Romania

The initial activity of this CoI shall pivot around the possibilities offered by Flood Proof Romania. This is a new testing facility that is being constructed by our partner NAAR in Romania, in the locality of Facau. Flood Proof Romania aims to suppot an innovation hub around floods protection for the Danube region.

The facility offers a unique opportunity to develop, test and demonstrate innovations that aim to reduce impact from floods. It is especially suited to test and monitor innovations under high speed water flows as they appear during flash floods and landslides, and under extreme cold and hot land climate conditions. Moreover, the facility remedies the urgent demand for test facilities that are needed to structurally develop, test and demonstrate innovations in the Eastern European region.

Flood Proof Romania is a downstream of 13 m high dam; equipped for testing of high structures (over 3 meters high dikes). Water flowing at high speeds as this appears in

mountainous areas. Due to land climate exposure (cold winter and dry hot summers) also drought and heat related solutions can be tested.

NAAR is a BRIGAID partner and will lead this CoI. NAAR represents the Romanian National Authority, which is aimed at applying the national strategy in the field of water management and turning to good account, as well as management of the national network of hydrological, hydrogeological and quality of the water resources belonging to the public domain. Therefore, NAAR has an outstanding position for the organisation of test events involving the main actors to be represented in the CoI.

Additionally, NAAR aims to organize presentation (show case) and demonstrating of innovations events for innovations mitigating floods, droughts and extreme weather. NAAR will have an important role in results dissemination process and implementation of general project results in local government.

The activities of the Romanian CoI will be better defined once the Flood Proof Romania facility starts the construction phase. An effort of 10 persons-month is allocated to NAAR in WP7 for the implementation of these actions.

Updates for the Romanian CoI

The construction work for the polder is going well and the next BRIGAID project meeting and Conference will take place in Romania, 13-14 June 2019. It is expected that in the framework of this meeting a CoI event in relation to Flood Proof Romania is organized, to help create synergies among potential actors involved in innovation from different angles.

5.1.4. CoI in the Netherlands Pending response

The Dutch CoI will primarily deal with floods and will be led by HKV and TU Delft. It aims to engage public authorities, i.e. Delfland Water Board, STOWA, Ministry of infrastructure and environment, as well as innovators.

The CoI will focus on the organisation of workshops and small events to gain insight on end-users' needs as well as drivers and barriers for the adoption of innovative solutions.

A first event was organised with end users in the Netherlands to update them on the activities and progress of BRIGAID so far as gain insight on end-users' needs as well as drivers and barriers for the adoption of innovative solutions well as to inform them on the innovations that BRIGAID promotes. The event, held on the 15th of June 2017 was a first step towards a BRIGAID´s Community of Innovation in the Netherlands.

Participants came from public authorities (including representatives from municipalities and ministry of Water and Environment) and a meeting was organised at Delft University of

Technology. An overview of BRIGAID was presented and a representative from KU Leuven presented the concept of the Hydroactive smart roof and how the city of Antwerp is involved in testing this innovation in a Living Lab. Then the Tube-barrier innovation was presented and it was explained why they have got involved with BRIGAID. Finally, Bas Jonkman, the BRIGAID scientific coordinator, stressed the importance that end user and innovators should meet each other and work together within BRIGAID.

After the meeting, a visit was made to Flood Proof Holland, a testing site at the University. At the polder, the participants witnessed how the Tubebarrier is tested in conditions similar to real flooding.

The CoI plans to organise such events again, but also to liaise with ongoing activities of end users (including water boards) and, when possible, be present at their meetings to inform them and through that engage them with BRIGAID.

In addition, the organisation or participation in demonstration events and/or in test events, either in BRIGAID test sites or in end-users' facilities, will be explored. These activities will be combined whenever possible with the workshops or end-user events.

Finally, a number of other CoI's with similar objectives (or at least in the field of climate adaptation) emerge every now and then. Where possible the CoI would like to participate in those as well, to highlight BRIGAID.

Updates

Test events of the innovations, such as Tube Barrier, continue to take place with the participation of key actors in the CoI. In addition, a workshop with Dutch water Authorities is planned for the 14th of February 2019. During this workshop, the water authorities will bring in their own innovations, and use BRIGAID tools to assess the effectiveness and market opportunities.

