CAPFLO PROJECT

Tasks E and F

Participatory Capacity Building and Good Practices Report

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CAPFLO
Local resilience capacity building for flood mitigation.

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Executive summary

The CAPFLO project is based on the assumption that an improvement in social capacities should result in higher local resilience to flood risks and that this improvement can be reached more effectively through a bottom-up and participatory approach. For testing this hypothesis, the CAPFLO participatory tool was developed that identified and listed different participatory mechanisms (PMs) as well as their anticipated impact on social capacities. The PMs were selected by the CAPFLO partners together with stakeholders of each case study in five European countries (France, Germany, Italy, Netherlands, and Spain). Deliberative workshops were selected, as well as a mix of public meetings, simulations and roleplaying, and citizens' engagement initiatives.

All capacities could be improved. Knowledge was the capacity that was targeted the most and could be tackled best through participatory processes. All implemented participatory pilot actions increased the knowledge capacity irrespective of its initial level. Engagement initiatives onsite proved to be very successful in this realm. In contrast, motivation (especially collective) and participation were rather difficult to address. First steps of network building had been achieved.

All cases demonstrate a continuity of participatory processes ensured by actors participating in the pilot actions. The actors are public bodies or stakeholders (e.g. associations, student group), not citizens as such, although these usually confirmed their interest in participating in similar events or share them in their specific networks. In general, the participant evaluation showed that participatory processes in all cases were assessed as very positive.

For the transferability or replicability of the processes, a comparative analysis of important process features was conducted. The analysis was separated into participant mobilization and process effectiveness. Similar processes applied to different contexts were examined; thus, the results are likely to be stable over different contexts. For deliberative workshops within a formal set-up, the combination of direct and indirect invitation and evenings during working days for the action resulted as important factors. For engagement initiatives, direct invitation, invitation by a local collaborator, and incentives for participation (e.g. free entry or food) were important.

Regarding effectiveness of deliberative workshops, experts as facilitators (professional and social) as well as the involvement of different kind of actors constituted essential features. For engagement initiatives once more experts as facilitators were an important process feature, but also the structuring into an information and discussion part with one (interactive) activity within an informal set-up. Interactive activities were of high importance for the engagement of pupils. The involvement of different actor

types and the link to sustainability or local climate change adaptation constituted supporting features.

The applicability of participatory processes to enhance motivation as a capacity is rather dependent on the context, e.g. the level of motivation that existed initially. Future participatory processes targeting motivation to mitigate flood risks should also pay attention to the fact that climate change adaptation seems to raise more motivation than the specific topic of floods, especially in contexts where flood risk is a new topic to the community. Apart from the indication for the viability of this strategy, motivation for flood risk mitigation is a topic for more in-depth future studies.

For network building, pre-established contacts, particularly to a local collaborator, and face-to-face communication between organizer and collaborator, as well as collaborator and all additional participants are extremely important.

1. Objectives and methodology

1.1 Aim of the report

This report contributes to deliverables E7 and F3 of the CAPFLO project.

The report provides a horizontal analysis of the implementation and evaluation of social capacity building participatory processes implemented in the 5 case study areas of the CAPFLO project.

The CAPFLO social capacity building participatory processes are built on the assumption that participatory approaches contribute more to building local social capacities for flood risks prevention and management than traditional top-down ones. Several authors (Educen, 2017, IFRC, 2014, Pandey and Okazaki, 2005) argue, in fact, that the success of policies/strategies for the prevention, management and mitigation of flood risks resides in their capacity to integrate local knowledge, culture and perception of flood risks through the direct involvement of local communities in the analysis of flood risks and in the planning, implementation and evaluation of policies/strategies in this area. This approach is the core of the Flood risks Directive that urges EU MS to put local communities at the centre of Flood risks management plans.

Given this assumption, this report explores the degree to which participatory approaches have contributed to social capacity building for flood risks prevention and mitigation in the 5 cases.

Furthermore, one hypothesis at the basis of the CAPFLO social capacity building processes consists in the fact that not all participatory mechanisms contribute equally to building social capacities. The Participatory tool (deliverable D4) identifies 10 participatory mechanisms (PMs) that have a different potential in improving local social capacities on flood risks prevention, management and mitigation (see Participatory tool report for details). The report analyses in depth the contribution of the various mechanisms put in place for building social capacities for flood risks prevention, management and mitigation.

In addition, the report provides information on the type of improvement in social capacities on flood risks obtained by the CAPFLO social capacity building processes, on the beneficiaries of this improvement and on how it has been achieved. Furthermore, the report aims to provide knowledge on what has worked and what has not in the implemented processes and on which are the main lessons learnt for the replicability and transferability of implemented participatory mechanisms and actions in other contexts.

1.2 Theoretical and methodological approach and structure of the report

Theoretical and methodological approach

The present report builds on the transversal desk-analysis of the evaluation reports of participatory processes implemented in the 5 CAPFLO case study areas.

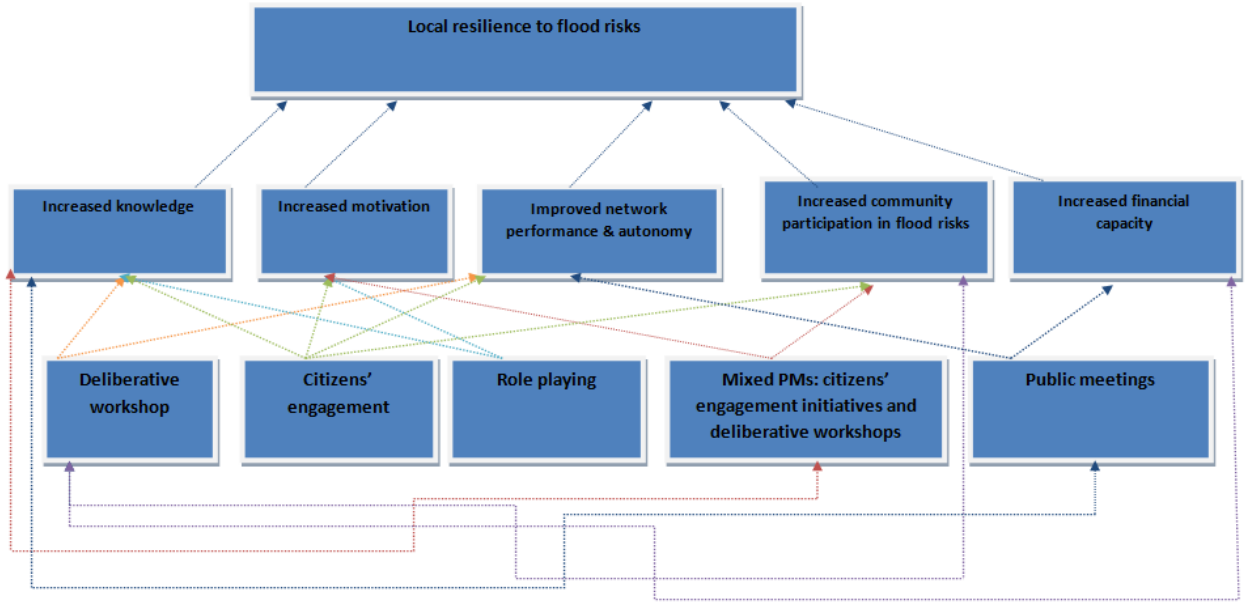
The theoretical framework at the basis of the evaluation of participatory processes draws on the theory-based evaluation approach, which pays attention to the theories of policymakers, project/programme managers and stakeholders (EVALSED Sourcebook). The theory of change includes a set of testable assumptions that are bound together. In practice, it helps to: deploy the theoretical rational behind a policy/programme/project; spell out the sequence in which results occur; identify the factors triggering change and to question which other conditions, besides the intervention, are necessary so that the expected outcome happens.

The theory of change includes two components: a theoretical one and an empirical one. From a theoretical point of view, it implies constructing a programme theory which is then empirically tested. The empirical test seeks to assess the theories behind policies/programmes/projects in order to analyse whether, why and how the implemented intervention produced the expected results and who benefitted from them. Furthermore, it seeks to clarify the causal connections between outcomes, inputs (intervention actions) and contexts.

The theory of change of the CAPFLO participatory process (fig. 1) assumes that improvement in social capacities (knowledge, learning, motivation, financial capacity, network performance and autonomy and participation) is essential for increasing local flood risks resilience. However, since not all capacities are present at the same time and level in an area, capacity building processes should be activated. Based on the literature review, the CAPFLO capacity building processes start from the assumption that participatory and bottom-up capacity building processes are expected to produce better improvements in social capacities than traditional top-down ones. However, the effectiveness of participatory capacity processes, in terms of improved social capacities for flood risk prevention and management, depends on the type of participatory mechanism selected and on the set-up of this mechanism. In fact, some of the identified participatory mechanisms are expected to produce better improvements in certain social capacities than others. As detailed in the Participatory Tool (2017), deliberative workshops, simulations and role playing, and citizens' engagement initiatives, tested in the CAPFLO participatory processes, are the PMs with the highest potential to social capacities improvement: deliberative workshops have a high potential for im-

proving knowledge, motivation to mitigate floods and the capacity of communities to influence decisions on flood risks management (community participation); simulations and role playing have a potential high contribution to increase motivation both to mitigate floods and work collectively; citizens' engagement initiatives have a moderate/high potential for knowledge improvement, motivation to mitigate floods and fostering proactive participation by communities in flood risks management.

Figure 1 – Theory of change of CAPFLO participatory processes



From an empirical point of view, the evaluation of participatory processes in each CAPFLO case study area assesses achieved changes against the expected ones, explaining how changes have been achieved, who have been the main beneficiaries and which have been the main factors favouring/hindering expected changes.

From a methodological point of view, the evaluation of participatory processes uses both quantitative (survey) and qualitative (semi-structured interviews) methods.

At the end of each participatory action, a survey has been submitted to all participants in order to assess the contribution of the action to the improvement of social capacities tackled by the respective action. Furthermore, a set of semi-structured interviews with the main stakeholders involved in the planning and implementation phase has been conducted at the end of the participatory process to grasp their views on the main results achieved and lessons learnt from the process.

Structure of the report

The report is structured in 7 chapters. After a brief introduction to the main objectives of the report and to the theoretical and methodological approach followed, it goes on with a detailed analysis of the rationale and features of participatory processes (chapter 3), of the achieved changes and of their sustainability (chapter 4), of the quality of participatory processes (chapter 5), of the main factors favouring/hindering the achievement of expected changes (chapter 6) and of the main lessons learnt for the replicability and transferability of implemented participatory mechanisms and actions (chapter 7). The report ends with a sum-up of the evidence provided by the transversal analysis and recommendations for future participatory processes in this area.

2. Rationale and implementation of participatory processes

This chapter discusses the rationale of the CAPFLO capacity building processes, the participatory mechanisms and actions used and their features.

The CAPFLO participatory processes were implemented between April and July 2017 in the following territories:

- Germany (DE) – Ulm and Neu-Ulm in the Danube river basin (hereafter DE case);
- Spain (ES) – Pradilla de Ebro, Boquineni, Alcalà de Ebro and Cabanas de Ebro in Ribera Alta del Ebro (hereafter ES case);
- France (FR) – Vitry-sur-Seine in Seine basin (hereafter FR case);
- Italy (IT) –Rivergaro and Rottofreno in Trebbia basin (hereafter IT case);
- Netherlands (NL) - Itteren and Borgharen in Meuse basin (hereafter NL case).

The table below presents the theory of change of the CAPFLO participatory processes that will be analysed in detail in the next paragraphs.

Table 1 Rationale behind the social capacities selected, expected changes and participatory mechanisms and actions used to achieve them

Case area	Social capacity tackled	Main rationale	Expected change	PM	Participatory action
DE	Network performance	• Low levels of collaboration between local actors in the flood risks area; • No specific community network on flood risks; • High level of solidarity and self-organisation of citizens during flood events that can be capitalised on and stimulated during the prevention & preparedness phases to better face flood events and recovery	Improved collaboration between local stakeholders on flood risks related issues	• Mixed PM: broadcast/distribution, engagement initiatives, deliberative workshop	• Watch. Think.Act – Series "Before the flood" (movie followed by a debate session) • Kayaking on the Danube with an informative session at the beginning and a subsequent barbecue with discussion. • School 'hiking day' of a 5th grade class used for a walk along the Iller river to an organic farm; application of flood risk quiz.
				Public meeting	Teaching lessons in schools

Case area	Social capacity tackled	Main rationale	Expected change	PM	Participatory action
	Motivation to mitigate floods and work collectively	• Low levels of motivation to mitigate floods also due to the lack of recent flood events	Citizens more motivated to act on flood risks mitigation and to network		
	Knowledge on flood risks	• Low levels of knowledge on this issue • Citizens do not feel informed on flood risks	Increased awareness and knowledge on flood risks in the area as well as on their prevention and management		
ES	Knowledge on flood risks	• Low understanding on the causes, characteristics and management of flood risk, in particular of the riverside population, and a low level of information disseminated on this issue	Increased level of knowledge on flood risks prevention, management and mitigation in the area	• Engagement initiatives	Visit to flood risks mitigation actions and interpretative kayaking down the river
				• Public meeting	Informative session on urban insurances to floods
				• Mixed PMs: engagement initiatives and public meetings; public meeting and deliberative workshop; deliberative workshop and role playing	• Informative breakfast and interpretative kayaking down the river • Interpretative visit to the flood plain and deliberative session • Deliberative workshop on FRM in schools
	Community Participation	• Despite community participation during flooding events, the current flood risks management approach does not include public participation in the FRM system • Public participation depends on the RBO will and the institutional par-	A more participated FRM system	• Mixed PMs: deliberative workshop and role playing • Deliberative workshop	Deliberative workshop on FRM in schools

Case area	Social capacity tackled	Main rationale	Expected change	PM	Participatory action
		ticipation opportunities in the area			
	Finance	• Wide gap of information and knowledge on financial resources for flooding and on the actors financially responsible for managing risks • Lack of ability to obtain financial resources and lack of management expertise	Increased knowledge on financial opportunities in this area	Deliberative workshop	• Workshop on funding available for projects in the FRM area • Workshop on a FRM cultural insurance framework
				Public meeting	Informative session on insurances against flood risks
FR	Network performance	• Communities view floods as the "governments' job" and despite recent events (2016), citizens are not ready to take proactive actions to prepare for floods. • Improvements in knowledge, motivation, networks and finance in the last years. However, these regard mostly institutional actors and to a lesser extent communities. Furthermore, the institutional knowledge tends to remain confined within the institutions themselves.	Creation of a multi-actor network on flood preparedness by linking citizens/communities of Vitry with institutions at multiple scales and networks of institutions working on flood preparedness	• Deliberative workshop	Participatory workshop
	Motivation to work collectively			• Stakeholders' advising	Participatory informal meeting
	Knowledge on flood risks		Increased knowledge at community level, facilitating knowledge transmission from institutions to citizens	• Public meeting	Informative session on floods in Vitry and Parisian region
IT	Knowledge on flood risks	• Low level of knowledge of surveyed persons on measures to prevent and manage flood risks (e.g. areas of assistance, behaviours to adapt in case	Improved community knowledge	• Mixed PM: engagement initiatives and deliberative workshop	Walk on Trebbia river in Rivergaro

Case area	Social capacity tackled	Main rationale	Expected change	PM	Participatory action
		of floods, etc) • An information system considered inadequate by most of the surveyed persons		• Deliberative workshop	• Exploratory workshop on Trebbia river in Rottofreno • Workshop with professionals in flood risks field • Lets' talk about – workshop with citizens of Rivergaro
	Community participation	• Low participation of citizens in the FRM decision-making and implementation processes, in particular in the prevention/preparedness phase	Increased citizens' participation in the FRM system (i.e. designing an information system more suitable to citizens' needs)		
NL	Knowledge on flood risks	• Outdated knowledge especially due to changes in the dynamics of floods	New knowledge on current flood risks and flood dynamics in the area as well as on protection measures	• Mixed PM: engagement initiatives and deliberative workshop • Role playing and simulations	• Walk through Borgharen accompanied by a exhibition on flood risks and an informative and debate session on current flood risks in the area • Meeting with elementary school students and senior citizens, including role-playing
	Motivation	• Citizens' low motivation to prepare for floods due to high trust in flood infrastructure	Citizens' increased motivation to act on flood risks	• Mixed PM: engagement initiatives and deliberative workshop	

2.1 Rationale and expected changes of participatory processes

As explained previously, the CAPFLO project assumes that an improvement in social capacities should result in a higher local resilience to flood risks and that this improvement can be reached more effectively through a bottom-up and participatory approach.

In order to assess the level of social capacities in the project areas, a capacity assessment was carried out in all project area (see case studies for further details) in 2016.

The comparative analysis of capacity assessments (Larrue L., Oriard L., 2016) shows that all CAPFLO case study areas face a gap in social capacities between FRM systems and communities. In all cases, but for the Spanish and the Netherlands, social capacities (knowledge, learning, motivation, network) are higher at institutional level and lower at the community one. In the Spanish and the Netherlands cases, the higher level of communities' social capacities is mainly due to the presence of rooted communities, which show better knowledge on flood risks and more motivation to mitigate floods than communities in the other cases.