5.1.5. CoI in Portugal

The Portuguese CoI is focused on wildfires and aims to operate either at a regional or national scale. It will be organised by two BRIGAID partners, the Institute if Agronomy (ISA) and GIFF. Both are involved in BRIGAID mainly as innovators.

The activity of this CoI shall focus on testing activities for innovations related with widfire risk reduction or recovery after a fire event. These activities will aim to evaluate the effectiveness of the prescribed burning technique and fire treatments.

The involvement of end-users in these events is a key part of the activity. In particular, forest services (ICNF) and Forest Owners Associations have already been approached for their participation in these activities. Also, representatives of the municipalities where test sites are located will be contacted.

As a potential continuation of the testing activities, the organisation of demonstrartion events shall be explored.

Updates

On the 20th of April all Brigaid participants went to the city of Mafra where we met regional and local, public and private actors and exchanged presentations on how to include innovative approaches when tackling climate change challenges.

BRIGAID innovators had the chance to pitch their solutions, and end users and other actors could present their needs and activity in topics such as wildfire management, drought planning, urban green planning, water supply management, flood management…

In the evening, a visit to Montemuro village, southeast Mafra, where Prescribed Burning techniques have been implemented.

5.1.6. CoI in Spain

I-CATALIST (ICA) will lead this CoI. The CoI in Spain aims to develop a broader methodological approach that can be useful for other CoI's. This action is connected with the research methods being applied by the H2020 project PLACARD. Indeed, the DoA reflects the rationale followed by this approach: "*In setting up these CoIs, BRIGAID intends to cooperate with other H2020 projects. In particular, PLACARD which is a Horizon 2020 Coordination and Support Action that seeks to support the coordination of Climate Change Adaptation (CCA) and Disaster Risk Reduction (DRR) for coherent, mutually reinforcing and pragmatic planning and action*."

In the BRIGAID's progress meeting in Berlin. PLACARD's scientific coordinator introduced the main advances of this initiative. After an analysis of potential synergies and common actions, BRIGAID has come across with the idea of replicating in Spain the social network analysis that PLACARD has undertaken for some European countries. After consultation with PLACARD, it has been agreed that this collaboration is of interest for both initiatives. As an additional benefit, this joint action will help to further populate the PLACARD's database of European actors on CCA and DRR. This database has already been shared with BRIGAID for dissemination and communication purposes.

The PLACARD's social network analysis is focusing in the specification of climate change adaptation and disaster risk reduction actors and the elicitation of the intensity in the relationships among these actors in terms of different variables.

As a first step, ICA will identify the main actors in CCA and DRR in Spain. PLACARD has developed a questionnaire to interview the different actors that will be translated int Spanish by ICA. ICA will contact with the identified actors and will be responsible of collectiing the

answers and organising some interviews, if needed. Using this information, ICA will elaborate an input file for the analysis, which will be undertaken by PLACARD.

As a next action, ICA will contact the main actors, e.g. those identified by the network analysis, and will organize an action, i.e. small workshop or specific meetings, for the validation of the results. Also, BRIGAID will discuss with these main actors what strategies could be designed based on the network analysis results for an enhanced involvement of end-users in the adoption of climatic resilience innovations. Taking into account the distribution of roles of the different BRIGAID CoI's, it is planned to focus the analysis on droughts also considering that the current and expected potential impacts of this hazard in Spain are the largest across Europe.

Our commitment is to further explore the potential operationalisation of these strategies into some specific activities. In particular, an initial idea to be explored is the definition of activities related to the reduction of the adverse effects of droughts in South-Eastern Spain. This happens to be the area most affected by intensive droughts in Spain and also with a highest vulnerability due to the importance of intensive irrigated farming and the current structural situation of water scarcity.

Another BRIGAID partner, i.e. FutureWater would support ICA in this potential downscaling of the CoI activities.

Updates

The CoI workshop in Cartagena allowed key actors around water scarcity and drought in Mar Menor case to gather and plant the seed for a potential community of innovation. Future Water championed the meeting and plans to do a follow up of the outcomes and the manifested willingness of participants to continue the discussion beyond the workshop.

5.1.7. CoI in Venice area (Italy)

On 9th and 10h November 2017, BRIGAID is organising an international conference in Venice. This conference sets the conclusion for the BRIGAID's first innovation cycle though an event to promote innovations, to connect with end-users and to disseminate BRIGAID's findings.

The conference focuses on the involvement of end-users in the process of final development and market update of climate-resilience innovations, e.g. through a discussion about how BRIGAID's innovations can support end-users and how end-users' needs can drive BRIGAID innovations' scouting and implementation processes. Thus, the central point of the event is the analysis of end-user involvement in the innovation chain.

This has been considered as a very valuable opportunity to facilitate the development of a Community of Innovation in Venice connected to BRIGAID.

Our partner Thetis SpA is the main organizer of the conference and furthermore is part of the group of innovators of our consortium. This puts Thetis in an ideal position to facilitate the development of this CoI.

The CoI shall focus its activity on the flood hazard in Venice city although the scope could be extended to the broader Veneto region and indeed to the Italian Eastern Alps basin. Furthermore, the extreme weather events could also be incorporated.

A list of reference actors has already been identified for this CoI:

- The Provveditoriato Interregionale alle Opere Pubbliche (Venice Water Authority) is considered as the central actor for this CoI due to its central responsibility in the risk reduction against flooding. This body will actively take part into the BRIGAID conference.
- Other core actors to be engaged into BRIGAID CoI are: Consorzi di Bonifica, Eastern Alps River Basin Authority, Protezione Civile, ARPAV (Regional Environmental Agency), Genio Civile Fiumi, Consiglio di Bacino, Città Metropolitana di Venezia, OICE Veneto (Engineering and Architectural Professionals organizations)
- Finally, there are some other actors to be contacted, i.e Universities (I.U.A.V., ca' Foscari, Padova), Adriatic Sea Port Authority, Corila (Consortium for coordination of research activities concerning the Venice lagoon system), National Research Council, Veritas SpA, Insula SpA.

Many of these actors will learn on first-hand at the conference about the BRIGAID methods and how these are applied to guide the development of innovations. Furthermore, the conference should facilitate the identification of the main needs and potential drivers for the adoption of innovations dealing with a better protection against flooding and extreme weather in the Venice area. All this combined information shall be a key input into the design of testing activities in the city/region.

The Venice area is one of the locations part of the network of BRIGAID test sites. This means that the testing in an operational environment of innovations for the protection of urban monumental and cultural heritage and/or the organisation of some kind of related demonstration event is going to be explored in the frame of the project. In relation to this point, there is a possibility to restore and adapt an experimental site owned by Venice Water Authority (Centro Sperimentale di Volta Barozzo).

As a support to the development of the activities, the organisation of one or more workshops or the planning of round of interviews with some core actors will be explored.

5.2. Survey on Communities of Innovation

A survey has been elaborated in order to monitor the activities and expectations of each of the CoIs within BRIGAID framework. The aim of this survey was on one hand to monitor the activites of the different identified and potential CoIs, and on the other hand to explore the best practices on the creation and sustainability of communities of innovation, in order to report on guidelines for CoIs creation and sustainability. The survey (in the annex) has been tested and has produced a baseline that will be monitored. The survey has been designed around 7 different issues:

1: Goal of the community of innovation

2: Community of innovation ecosystem

3: CoI characterization

4: Focus on the hazards

5: Innovation characterization

6: End users and funders/investors

7: Barriers and drivers to innovation

8: CoI activities

9: Support for CoI activities

The results of this survey will be reported on the final deliverable of the CoI.

5.3. Replication of activities and mutual learning

After reviewing a few experiences of different CoI's, Lippitz et al (2012) summarizes what defines a CoI, and include two points directly related to the learning component:

- Focus on learning and building capabilities to manage innovation and entrepreneurship, versus seeking specific business, macroeconomic or social results
- Emphasize sharing and mutual learning among regularly involved participants from diverse organizations, industries and/or countries, toward building trust and relationships, as opposed to largely one-way instruction, as in training classes.