Financial capacity and participation are the capacities with the lowest levels in all case studies, while the level of the others varies among the different countries from low (i.e. knowledge in FR and DE; motivation to mitigate floods in DE and NL; motivation to work collectively in DE and FR), to medium (i.e. knowledge in ES, IT, NL; learning in ES and NL; motivation to work collectively in ES and NL; network performance in ES, IT, NL) and high (motivation to mitigate floods in ES and IT). In the **German case**, **no learning capacity** exists. In the **French case**, there seems to be **no motivation and network performance** capacity.

As it will be detailed further on in the report, following the results of the capacity assessment, project partners identified, jointly with local stakeholders and citizens (e.g. through deliberative workshops, public consultations, citizen polling, etc) the social capacities to be improved and the ways to do it, namely the participatory mechanisms and actions.

As noted in table 1, **knowledge on flood risks** is **selected in all CAPFLO capacity building processes**. Knowledge on flood risks is, in fact, one of the basic social capacities since its development level influences the perception of flood risks, which in turn impact upon actions taken by public institutions and citizens (Dzialek et al., 2013, CAPFLO, 2016, Educen, 2017).

Community knowledge and awareness on flood risks and on prevention and management measures as well as facilitating knowledge transmission from institutions to citi-

zens are the main expected outcome of participatory processes implemented in all cases.

Motivation is tackled in **3 cases** (DE, NL, FR) which face a limited perception of flood risks also due to the lack of floods in the recent period and a limited actors' interest in working collectively to face this issue (DE, FR).

Participatory processes are expected to enhance citizens' motivation on the one hand to mitigate flood risks even in the absence of recurrent floods and on the other hand to do it by working collectively.

Since neither increased knowledge nor higher levels of motivation result automatically in community participation in the flood risks management system (Larrue C., Oriard L., 2016), the CAPFLO capacity building processes specifically tackle **community participation in two cases** (ES, IT). It is worth noting that in both cases there are already some networks in place working on flood risks, which can support community participation. On the contrary, in **two cases** (DE, FR) where such networks are extremely limited, the capacity building process tackles **network performance** in order to create the premises for community participation at a later stage.

As to expected outcomes in these areas, they consist in:

- The creation of specific networks working on flood risks, linking citizens, institutions and social actors, as in the French case, or only social actors (associations) involved in climate change, as in the German case;
- A more participated flood risks management system (ES, IT), namely enhanced community participation in producing and integrating knowledge on flood risks prevention in the FRM system (IT) and creation of more opportunities for participation in the FRM system and citizens' proactive participation (ES).

Financial capacity is dealt with **only by the Spanish participatory** capacity building **process**, with the aim to increase communities' knowledge on existing financing opportunities in this area and promote the development of projects for funding. This may be due to the fact that communities, with whom participatory actions have been decided, perceive financial capacity as an issue that goes beyond their power of action.

All CAPFLO actions are **coherent with** and expected to **contribute** to the **objectives of the Flood risks Management Plans**. For instance, in the Spanish case they are coherent with and expected to contribute to the FRM prevention and protection objectives, while in the Italian one to the prevention and preparedness objectives of the Emilia Romagna FRM (e.g. improving the warning system on flood risks and the institutional

panning of flood risks). In France and Germany they are expected to contribute to the FRM objectives of spreading information to citizens and of supporting their education on water and risks. In the Netherlands case, they are coherent with and expected to contribute to the Meuse FRM objective of increasing citizens' self-reliance about flood crisis management.

2.2 Planning and implementing participatory mechanisms and actions

2.2.1 *Planning participatory mechanisms and actions*

As previously mentioned in all cases, participatory actions have been designed and selected with the direct involvement of citizens, public institutions and/or stakeholders on flood risks and/or related areas. **Most** of the **actions proposed** in **all cases** refer to the **share of information** (knowledge) on flood risks either through face-to-face dissemination, information materials/online dissemination or interactive and engagement initiatives. **Deliberative workshops**, **role paying and simulations** and **citizens' science** are **proposed** more **limitedly**. However, it is worth noting that, according to literature, some of these mechanisms (e.g. deliberative workshops) have a higher potential to contribute to knowledge creation than the previous ones. In further implementations, particular attention should be paid to explaining to participants the different potential of the various participatory mechanisms and the information needs required for each of them. In addition, participatory mechanisms may be combined to reinforce their potential as done in the CAPFLO cases.

Based on suggestions received during the planning activities and on follow-up meetings/interviews, the CAPFLO partners have drafted a set of participatory actions to be implemented. In the Spanish case, this list has been subject to a citizen polling to identify the priority ones.

The table below details the proposed participatory actions and those selected for implementation.

Table 2 PM and PAs proposed during planning actions

Case area	Planning action	Proposed PM	Proposed capacity building action	Planned for implementation
DE	Participatory workshop	Broad-cast/dissemination	Website, Facebook-site and Instagram Account: ‚Iller-Danube Network'	Yes
	Follow-up meeting		Dissemination on general information on flood risk, flood risk and hazard maps, and current water levels through the website	Yes
			General Information on the rivers, information on renaturation-measures and respective pictures (Website, Instagram)	Yes
			Creation of QR-Codes with information on the river and important river sites. Development of geocaching route.	Yes
			Call for posting images of the rivers on Instagram	No
				Review of all current warning systems and apps in Germany and Europe and website publication
		Public meeting (field trip)	Inauguration of Geocaching tour	Yes
			Trip to renaturation measures important for smaller floods followed by the presentation and discussion flood risk maps and differences between HQ50, HQ100 and HQ extreme floods	Yes
		Public meeting	Information on individual preparedness through insurance	No
			Information workshop on individual flood insurance for Neu-Ulm	No
				Information campaign; exposition pictures
ES	Deliberative workshop and public polling	Public meeting (including field trips)	Principles and obligations of Floods Directive and local measures in the FRMP	Yes
			Mitigation actions and fluvial dynamics trip down the river	Yes
			Field trip on flood mitigation actions between Pradilla-Boquiñeni-Alcalá-Cabañas	Yes
			Informative/formative sessions on: urban insurances for flood risks mitigation; FRM insurances against flood risks; flood-resistant crops for flood mitigation	Yes
		Deliberative workshop	Participatory process on FRM with general public	Yes, with changes (One deliberative workshop on communication about floods)
			Workshop on European funding	Yes

Case area	Planning action	Proposed PM	Proposed capacity building action	Planned for implementation
		Role-paying	Understanding floods by playing	Yes (at schools)
FR	Focus group	Broad-cast/dissemination/public meeting	Informative session/campaign targeting citizens and students	No
		Stakeholders' advising		yes
		Deliberative workshop		Participatory workshop
		Public meeting		Informal meeting
IT	Deliberative workshop	Engagement initiative	River walk in Rivergaro and Rottfreno followed by debate session to engage participants and favour knowledge diffusion and exchange between them	Yes
		Deliberative workshop	Workshop with professionals on flood risks on flood risks communication	Yes
			Workshop with citizens on flood risks communication	Yes
NL	Interviews and survey	Engagement initiative	Story night experiences	yes with changes: combination of the walk and the story telling
			Guided walk and app	
		Role –playing and simulation	Simplified simulation	Yes
		Deliberative workshop	Workshop on flood safety	Yes, following the walk

2.2.2 *Participatory mechanisms used in CAPFLO*

In order to achieve the above mentioned capacities, a wide range of the participatory mechanisms included in the CAPFLO Participatory tool (Munaretto S., de Voogt D.L., 2016) have been used in the CAPFLO participatory processes: broadcast, public meetings, experts' (stakeholders') advising, deliberative workshops, role playing and simulations and engagement initiatives. In several cases (see table 1), **participatory mechanisms have been combined** to **strengthen their potential to building capacities**. For instance, engagement initiatives or role-playing/simulations have been usually combined with deliberative workshops. As detailed in the CAPFLO participatory tool, role-playing and simulations are expected to contribute more to motivation and less to knowledge or network performance, whereas deliberative workshops have a higher potential for increasing the latter ones.

Engagement initiatives (DE, ES, IT, NL) and **deliberative workshops** are the **most used mechanisms** in the CAPFLO cases (ES, FR, IT, NL). On the contrary, public meetings (ES, DE, FR), broadcast (IT, ES), role-playing (ES, NL) and experts' (stakeholders') advising (FR) are used in one or at maximum two CAPFLO cases. This is explained by the fact that, according to the CAPFLO Participatory Tool (de Voogt D.L., Munaretto S., 2016), the former have a higher potential to create social capacities than the latter. In fact, it is worth noting that some of the actions (field trips and walks) initially planned under the public meeting PM, have been finally designed as engagement initiatives in order to increase their potential for improving social capacities in the respective areas.

In all cases, but for the French one, **engagement initiatives are used primary to build knowledge**. They are also been used for constructing motivation (DE, NL), network performance (DE) and community participation (IT).

Deliberative workshops, alone or in association with other PM, are used to improve **knowledge** (FR, IT, ES, NL), motivation (FR, NL), network performance (FR), community participation (ES, IT) and financial capacity (ES).