By taking into consideration this approach, BRIGAID will look at two separate levels at the learning process produced as a consequence of the direct interaction of different actors within the CoI's:

- Internal learning produced within each CoI valuable to manage and foster innovation
- Mutual learning among CoI's and identification of issues to be considered to facilitate a potential replication of activities from one CoI to another, e,g, analysis of what worked well and what did not. In order to achieve this replication, the differences and commonalities in the context of each CoI shall need to be determined and taken into account. A survey has been prepared and has been shared with BRIGAID CoIs. The results of this survey and its evolution will be presented in the last report about Communities of Innovation.

The BRIGAID meetings and in particular, the BRIGAID conferences are seen as an interesting opportunity to promote mutual learning acivities. These should gain some importance in the final stages of the project.

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Annexes

Cartagena Workshop overview and Timetable

The whole day was set up as a series of interlinked workshops with common objectives and underlying research questions. During the first part the three themes were run in parallel where in turn the focus is on understanding the needs of end users, the potential solutions of the different innovators and who could all this be funded and financed. Towards the end of the day, the three groups are brought together for some common, collective reflections.

Table 11. Agenda of the CoI Workshop

Time	Task	People involved
9:00	**Registration of participants**	
9:30	Welcome (Sergio Contreras, FutureWater)	Mr. Sergio Contreras (FutureWater)
9:35	Introductory plenary to BRIGAID (mission, aims, concept of CoIs and practical implementation, CIW, TIF, PPIF, MAF+…)	Mr. Marco Hartman (HKV) Mr. Gerardo Anzáldua (ECOLOGIC)
9:50	Linking Plenary: BRIGAID with other initiatives (José Luis Muñoz-Climate KIC, Yolanda Ambrosio-ECOSTAR, Joris de Vente-COASTAL) Communities/Labs/Ecosystems of Innovation,	Mrs. Elena Lopez-Gunn (ICATALIST)
10:15	Purpose of the CoI Workshop: aims for the day	Mrs. Elena Lopez-Gunn (ICATALIST)
10:30	*Coffee (split into parallel groups)*	

11:00	End users will pitch their challenges, needs and expectations, how they tackle barriers (6-8 min each) -Barriers: Budget, regulations, tender procedures -Success stories, incentives…	- W1 (droughts). Mr. Sergio Contreras (lead, FutureWater), Mr. Gerardo Anzáldua (ECOLOGIC), Mrs. Paloma Santos (ICATALIST), - W2 (flash floods): Mrs. Elena López-Gunn (lead, ICATALIST), Mr. Hugh McDonald (ECOLOGIC), Mr. Marco Hartman (HKV) - W3 (wildfires): Led by: Mrs. Conceição Colaço (lead, ISA), Mrs. Marta Rica (ICATALIST), Mrs. Varsha Ramlal (The Funding Company)
11.45	Innovators pitch for end users (6 min. max): What could be the solutions? What barriers/drivers do they face to implement their solutions? Raising questions regarding funding and how to analyse the Market	
12:30	*Reporting back to plenary*	Group leaders
13:00	*Lunch*	
14:00	Funding views: opportunities, challenges, barriers, drivers for investment.	Mrs. Varsha Ramlal (The Funding Company)
14:45	*Samoa circle/Talanoa Dialogue*: The road ahead. Effectiveness and sustainability of the Communities of Innovation	Mrs. Elena López-Gunn & Mrs. Marta Rica (ICATALIST)
15:30	Wrap-up. Key messages and conclusions for Friday.	Mrs. Elena López-Gunn (ICATALIST)

Plenary session (in English)

Parallel session (in Spanish -droughts-, in English -floods and wildfires-)

Detailed description of the sessions

The format and structure of the workshop is described here since we believe the methodology can be replicated elsewhere where there is an interest in any kind of

collaborative and open innovation, setting up Communitoes of Innovation or interaction among key stakeholders.

SESSION 1 Typologies in Ecosystems of innovation

The aim of the session was to hear of current relevant examples to understand different innovation ecosystems from sister projects and initiatives and to understand the differences and similarities of these different approaches.