Role-playing, alone or in association with other PM, is used to strengthen **knowledge (ES, NL)** and motivation (NL).

Public meetings are used to enhance **knowledge** (ES, DE, FR), **motivation** (DE, FR) and **network performance** (DE). In the French case, this latter capacity is also tackled through experts' (stakeholders') advising mechanism.

2.2.3 *Participatory actions implemented*

In the implementation phase, planned participatory processes have undergone some changes:

- DE: due to the lack of the motivation of the Sustainable student group, expressing interest in contributing to the implementation of participatory actions, none of the planned actions could have been implemented. Four new actions (movie on climate change followed by debate on flood risks, teaching on flood risks, kayaking with discussion on flood risk and river walk with pupils) have been designed in collaboration with two students interested in the implementation of the CAPFLO participatory process.
- ES: actions have undergone only minor changes (e.g. grouping some of the actions; changes in the foreseen calendar).
- IT: the initially foreseen walk along Trebbia in Rottofreno has been replaced with an exploratory workshop on flood risks in Trebbia. The change is due to the fact that in Rottofreno the walking area of Trebbia is mainly an industrial area. This would have risked not attracting citizens' interest in the walk.
- FR: the second action should have been involved mainly local associations. However due to their low interest in participation, the action has been extended to citizens. So an additional pilot action has been implemented (public meeting).
- NL: no change

The paragraphs below analyse the type of actions implemented and their delivery features.

Type of actions

Deliberative workshops represent the participatory **action common to all case studies**. Two are the main forms used in the CAPFLO capacity building processes: debate session following an engagement initiative (DE, ES, IT, NL) and debate workshops (ES, IT, FR). The content of the debates/workshops varies among countries: flood risks and their prevention and management (IT, ES, FR, DE) and floods as an effect of climate change (DE); available

Exploratory workshop on Trebbia river in Rottofreno

funding for flood risks (ES); communication strategies on flood risks (ES, IT) and community involvement (IT, FR).

Participatory walk is the **engagement initiative most commonly used** by the CAPFLO capacity-building processes (DE, ES, IT, NL). Movie screening (DE) and interpretative kayaking (DE, ES) are other engagement initiatives used in CAPFLO.

Participatory walk through Borgharen in the Netherlands case

The **role-playing mechanism** is implemented mainly through **actions targeting children**. In the Netherlands, children were asked to interview senior citizens of a retirement house on their experience with floods, while in Spain they were proposed to act as managers of the territory in charge of sustainable development of the area and flood management, using a flood model.

Workshop on FRM in schools in the Spanish case

The **public meetings** mechanism is delivered through two types of actions consisting in providing knowledge: **teaching** on flood risks in schools (DE) and **informative sessions** on flood risks insurances, principles and obligations on Floods Directive, and Flood Risk Management Plan(ES) and on flood risk location in Vitry and surroundings (FR). To these actions, an **informal participatory meeting** adds (FR) consisting in **stakeholders' advising** on FRM communication strategies, network development in the flood risks area and community involvement.

Delivery and governance features of implemented actions

The table below describes the target groups and the main delivery features of the CAPFLO participatory actions.

Table 3 Delivery features of CAPFLO participatory actions

Case area	Participatory action	Target group	Delivery features
DE	Watch. Think.Act – Series"Before the flood" (movie followed by a debate session)	Citizens	• Embedding the action into a wider and known event (series Watch. Think. Act on climate change) • Incentives to participation (free entrance) • Informal set-up • Use of communication tools: social media (Facebook event) and online (e-mail to participants to previous workshops; diffusion of the event through specific online groups) communication; onsite communication (posters distributed in Ulm); integration of the event in the regular cinema programme; • Debate session after the movie to discuss flood risks in the area with participants • Use of dissemination material on flood risks • Involvement of experts on flood risks and climate change as facilitators • Involvement of local collaborators (i.e. student groups and other local formal and informal groups) to diffuse the event
	Teaching lessons in schools	10th grade students	• Integration of the lesson into the teaching portfolio • Use of interactive tools (e.g. game on footprints, video) • Embedding the flood risks discourse within a wider framework (e.g. climate change) • Formal set-up
	Kayaking with informative session and discussion	Citizens	• Incentives to participation (free kayaking, free barbecue) • Communication of the event through local collaborators and online (e-mail to participants of previous workshops and participatory actions) • Informal set-up • Informative session before kayaking • Debate session during a barbecue after kayaking
	River walk with pupils	5th grade pupils (aged 11 years), teachers, collaborators	• Formal set-up • Open participation • Use of interactive tools (e.g. role playing game) • Involvement of stakeholders (collaborators, teachers) in the implementation of the action
ES	Visit to flood risks mitigation actions and interpretative kayaking down the river	Teachers and journalists	• Incentives to participation (free kayaking, refreshments) • Direct communication of the event through professional networks and well-known persons • Informal set-up and limited number of places (16) • Debate session after the interpretative kayaking • Involvement of experts on flood risks, water issues, environmental education and participation as facilitators
	Informative breakfast and interpretative	Citizens	• Use of extensive communication tools: social media (Facebook; WhatsApp group with 36 contacts); online

Case area	Participatory action	Target group	Delivery features
	kayaking down the river		communication (e-mail list with 56 contacts); onsite communication (posters) • Use of incentives to participation (free kayaking, free breakfast, free lunch) • Informal set-up and limited number of places (29) • Involvement of experts on flood risks, water issues, environmental education and participation as facilitators • Involvement of public institutions in the flood risks area • Informative session before kayaking and debate session afterwards
	Interpretative visit to the flood plain and deliberative workshop on communication strategies	Stakeholders and citizens	• Use of extensive communication tools: social media (Facebook; WhatsApp group with 36 contacts); online communication (e-mail list with 56 contacts); onsite communication (posters); direct communication (telephone/e-mail contacts) • Incentives to participation (free lunch) • Informal set-up and limited number of places (20) • Involvement of public institutions in charge of emergency works after the 2015 floods in the interaction with participants • Involvement of experts on flood risks and participation as facilitators
	Deliberative workshop on FRM in schools	Pupils aged 9 to 11 years old from rural areas	• Formal set-up • Open participation • Use of interactive tools (e.g. role playing game) • Involvement of experts on flood risks and participation as facilitators • Involvement of stakeholders (teachers) in the implementation of the action
	Informative session on urban insurances for flood risk	Citizens	• Use of extensive communication tools: social media (Facebook; WhatsApp group with 36 contacts); online communication (e-mail list with 56 contacts); onsite communication (posters) • Formal set-up • Involvement of experts on flood risks and participation as facilitators • Involvement of stakeholders in the flood insurance area in the interaction with participants • Involvement of local politicians (mayor) in the interaction with participants • Open participation
	Workshop on funding available for projects in the FRM area and development of the concept note of a potential EU LIFE project	Stakeholders	• Use of direct communication tools (e-mail; telephone) • Involvement of experts on flood risks and participation as facilitators • Involvement of public institutions experienced in attracting funding on flood risks in the interaction with participants

Case area	Participatory action	Target group	Delivery features
			• Participation restricted to stakeholders • Selection of stakeholders participating in the action
	Workshop on agricultural FRM insurance framework	Stakeholders and citizens	• Use of extensive communication tools: social media (Facebook; WhatsApp group with 36 contacts); online communication (e-mail list with 56 contacts); onsite communication (posters) • Involvement of experts on flood risks and participation as facilitators • Formal set-up • Open participation • Involvement of public institutions (ministry) in the interaction with participants
FR	Participatory workshop	Citizens	• Direct communication tools (telephone contacts with 250 citizens) • Involvement of local authorities in the interaction with participants • Involvement of experts and social actors on flood risks and participation as facilitators • Formal set-up • Open participation
	Participatory informal meeting	Citizens and stakeholders	• Direct communication tools (telephone/e-mail contact) • Involvement of experts and social actors on flood risks and participation as facilitators • Informal set-up • Open participation
	Public meeting	Citizens and stakeholders	• Meeting organized within a local event on environment sensitization • Involvement of the municipality representative • Open participation
IT	Walk on Trebbia river in Rivergaro	Citizens	• Use of different communication tools: social media (Facebook) and onsite communication (posters) • Informal set-up • Open participation • Involvement of experts on flood risks and participation as facilitators • Involvement of local politicians in the interaction with participants • Involvement of local active citizens/stakeholders as guides • Debate session after the walk
	Exploratory workshop on Trebbia river in Rottofreno	Citizens	• Use of different communication tools: social media (Facebook), onsite communication (posters) and direct communication (telephone contacts by the mayor) • Formal set-up • Open participation • Involvement of experts on flood risks and participation as facilitators • Involvement of local politicians in the interaction

Case area	Participatory action	Target group	Delivery features
			with participants
	Workshop with professionals in flood risks field	Stakeholders	• Use of direct communication (telephone/e-mail contact) • Formal set-up • Participation restricted to stakeholders • Involvement of local politicians in the interaction with participants • Involvement of experts on flood risks and participation as facilitators
	Lets' talk about – workshop with citizens of Rivergaro	Citizens	• Use of different communication tools: social media (Facebook), onsite communication (posters) and direct communication (telephone contacts) • Formal set-up • Open participation • Involvement of experts on flood risks and participation as facilitators • Involvement of local politicians in the interaction with participants
NL	Walk through Borgharen accompanied by an informative and debate session on current flood risks in the area	Citizens	• Use of different communication tools: traditional media (news agencies, local periodicals); online communication (action included in the newsletter of the Consortium Grensmaas reaching 7,000-8,000 subscribers); onsite communication (distribution of flyers in public spaces, posters); advertising the action within a wider public participatory action of the Grensmaas consortium • Incentives to participation (snacks and drinks; dinner with local actors involved in the organization of the walk) • Combination of the walk with a free video and photograph exhibition on floods in the area • Debate session following the walk • Involvement of experts on flood risks and participation as facilitators • Involvement of local citizens active in the community • Involvement of regional and local public institutions in the flood risks prevention and management area in the interaction with participants • Involvement of a reputable expert in the flood risks area in the organisation and promotion of the action • Informal set-up • Open participation
	Meeting with elementary school students and senior citizens, including role-playing	Students and senior citizens	• Direct communication (by the school principal and coordinator of the day care centre) • Open participation • Integration of the action within the wider school lessons

As shown in the table above, in all CAPFLO cases **participatory actions** target **citizens** and **local stakeholders**. In three cases (DE, NL, ES) action target also **students** and in one case (NL) senior citizens. In one case (ES) they also target specifically target journalists and teachers in order to better form opinion leaders on flood risks.

As to the delivery features, we can note that **informal set-ups** are mainly used in **engagement** participatory **actions** (i.e. movie – DE; walks – IT, NL, ES; kayaking – DE, ES), while **formal-set-ups in workshops/informative sessions**. Informal set-ups have proved useful to making participants feel comfortable which favours participation in the discussions. Furthermore, interactions between public bodies and citizens in informal settings seem to favour more opened and transparent debates. For instance, 88% of the Dutch participants involved in the action implemented on the 7th of May 2017 assessed it as open and transparent compared to 30% of the participants reporting opened and transparent ordinary discussions with authorities.

In all cases, but for one German and one Spanish action, participatory actions are open. In the Spanish case, engagement initiatives have been restricted to a **limited number of participants**. In this case, the limited number of places has been used **as an incentive to participation** with positive results in terms of filling in all available places.

Incentives to participation (breakfast/lunch/refreshments, free access to specific activities such as kayak or movie) are mainly used in **engagement participatory actions**, while **no specific incentives** to participation are provided in the case of **workshops**.

While **incentives** to participation alone cannot fully explain higher/lower levels of citizens' participation, they seem to have a **relevant role in attracting citizens**' interest in a specific action. For instance, in the German case, free entrance to the movie represents one of the factors explaining a wide participation in the action. This is also the case of the Spanish interpretative free kayaking action, even though it has attracted citizens from non-target municipalities. On the contrary, actions not using any kind of incentives (e.g. walk along Trebbia river, workshops) have registered lower levels of participation.

Moreover, the organization of the participatory process within a local event organised by local actors proved to be very successful (FR).

Communication tools are present in **all participatory actions**. However, the **intensity of communication** differs both **among partners (**wider in the DE, ES and NL case and lower in the IT and FR cases) and **types of action**. Actions **targeting** a **general public** are characterised by **wider communication strategies** combining different tools (social media, online communication, direct communication, onsite communication, commu-

nication through wider networks/informal groups, etc), while **direct communication alone** (telephone/e-mail) is specific of actions **targeting stakeholders and students**.

Evidence from the cases suggests that in **smaller contexts**, as the CAPFLO ones, **social media** (Facebook) is **not decisive** for **increasing the number of participants**. For instance, in the German case only one participant has acknowledged the role of the Facebook event in triggering its participation. This is also the case of the Spanish and Italian cases where Facebook events and paid announcements have contributed limitedly to the participation of the targeted public. On the contrary, in such contexts, **communication through networks**, **informal groups and local actors well recognized/valued** at **community level** seem more **relevant for legitimising** participatory **actions** and for **increasing participation**. For instance, in the German case the promotion of the action by informal students groups has proved essential for obtaining citizens', and in particular youth's, interest and participation. In the Netherlands, the involvement of the Grensmaas consortium and of a well-known expert on participatory issues has contributed to attracting citizens. In the Italian exploratory laboratory on Trebbia, the direct involvement of the mayor in the communication of the action has contributed to a higher citizens' participation.

In small contexts, a **relevant role** is also played by **face-to-face onsite communication** (e.g. distribution of flyers in public spaces, NL), on condition that there is sufficient time for explaining the purpose and value of participatory actions to citizens.

The French and Italian cases teach that **communication through phone contact** is **less effective in attracting citizens' interest**, especially when not legitimised by reputable actors (e.g. public bodies, political actors, relevant stakeholders at community level) and in contexts with a low level of motivation. For instance, after 250 phone calls in the targeted area only 7 participants have attended the meeting organized in February 2017. In the case of the Italian workshop "Lets' talk about", organized in May 2017, only 3 persons out of around 30 people contacted telephonically. This is due to several reasons: lack to sufficient time to explain in detail the purpose of the actions to potential participants; citizens' mistrust in unknown calls and people's limited openness to listening to unknown speakers often due to the risk of confusing invitation calls with advertising/selling ones; lack of legitimisation of the phone callers (e.g. researchers not known in the community).

In **all cases** participatory actions are characterised by the **involvement** of both **experts/social actors on flood risks and participation** and **representatives of national/regional/local institutions** in the flood risks and other related fields. In all cases, the **involvement of public institutions** in the interaction with participants has **contrib-**

uted to creating an arena of debate on flood risks between citizens and institutional representatives. This is particularly relevant considering that all CAPFLO cases are characterised by a weakly participated FRM system and by fragmented networks between institutions and citizens.

The German case shows that **embedding flood participatory** actions into **wider and known related events** (e.g. cinema series) seems to **favour citizens' participation**. This is also the case of actions targeting students, where embedding participatory actions into the school activity seems to have favoured students' involvement.

When looking at the governance features of participatory actions, it's worth noting that not only **institutions, politicians and stakeholders**, mainly at local level, have been **involved** in the interactions with participants in the actions, but also in **the organisation of the implementatio**n process:

- DE and NL: local stakeholders involved in the organisation of the delivery process;
- FR and ES: public institutions and local stakeholders involved in the organisation of the delivery process;
- IT and ES: local politicians involved in the organisation of the implementation process.

As underlined above, the collaboration of local actors has proved **relevant** for both the **promotion of the actions** and for **increasing networking** between the various actors.

3. From expected to achieved changes in social capacities for flood prevention and management

As mentioned at the beginning of this report, the main **assumption** at the basis of the CAPFLO capacity building participatory processes consists in the fact that **participatory mechanisms contribute to improving social capacities** in the flood risks area.

Evidence from case studies seems to **confirm this hypothesis**, as detailed in the table below and in the next paragraphs.

Table 4 Expected and achieved changes of the CAPFLO capacity building participatory processes

Case area	Participatory processes: expected changes	Participatory processes: achieved changes
DE	Increased knowledge on flood risks	Increased knowledge on floods risks, on information tools and to a lesser extent on how to deal with floods
	Increased awareness on flood risks in the area	Increased awareness on flood risks, especially for participating pupils
	Increased citizens' motivation to take action on floods and to network	Increased motivation, mainly at individual level; links were built between local stakeholders (collaborators and local stakeholders)
ES	Improved knowledge on: causes, characteristics, principles, obligations and priorities of FRM; flood risks	More understanding of the causes and characteristics of flood risks; Improved knowledge on the evolution of flood risks mitigation actions in the last 50 years and on the more recent flood mitigation actions; Improved knowledge on the lines of actions foreseen by the EU floods directive and the regional FRMP; Knowledge on principles of the land use planning in an area subject to flood risk and on the measures implemented in the past; Improved knowledge on housing protection measures.
	Increased awareness of flood risks	Improved perception of flood risks in the case area
	Improvement in the financial capacity	New knowledge on potential funding opportunities New knowledge on other funding experiences Improved knowledge on agrarian insurances for floods Common identification on lights and shadows of agrarian insurances, and potential and difficulties of none-vulnerable crops Improved knowledge on the access to compensation processes
	Proactive attitude for self-protection (motivation and participation capacities)	Generation of social commitment in FRM Increased proactive attitude of protection of the environmental values of rivers Improved attitude for self and group protection on flood risks