Resources and Material Needed:

- Projector and Screen
- PPT common format for presenters
- PPT for session exercise (including common questions)

Facilitator: Marco Hartman (HKV, The Netherlands)

- Jose Luis Muñoz, Director, Climate Kic- Spain
- Yolanda Ambrosio, UPM, Spain, Eco-Stars
- Joris De Vente, CSIC, Spain Coastal consortium

Typology- Questions for Common Presentation Format (8´)

- Introduction to the project
- How do you approach and define innovation?
- What is your view on communities of innovation, ecosystem of innovation? How are these articulated?
- What are the drivers and barriers for your initiatives? What worked and what did not work?

Format:

- 9.40 –9:45 Presentations (Gerardo Anzaldua, Ecologic, Germany)
- 9:45-9:50 Climate Kic - (Jose Luis Muñoz, Climate Kic, Spain),
- 9.50- 10.00 EcoStars (Yolanda Ambrosio, Technical University of Madrid, Spain)
- 10.00- 10.10 Coastal (Joris de Vente, CSIC, Spain)

Key results:

1. Ecostarhub: Preparing for the market, difficult to commercialise in Europe from African initiatives e.g. the insect food market.

2. EIT CLIMATE-KIC: Regulation, creating ways to link initiatives to improve this to reach sustainable change.
3. Coastal: Changing agricultural models, by evaluating effectiveness of innovations, and evaluate their economic potential. Main barrier: Pressures on different stakeholders with contradicting aspirations.

SESSION 2 Communities of Innovation: challenges and innovation needs

Time: 120 minutes (11.00-13.00)

Aim of the session:

To discuss in the three different BRIGAID Hazard themes the main challenges and problems for innovations to address these hazards. The Session is structured in three parts; the first is dedicated from the end users´ perspective, followed by a discussion on how these problems are tackled at present, what needs end users have, and potential barriers and incentives. In turn innovators pitch their solutions, and then there is a facilitated discussion on how fit for purpose are these solutions, what elements could strengthen them, barriers and drivers. Finally, the three groups get together and report on the main conclusions are presented in plenary gathering the main points on this exchange of perspectives.

1. Part 1: The end users challenges point of view + barriers and drivers discussion
2. Part 2: The Innovators solutions (pitches) point of view + barriers and drivers discussion
3. Part 3: Common perspectives: common and different barriers and drivers

Material and Preparatory work:

- PPT Template for end users, innovators and funders, accompanied by a short survey

- End users will be asked to prepare a short presentation in relation to the specific theme covering: a) challenges, b) expectations, c) barriers for implementation, d) how to implement solutions for it and e) success stories. End users will pitch their main challenges, expectations, how end users currently tackle problems and what are the main needs end users have on relation to the specific problem, and their main constraints and limitations. Also ideas for potential solutions

- Innovators will be asked to pitch their solutions, anticipating end users´s and investor´s needs and replying to their presentations. Including their perspective on drivers/barriers for innovation implementation.

- Investors: guiding questions to facilitate the discussion with investors (why they invest on innovation or not, preferences, how can BRIGAID help them)

Main outputs:

- Per Group: barriers and Drivers to innovation, Barriers and Drivers for end users and for all groups Shared barriers and drivers for innovation

Expected outcomes of the session:

- To be reported to BRIGAID General Meeting (Friday morning) and to be used for the CoI Afternoon exercises.