Case area	Participatory processes: expected changes	Participatory processes: achieved changes
		Increased knowledge of the opinion of other stakeholders
		Improved motivation for collective protection
		More motivation to act to reduce the vulnerability of crops
FR	Creation of a multi-actor network on flood preparedness, namely linking citizens/communities of Vitry with institutions at multiple scales and networks of institutions working on flood preparedness	Increased links between a group of motivated citizens (5 persons), researchers of Lab'Urba, municipality of Vitry and other public bodies (Seine Grand Lacs, etc) and various associations in the area; however a community has not yet been formed and the number of citizens involved in the network and in the participatory process is very low. Flood risks do not constitute a bonding link in the community and, thus, do not trigger citizens' active and autonomous engagement in the FRM system.
	Increased knowledge	Increased knowledge on flood risks in the area and on their prevention and management
	Increased motivation to work collectively	Limited increased motivation to work collectively; motivation increase is higher among local bodies.
IT	Increased community knowledge on flood risks prevention, management and mitigation	Increased knowledge on floods in the area, floods risks prevention, management and communication and on stakeholders' mobilization strategies; higher knowledge increase among citizens than among professionals (e.g. municipal staff, politicians, volunteers, experts). To a less extent, increased knowledge/awareness on citizens' role in the flood risks management system; knowledge increase is reported mostly for citizens
	Increased citizens' participation in the flood risks management system, in particular in the preparedness/prevention phase	Limited increase in citizens' participation in the flood risks management system. Citizens' participation remains a critical issue as more than half of the participants in the process are professionals in this area (experts, politicians, volunteers), already engaged in flood risks prevention and management.
		Increased motivation to prepare for floods (i.e. finding out more about flood risks in the area, participating in more actions on flood risks)
NL	Increased knowledge on changes in the flood risks in the area and on their prevention and management	Citizens' increased knowledge on flood risks in the area, local experiences with floods and about how to manage them; Limited knowledge on flood preparedness due to the fact that citizens' role in flood risks prevention has been less touched upon during the participatory process
	Increased motivation to better understand and prepare for floods and to take proactive actions	Participants' increased motivation to find out more about flood risks and to participate in actions on flood risks; Limited increase in citizens' motivation to take proactive actions by themselves

3.1 Outcomes of CAPFLO capacity building participatory processes

This chapter analyses in detail the contribution of participatory actions to the improvement in the social capacities identified by the CAPFLO project: knowledge, motivation, network and participation. The analysis will consider those actions that directly or indirectly target these capacities or contributing to their improvement even in the absence of a specific/indirect targeted outcome.

Furthermore, the chapter also assesses the extent and the diversity of participation triggered by the CAPFLO participatory capacity building processes in the five cases.

3.1.1 *Extent and diversity of participation*

The extent and the diversity of participants involved in the CAPFLO participatory processes are characterised by shadows and lights.

Participatory processes, including both the planning actions and the implemented ones, attracted **several participants in all cases**:

- **DE: 151 participants** (0.1% of the overall Ulm and Neu-Ulm population);
- **ES: 156 persons**, excluding the planning participatory actions (7% of the population of the four municipalities involved in the process);
- FR: 85 participants (0.3% of Vitry-sur-Seine population)
- IT: 100 participants (1% of Rottofreno and Rivergaro population)
- NL: 101 (4% of Itteren and Borgharen population)

In the Spanish case, a larger participation is also due to the fact that a higher number of participatory actions have been implemented both in the planning and implementation phases: 10 participatory actions in ES versus 3 in FR, 5 in IT, 5 in DE and 4 in NL. Furthermore, 2 of the actions have specifically targeted stakeholders (i.e. teachers, journalists, public bodies in the flood risks protection and management area), which are already committed and probably more interested in this topic. In addition, one of the participatory actions has targeted schoolchildren, which are easier to reach than a general public. This is also confirmed by a good participation of schoolchildren in both the Dutch and German cases. Actions targeting children and, in particular, within schools are a good vehicle for involving also teachers and parents, in contexts with both a low (DE, NL) and high (ES) level of motivation.

It is also worth noting that **participation is higher** in the two cases (ES, NL) that have used an **extensive and mixed communication strategy** to reach the target groups. As

discussed previously, targeted and extensive communication is an essential factor for increasing participation. On the contrary, in the cases with a limited communication strategy (i.e. FR, IT) participation has been lower than in ES and NL. Even though this cannot entirely explain the more limited participation, it has certainly contributed to it.

Evidence from case studies points out other reasons explaining the involvement of a rather small part of society:

- **Weak interest in flood risks** topic due on the one hand to the fact that flood risks are either perceived as remote or as less important than other risks and on the other hand to the citizens' perception that flood risks are a technical issues;
- **Sceptical attitude** towards the current flood risks;
- Tendency to **delegate flood risks protection and management to public institutions and/or civil protection volunteers**, due to people's perception that institutions and civil protection volunteers are better equipped than them to deal with this issue;
- **Delegitimisation of participatory processes**, especially when organised without the endorsement of actors recognized by the community (e.g. competent authorities in FRM) or without being embedded within acknowledged events in the community either related to floods/climate change/natural risks/environmental education /etc or to the life of the community itself (E.g. specific festivals or other events well received by the community);
- **Type of participatory action**: some participatory actions (e.g. walks, kayaking) may not be suitable to all citizens (e.g. old people, people fearing water, etc) while others might be perceived as too technical/academic (e.g. workshops, etc);
- **Lack of incentives to participation** (e.g. gadgets, free activities associated to the actions, etc);
- **Logistics**: schedule (e.g. more institutional representative and stakeholders might attend actions if organised during normal working hours, while more citizens might attend them outside working hours) and accessibility of the location of the actions;
- **Short duration of the participatory process**: participatory processes need long planning and implementation time in order to become rooted in the community.

Another reason mentioned by citizens in some case areas (e.g. FR) regards the **intense life rhythms**. In fact, citizens report that their busy life does not leave them room for attending participatory actions. To allow participation, actions should consider an **in-**

tense use of technology (e.g. specific websites/blogs/forums for debate/apps/platforms, etc) and the **combination of onsite and virtual** actions.

The CAPFLO participatory processes have **involved different types of citizens** in terms of **age**: children (i.e. ES, NL), youth (i.e. DE), adults and old people (i.e. IT, ES, FR, DE, NL). Furthermore, the CAPFLO processes have also **involved both women and men**. However, in some cases (i.e. IT) men were overrepresented.

When looking at their experience/involvement in floods related issues, one can note that, **in all cases**, **participatory processes** ha**ve attracted more stakeholders and/or citizens already engaged/interested in and with some knowledge on flood risks** or related topics (i.e. climate change). For instance, in the Italian case 63% of the participants involved in participatory actions in the implementation phase are experts, volunteers and politicians.

In some cases (i.e. IT, FR, ES) the limited diversity of participants is also explained by the fact that some of the actions have specifically targeted stakeholders. Nevertheless, the diversity of participants involved in the remaining actions is low.

The evidence from case studies suggests that **the potential** of the various **participatory actions and mechanisms to enhance diverse participation**, in terms of peoples' experience/involvement in floods, **depends extensively on** their **delivery features**. For instance, in the Italian case the participatory walk followed by the deliberative workshop in Rivergaro (mixed engagement initiative and deliberative workshop) has attracted 11 participants, while the final deliberative workshop (deliberative workshop PM) with citizens of Rivergaro 10 participants. On the contrary, the deliberative workshop in Rottofreno has attracted 25 participants. Two are the main differences between the PAs implemented in Rottofreno and Rivergaro: the communication strategy (more intense in Rottofreno) and the context (high reputation of the Mayor of Rottofreno and citizens' higher motivation for flood risks).

Looking across cases[1], one can note that among the implemented participatory actions, **the diffusion of the movie on climate change** (mixed PM: engagement initiative and deliberative workshop) seems to be **the one that has attracted the highest num-**

[1] All the Spanish engagement initiatives (walk and descent on the river; interpretative visit to mitigation measures and kayaking; informative session and interpretative kayaking) are excluded, as there has been a limited number of places. Therefore, it is not possible to know whether the respective actions would have attracted a higher number of participants in the absence of this limit and neither to compare their potential with that of other PAs and PMs foreseeing an open participation.

ber of participants (67). Not only have deliberative workshops (overall 35 in the Italian case; 7 in the French case; 24 in ES) and public meetings (28 in ES, 60 in France) attracted far less participants, but also engagement initiatives, such as participatory walks (35 in the Dutch case and 11 in the Italian one). This may be explained by the fact that the cinema is an activity accessible to all persons, irrespective of their age and health. On the contrary, the walk may hinder the participation of people whose health condition does not consent them to walk. Furthermore, the walk may be perceived as a more effort demanding activity both from a physical and psychological point of view, due to the interaction with the other participants, while the cinema may be perceived as neutral and relaxing, enhancing people's participation.