Table 12. Workshop participants according to thematic roundtables

DROUGHT/WATER SCARCITY	FLASH FLOODS	WILDFIRE
END USERS (3-4)	**END USERS (3-4)**	**END USERS (3-4)**
ASAJA-Murcia	CHS-Comisaria (Water Board)	CARM: subdirección política forestal
CCRR Campo de Cartagena	FLANDERS ENVIRONMENT AGENCY	NAAR (BRIGAID PARTNER)
CEBAS-CSIC (COASTAL)	NAAR (BRIGAID PARTNER)	CARM: Dirección General de Medio Natural, Oficina de Impulso Socioeconómico del Medio Ambiente
IGME		Civil Protection Murcia
CHS-Comisaria		
INNOVATORS (5 -6)	**INNOVATORS (5 -6)**	**INNOVATORS (5 -6)**
ARANA-WM	Expanded EM-DAT disaster database to the European level (eEM-DAT)	Active Eco-Wildfire Management System - Strategic Forest Fuel Management
Useful Wastes	HKV	The Fire Risk Monitor
UPCT (Diverfarming)	Toolkit Method	Prediction system, Murcia University and Barcelona University
CETENMA	MCGM Architecht	
Cajamar - Estación Experimental		
FUNDING EXPERTS (2-3)	**FUNDING EXPERTS (2-3)**	**FUNDING EXPERTS(2-3)**
Cajamar - Financiación	Javier Calatrava (UPTC)	
CEEI Murcia (also MurciBAN, WannaSeed)	Climate KIC	UPM-ECOSTARHUB
CEEI Cartagena	Climate-KIC España	
Catedra de empresas UPCT		

BRIGAID	BRIGAID	BRIGAID
FUTURE WATER	ICATALIST	ISA
ECOLOGIC	HKV	ICATALIST
ICATALIST	ECOLOGIC	THE FUNDING COMPANY
	THE FUNDING COMPANY	ICRE8
	Oxford University	

Community of Innovation 1- Water Scarcity and DROUGHT

Scale: Local (Mar Menor and campo de Cartagena)

Session chair: Sergio Contreras, Futurewater, Spain

1. Introduction to the Campo de Cartagena – Mar Menor lagoon case

The case was briefly introduced by Mr. García-Aróstegui (IGME, and member of the Mar Menor Scienfific Commitee). It was higlighted the complex nature of the system in which two large and highly profitable activities (irrigated agriculture and tourism) threaten the good ecological status of the Mar Menor lagoon. After the 'ecological crisis' (algal bloom in the lagoon) in 2016, the case has received a special attention by population and policymakers. The main concerns identified refer to the lagoon eutrophication, a large unbalance between the water demand and availability of resources, groundwater pollution (high contents of nitrates mainly linked to the return flows from irrigation), a deficient monitoring and control system, lack of civil (e.g. drainage system) and environmental infraestructures able to minimize the inflows into the lagoon, and a weak governance system. A national law (L 1/2018) and several action plans to recover a national law, and several action plans have been developed and approved in the last period which serve as guidance documents to increase in research, innovation development and social participation.

Conclusions:

Several needs and weaknesses were identified by end-users

- New technological solutions are required to increase the availability of resources and the water use efficiency in irrigation. For the creation of an effective innovative environment, the implementation of these solutions by the private sector should be promoted from the public

administration (e.g. through economic incentives to companies or end-users/clients). Administrative barriers need to be also reduced.

- Lack of a collective management of groundwaters and aquifers.

- Increase the exploitation of groundwaters from the upper aquifer at the farm-district scale by implementing desalinisation and denitrification technologies.

- The system is strongly vulnerable against water- shortage and excess events. The existence of a weak governance system was depicted as one of the main weaknesses.

- Lack of an appropriate surveillance and monitoring system with clear alert indicators.

- Very low public funding resources for activities on control and policy. More co-responsibility is required: Citizens, stakeholders and private actors can play a more prominent role.

- Change of the water management paradigm is required to increase water security of the area without compromising the sustainability of the agro-ecosystem.

- Concerns on how water is internally managed by Irrigator Associations. Better decisions or could be taken.

- Legal and liability barriers discourage and slow down the decision-making process on regarding to the generation of new infrastructures or the implementation of new technological solutions.

- Weak public participatory mechanisms to get agreements during the design and the execution of action plans.

Cajamar provided a review of its portfolio as an important research-innovation and funding actor in the region. Research and Innovation in Cajamar is focused on greenhouse crops and Mediterranean irrigated agriculture: During the event, the High Tech Incubator on Sustainable Water Management was presented to the audience. The aim of the incubator will be to foster the creation start-ups which develop innovative and technological solutions for a better use and management of water. The High Tech Incubator provides an innovative ecosystem with two testing facilities (Living Lab) and supporting-funding scheme which guarantee the development, testing and the market outreach of the innovations.