Case studies show that **mixed engagement initiatives PMs attract more people** than **pure deliberative workshops** PM: 113 in the former case (3 mixed engagement actions) versus 42 in the latter one (3 pure deliberative workshops)[2]. As explained above, this may be due to the fact that pure deliberative workshops may be perceived as too technical and/or academic.

The last pilot action in FR implemented within a local event proved to be attractive.

This is coherent with people's preferences expressed in the planning phase, as explained previously in the report, as well as during the implemented actions. For instance, when tackling ways to further involve citizens in participatory actions on flood risks, French stakeholders, participating in the deliberative workshop, have suggested various engagement initiatives actions: street art related to floods; hackathon on flood risks; exhibitions on floods; city postcards with flood images; discussing floods within environmental education initiatives; engagement initiatives for children that could also attract/involve adults.

3.1.2 *Improvement in social capacities on flood risks*

Knowledge

As recalled previously knowledge is the social capacity mostly targeted by the CAPFLO participatory processes.

As detailed in table 5, all participatory actions have extensively triggered an increase in the participants' knowledge on flood risks related issues. In fact, in all actions, **over 50% of participants** have reported **a significant/very high increase in knowledge on**

[2] Spanish actions and actions with a specific target (i.e. teaching lessons – DE; role playing for school children and senior citizens – NL; deliberative workshop for professionals – IT) are excluded.

flood risks related issues. In some actions (teaching in a 10th grade school – DE; almost all participatory actions in ES; workshops with citizens and professionals in IT; walk through Borgharen in NL) knowledge improvement regards over 90% of participants.

In **all cases**, **knowledge improvement regards** in particular **flood risks in the case area** (e.g. characteristics, types, measures to manage them, etc). Knowledge on flood risks has been in fact the core focus of participatory processes in all cases.

In addition, participatory actions have also contributed **significantly/a lot to improving knowledge** on the following issues for over 50% of participants: **information sources** on flood risks (DE); interdependences between **climate change and floods** (DE); the **river basin** (ES, IT) and on the relation between the river, its territory and its inhabitants (IT); flood risks **mitigation** (ES, IT, NL) and **preparedness** (DE); **diffusion of knowledge** on flood risks (ES, IT, NL) and **land planning** (ES).

Knowledge on preparedness measures results **more limited** compared to the other issues irrespective of the participatory action and participatory mechanism implemented. For instance, in the German case only 57% of participants in the movie screening have reported a significant/very high knowledge improvement on this issue compared to over 80% for flood risks or relation with climate change, while the percentage is even lower (39%) for students involved in the teaching action. In the Dutch case, only 58% of participants in the walk and subsequent deliberative workshop have declared a moderate increase in knowledge on preparedness measures compared to 90% of participants reporting knowledge increase on flood risks and their management. In the Dutch case, this is mainly due to the fact that the main focus has been put on flood risks characteristics and measures taken by authorities. However, knowledge on how citizens can prepare themselves to face flood risks is an essential capacity for triggering both pro-active participation in the flood risks system and self-management of flood risks. Therefore, this aspect should be strengthened in all participatory actions.

Understanding how to spread knowledge on flood risks is lower in the German participatory actions than in the other cases tackling this issue (ES, IT). This may be related to the type of action (film screening and teaching in DE, deliberative workshop in IT and kayaking and deliberative workshop in ES) and/or to the way of organising the respective action.

While all **participatory actions** seem to **have the potential** to trigger **significant knowledge increase** in flood risks related issues[3], only a **limited number** seem to be able to **contribute to a very high knowledge**[4] in this area[5]:

- Diffusion of the movie "Before of flood" – links between climate change and flood risks (DE);
- Teaching in a 10th grade – flood risks and their links with climate change (DE);
- Walk and river descent and Workshop with citizens of Rivergaro – knowledge diffusion strategies (ES, IT);
- Workshop on floods in schools – land planning (ES).

This might be explained by the fact that these issues are not always specifically tackled by participatory actions in this area and participants might have a lower level of knowledge in these areas than on general issues related to flood risks.

Among and within cases, there seems to be **no significant variance** in the **contribution of the various participatory mechanisms and actions** to **knowledge improvement**. The **existing variance** seems to be **explained more by the delivery features** of the actions/mechanisms and **by the context** than by the type of participatory mechanism and action. For instance, when looking at engagement initiatives combined with deliberative workshops in the Spanish, Italian and Dutch case, one can note that while in the Spanish and Dutch cases almost all participants (all – ES; 90% - NL) have reported a significant knowledge increase on flood risks, in the Italian case only 73% of participants have stated it. This variance may be due to the fact that in the Italian case 64% of participants in the action are civil protection volunteers, politicians and experts, generally with a good level of knowledge on this topic, while the contents of the action has been designed for citizens without or with limited knowledge on flood risks. In fact when looking at the evaluation results, one cannot that only 71% of them have reported a significant increase in knowledge compared to 100% of participating citizens. On the contrary in the Dutch case, even participants with a previous sufficient level of knowledge on flood risks have reported a significant knowledge increase. This may mean that the action went beyond basic knowledge. In fact, the contents of the ac-

[3] Actions in which over 50% of participants have reported a significant increase in knowledge on flood risks related issues

[4] Actions in which at least/over 50% of participants have reported a very high increase in knowledge on flood risks related issues

[5] The NL and FR cases do not distinct between significant and very increase. Thus it is not possible to provide detailed information on this issue for these cases.

tions, the skills of the speakers and the way of approaching issues tackled differs among the three countries and may account for the small variance in the participatory action.

It's worth noting that **the small variance** in the participatory mechanisms/actions among cases may be **also due to** the fact that in **all cases CAPFLO research teams have selected the PMs and PAs** with a **high potential for knowledge improvement** (Munaretto S., de Voogt D.L., 2016).

Evidence from some participatory processes (ES, IT, FR) shows that **knowledge improvement is unequal among actors involved**. These all three cases are characterised by the participation of a relevant number of institutional representatives/stakeholders. As mentioned above and as detailed in the Comparative report of case studies (Larrure L., Oriard L., 2016), institutions and associations, especially in the flood risks related areas, have higher levels of knowledge on flood risks than citizens. This may result into a lower knowledge improvement, if the knowledge diffused during the action regards basic information on flood risks, as in the three cases. It is, therefore, relevant to include both basic and more advanced knowledge within the action if the target is general. In alternative, some actions may be specifically aimed at citizens and others at stakeholders in order to be able to improve knowledge within the entire social system.

In addition, case studies also show that increase in knowledge might be also influenced by participants' frame on flood risks.

Actors' frame and knowledge improvement: an example from the evaluation of the Spanish participatory action "Interpretative visit to the last flood risk mitigation actions and deliberative workshop on communication strategies"

"There are two cases in which the prior knowledge is not high and yet do not state having significantly acquired that capacity. Further reviewing these two cases in detail it is discerned that they are councillors of the town hall of Pradilla, the municipality which has historically sustained most losses and damages in relation to floods and that has been evacuated on several occasions. As a hypothesis based on their statements and attitude during the participatory action, it is argued that they are interested stakeholders with closed mindsets, who are in favour of dredging and somewhat reluctant to changes in stances and to new knowledge, and therefore are not willing to acquire (or perhaps admit) improvements in their knowledge as regards causes for flooding. In summary, the participants' attitude determines their capacity construction, or at least their accounts as regards that construction." (IGOP, 2017)

Another aspect related to knowledge is the awareness of flood risks. In the Spanish, French and Italian cases, tackling awareness on flood risks, **knowledge increase** has contributed to **changing perception on flood risks** and **increasing people's awareness** on such risks, as shown in table 5. On the contrary, a **weak/lack of knowledge im-**

provement has resulted in **unchanged/small changes in risks perception**. For instance, in the French case 57% of participants have reported a lack of change in their risk awareness due to their previous good level of knowledge and awareness on flood risks in the area. In the Spanish case, 75% of people that have not identified a change in risk perception reported having prior knowledge on flood risks. In the Italian case, only 67% of institutional representative/stakeholders involved in the action have reported an improvement in flood risks compared to all citizens participating in the two actions. This is mainly due to the fact that the former have had already a good level of knowledge and awareness on flood risks.

The Italian case shows that mixed engagement and deliberative workshop PM seem to have a higher potential for increasing awareness on flood risks than pure deliberative workshops. However, the potential of this mechanism depends not only on its delivery features, but also on the context of implementation. As the Spanish case shows, in contexts where actors have strong traditional frames on flood risks management, more time for debates between the different positions should be allowed so that to favour changes in traditional frames on flood risks perception and management.