Community of Innovation 2- FLASH FLOODS

Scale: European (North, South and East)

This roundtable had a high participation from End-users (Segura River Basin Authority, Romanian Waters, Flanders Env. Agency, Albania National Planning Agency) and Innovators (Toolkit Method - integrative GIS model to protect valuable urban areas from flooding; BlueBloqs: Green solution for catching and filtering and re-using rain water; Antwerp Living Lab - examples.).

The region of Murcia has suffered severe floods (In 2012, an especially intense flash flood episode happened which also caused flooding in some areas for several weeks). This session aims to bring together regional, national and European stakeholders to discuss together how we can prepare for and react to them. It will follow up from stakeholders already engaged in a community of practice through different projects and initiatives, such as Educen Project, and we will add the layer of innovation to tackle the natural Hazard, and how to invest for its implementation. commitment to continue Community of Innovation: common issues and how to sustain interaction

The main conclusions that can be summarized from the discussions are the following:

- Blurry lines between innovators, investors, and end-users e.g. end users can fill many roles, they are often an important initial buyer, playing a role reminiscent of an investor. Additionally, end-users can be innovators themselves (e.g. Romanian Waters and their Flood Proof Romania testing site).
- End user needs include early warning systems, communication tools, maps, data, among others.
- Different needs in different places. Indeed, needs in some areas have already been met elsewhere, implying role for technology transfer. Also, innovators need to target their innovations to the right place.
- Need both "hard" and "technological" innovation (e.g. sensors) but also "soft" "social innovation " e.g. Flanders Environmental Agency and Seguara River Basin both called for capacity building, communication tools.
- All present expressed that it is challenging to move away from standard flood defences e.g. grey infrastructure.
- Overall conclusions on communities of innovation, in light of earlier discussion:
- Given the overlap between innovators, investors, and end-users, success lies on building personal relationships built on trust AND individual champions within end-users
- This implies that Communities of Innovation should work to build trust and develop personal relationships.

Community of Innovation 3- EXTREME WEATHER: WILDFIRES (Southern Europe)

Session Chair: Conceição Colaço (ISA, Portugal)

Innovation: GIFF Ltd; ISA The Fire Risk Monitor; UMU/UB Firecast; Pau Costa Foundation

Wildfires are a natural and man-made disaster that southern Europe countries face specially during heatwaves. Higher summer temperatures are causing a higher incidence of wildfires in northern Europe. In this session we will discuss how end users and innovators are facing wildfires in the Iberian peninsula, investment options, and how collaboration can be strenghthen with northern countries. TBC commitment to continue Community of Innovation: common issues and how to sustain interaction

Results:

The participants of this session were mainly innovators, researchers and end users from regional authorities, responsible for forest management and wildfire defence. The main conclusions from the discussion in the wildfire roundtable was that innovations do not always match the scale of the problem that and users or critical infrastructure managers usually face

- Barriers: Timescale (Innovations quick, want long-term solutions), every region is different, the Portuguese way is not a good solution here because of the lack of humidity.
- Drivers: Forest fires, create revenue from prevention tactics (generate bioenergy), possibilities to reinvest in the forest.
- Barriers: every region is different, the Portuguese way is not a good solution here because of the lack of humidity.
- Drivers: protect biodiversity, protection of urban areas, create revenue by protecting the forest to reinvest in the forest (ideal).
- Barriers: Different regions need different approaches

Not just timescale, but also the territorial/the spatial, look at the innovations: Portugal, Spain, Italy, yet their solutions only tackles 1 problem. Need to know which region, take a look at different needs: Funding, Matchmakers. And how to “Join”: By hazard? By region? By what?

SESSION 3 Funding views: opportunities, challenges, barriers, drivers for investment. PPIF as a tool for finance

Time: 60 minutes (14.00-15.00)

BRIGAID Link: Funding Platform Think-Tank

Led by: Luuk Schagen, The Funding Company, Netherlands.

Aim of the session:

The purpose of the session was to create an interactive setting in which all stakeholders present could share their ideas on the continuation of the impact of BRIGAID after the end of the official project period. In particular through the development of a proposed Funding Platform, that aims to simplify the process for innovators, investors and end-users to come into contact with each other. During this session, a multitude of challenges in establishing and sustaining this platform were posited after which the groups split into smaller groups in order to interactively brainstorm about the possibilities within this area.

Main outputs:

During the session we achieved a high level of participation from most of the participants, giving some very interesting insights into the viability of the platform as it is currently envisioned, as well as additional ideas for a better fit to the needs of the potential users of the platform. While investors were mostly absent to give their perspective, other stakeholders were able to give us interesting insights. A selection of some of the more significant insights are offered below.

Feedback from the session gave us the insight that the Funding Platform should have a broader focus than just obtaining investments. Considering that this platform has a high sectoral specificity, leveraging the potential benefits of including a broader range of stakeholders like governments, end-users and research institutes could prove fruitful for all stakeholders included. Innovators acknowledged that the platform might mostly be valuable in providing them a convenient entry into the world of financing, since they often find it hard to determine where to start. However, they emphasized that the platform should come with a ‘guarantee’ that the investors are both reliable and fit within the vision of the company in order to be useful. In order to ensure this, filtering and matchmaking based on standardized criteria would be desirable. In the end, a recurring theme related to this that was mentioned is trust. In order to be an effective catalyser of innovation, the platform should instil trust between the collaborating parties.

These and other insights provided a good basis to continue the design of the platform to be described within the updated version of Deliverable 6.3.

SESSION 4 Samoa circle/Talanoa Dialogue: The road ahead. Effectiveness and sustainability of the Communities of Innovation

Time: 60 minutes (15.00-16.00)

BRIGAID Link: Emergence and Support of communities of innovation

Aim of the session:

- To host a Talanoa Dialogue in line with UNFCC (www.talanoadialogue.com/submit-inputs)

Resources and Material Needed:

- Preparation: Chairs will be arranged in concentric circles.
- Flip chart
- Ppt with the outline of the session
- Rules of the Talanoa Dialogue in a big A3 paper
- Form to get individual feedback at the end

RULES: PROCEDURES OF THE SAMOA CIRCLE FOR THE TALANOA DIALOGUE

- People in the external circles listen and observe the inner circle.
- Anyone who wants to join the discussion can move to the inner circle by taking an available chair. Only three people at any one time are on the inner circle. If there is anyone waiting for joining the inner circle, people sitting there have to move to the external circle.

Format:

- 15.00-15.05: Talanoa Dialogue: Explanation how it works + contribute to UNFCC (5´)
- 15.05.15.20: Where are we? (15´)
    - Prompts:
        - What is the best scale for a CoI/Lab?
        - Which actors to involve and how?
        - How to make the theme attractive to all actors?
- 15.20-15.35: Where do we want to go? (15´)
    - Prompts:
        - Are climate change adaptation topics a good theme or focus for a CoI?

        - Is it better to include other topics to tap on synergies?
- 15.35-15.50: How do we get there? (15´)
    - Prompts:
        - Is finance a requirement to enhance participation?
        - Do CoIs need to be formalised?
        - Can we think of concrete examples?
        - Are there any key variables “must haves”?
- 15.50-15.55: Individual questionnaire (fill in form)
- 15.55-16.00: Wrap-up with 5 golden rules or recommendations for the sustainability of Communities of Innovation

Main outputs:

- Dialogue on the main ways to support the emergence and support of Communities of Innovation for DRR and CCA

Conclusions

- Scale issues: How to connect the innovators to the necessities? We discussed that it is not uncommon to find innovations that do not match the scale of the end user need
- Trust and credibility:

Trust part is very important: Expertise of the innovator and the verification of his expertise, effectiveness and an indicator to compare, are important factors. On the side of credibility, it is necessary to create a kind of benefit from the platform (community), i.e protection from risks like running away with your idea.

We concluded on a few critical success factors for a CoI:

- You need to tackle a problem with urgency, so people are more willing to move
- You need technologies and innovative social solutions.
- You need organisational conditions: support from leadership, trust between government innovators and developers.
- Funding/investments conditions for living labs/test/field works.