Table 5 Results of participatory actions on knowledge

Case area	Participatory action and mechanism	Achieved results on knowledge[6]
DE	**Film screening "Before of flood"** *Mixed: engagement; deliberative workshop*	• Increase in the understanding of flood risks for **80%** of participants of which: - *very high increase: 33%* • Increase in knowledge on information on flood risks for **89%** of participants of which: - *very high increase: 47%* • Increase in understanding the interdependencies between climate change and floods for **87%** of participants of which: - *very high increase: 52%* • Increase in knowledge on preparation measures for **57%** of participants of which: - *very high increase: 12%* • Increase in knowledge on how to communicate about floods for **58%** of participants of which: - *very high increase: 18%* • Increase in awareness on flood risks for **67%** of participants of which: - *very high increase: 19%*
	Teaching in a 10th grade class *Mixed: engagement; role playing*	• Increase in the understanding of flood risks for **96%** of participating students of which: - *very high increase: 74%* • Increase in knowledge on information on flood risks for **61%** of participating students of which: - *very high increase: 22%* • Increase in understanding the interdependencies between climate change and floods for **92%** of participating students - *very high increase: 57%* • Increase in knowledge on preparation measures for **39%** of participating students of which: - *very high increase: 9%* • Increase in knowledge on how to communicate about floods for **52%** of participating students of which: - *very high increase: 17%* • Increase in awareness on flood risks for **64%** of participants - *very high increase: 26%*

[6] In the table the overall increase in knowledge is referred to the overall % of persons reporting high and very high increase in knowledge

Case area	Participatory action and mecha-nism	Achieved results on knowledge[6]
	Kayaking and barbecue	• Increase in the understanding of flood risks for **100%** of participants of which: - *very high increase: 33%* • Increase in knowledge on information on flood risks for **83%** of participants of which: - *very high increase: 33%* • Increase in knowledge on preparation measures for **50%** of participants of which: - *very high increase: 0%* • Increase in knowledge on how to communicate about floods for **67%** of participants of which: - *very high increase: 0%* • Increase in awareness on flood risks for **100%** of participants of which: - *very high increase: 50%*
	River walk with 5th grade pupils *Mixed: engagement, role playing*	• Increase in knowledge on the rivers Danube and Iller • Increase in knowledge on floods in general and flood risk in their region • Increase of flood risk awareness
ES	**Walk and river descent** *Mixed: engagement; deliberative workshop*	• Increase in the understanding of floods risks and of the current FRM for **all respondents** of which: - *very high increase: 43%* • Increase in understanding how to diffuse knowledge on floods for **all respondent**s of which: - *very high increase: 50%* • Increase in knowledge on how to elaborate dissemination materials for **all respondents** of which: - *very high increase: 21%* • Increase in awareness on flood risks for **93%** of participants of which: - *very high increase: 29%*
	Informative session on Floods directive and FRM plan and river descent *Mixed: public meeting and en-gagement initiative*	• Increase in the understanding of floods risks and of the current FRM for **94%** of respondents of which: - *very high increase: 29%* • Increase in knowledge on principles, obligations and priorities of FD for **94%** of respondents of which: - *very high increase: 53%* • Increase in knowledge on the FRM plan and Ebro river for **94%** of respondents of which: - *very high increase: 29%* • Increase in understanding how to diffuse knowledge on floods for **88%** of respondents of which: - *very high increase: 23%* • Increase in awareness on flood risks for **71%** of participants of which:

Case area	Participatory action and mechanism	Achieved results on knowledge[6]
		- *very high increase: 6%*
	Interpretative visit to flood risks mitigation measures and deliberative workshop *Mixed: engagement; deliberative workshop*	• Increase in the understanding of floods risks for **56%** of participants of which: - *very high increase: 17%* • Increase in knowledge on the FRM actions for **78%** of participants of which: - *very high increase: 11%* • Increase in understanding how to diffuse knowledge on floods for **78%** of participants of which: - *very high increase: 6%*
	Workshop on floods in schools: paying with a model *Mixed: role playing and public meeting*	• Increase in knowledge on flood risks for **90%** of students of which: - *very high increase: 35%* • Increase in knowledge on measures implemented in the past for **86%** of students of which: - *very high increase: 45%* • Increase in knowledge on land use planning for **97%** of participants of which: - *very high increase: 66%*
FR	**Participatory workshop** *Deliberative workshop*	• Increase in knowledge on flood risks for **86%** of the participants of which: • Increase in awareness on flood risks for **42%** of participants of which:
IT	**Walk on Trebbia river in Rivergaro** *Mixed: engagement; deliberative workshop*	• Increase in knowledge on Trebbia river for **82%** of participants of which: • Increase in knowledge on the relation between the river, the territory and its inhabitants for **73%** of the participants - *very high increase: 18%* • Increase in the understanding of flood risks for **73%** of participants of which: - *very high increase: 36%* • Increase in awareness on flood risks for **91%** of participants of which: - *very high increase: 36%*
	Exploratory workshop on Trebbia river in Rottofreno *Deliberative workshop*	• Increase in knowledge on Trebbia river for **71%** of participants of which: - *very high increase: 6%* • Increase in knowledge on the relation between the river, the territory and its inhabitants for **71%** of participants of which: - *very high increase: 6%* • Increase in knowledge on the causes and types of floods in the area for **73%** of participants of which: - *very high increase: 27%* • Increase in the understanding of flood risks for **94%** of participants of which:

Case area	Participatory action and mechanism	Achieved results on knowledge[6]
		- *very high increase: 12%* • Increase in awareness on flood risks for **71%** of participants of which: - *very high increase: 12%*
	Workshop with professionals in the flood risks area *Deliberative workshop*	• Increase in knowledge on flood risks for **82%** of participants of which: - *very high increase: 18%* • Increase in knowledge on strategies for mitigating flood risks in the area for **all participants** of which: - *very high increase: 25%*
	Lets' talk about –workshop with citizens of Rivergaro *Deliberative workshop*	• Increase in knowledge on communication of flood risks for **all participants** of which: - *very high increase: 66%*
NL	**Walk through Borgharen, exhibition on flood risks and an informative and debate session** *Mixed: engagement; deliberative workshop*	• Increase in knowledge on flood risks and their management for **90%** of participants • Moderate increase in knowledge on flood preparedness for **58%** of participants
	Meeting with elementary school students and senior citizens, including role-playing *Mixed: engagement; role playing*	Improvement in knowledge on flood risks and preventive and management measures

Motivation to mitigate flood risks and work collectively

As presented in table below, the CAPFLO participatory processes have contributed to increasing participants' motivation in dealing with flood risks either individually or collectively in the cases targeting this capacity both directly (DE, FR, NL) and indirectly (ES, IT).

Table 6 Results of participatory actions on motivation

Case area	Participatory action and mechanism	Achieved results on motivation[7]
DE	**Film screening "Before of flood"** *Mixed: engagement; deliberative workshop*	• Increase in the motivation to deal with the topic of floods for **54%** of the participants, of which: - *very high increase: 22%* • Increase in the motivation to concern with the rivers Donau and Iller for **44%** of the participants, of which: - *very high increase: 11%* • Increase in the motivation to change individual behaviours due to climate change for **89%** of the participants, of which: - *very high increase: 66%* • Increase in the motivation to network personally for **55%** of the participants, of which: - *very high increase: 25%* • Increase in the motivation to use offers of participation for **60%** of persons involved in the action, of which: - *very high increase: 23%*
	Teaching in a 10th grade class *Mixed: engagement; role playing*	• Increase in the motivation to deal with the topic of floods for **48%** of the participants, of which: - *very high increase: 13%* • Increase in the motivation to concern with the rivers Donau and Iller rivers for **34%** of participants, of which: - *very high increase: 4%* • Increase in the motivation to change individual behaviours due to climate change for **83%** of participants, of which: - *very high increase: 48%* • Increase in the motivation to network personally for **44%** of participants, of which: - *very high increase: 4%* • Increase in the motivation to use offers of participation for **39%** of persons involved in the action, of which: - *very high increase: 9%*
	Kayaking with barbecue	• Increase in the motivation to deal with the topic of floods for **50%** of the participants, of which: - *very high increase:* • Increase in the motivation to concern with the rivers Donau and Iller rivers for **33%** of participants, of which:

[7] In the table the overall increase in motivation is referred to the overall % of persons reporting high and very high increase in motivation

Case area	Participatory action and mechanism	Achieved results on motivation[7]
		- *very high increase:* • Increase in the motivation to change individual behaviours due to climate change for **50%** of participants, of which: - *very high increase:* • Increase in the motivation to network personally for **50%** of participants, of which: - *very high increase:* • Increase in the motivation to use participation offers for **33%** of persons involved in the action, of which: • *very high increase:*
ES	**Walk and river descent** *Mixed: engagement; deliberative workshop*	• Increase in the motivation to keep learning about the river management (self-protection) and to diffuse learning on flood risks management (social commitment in the FRM • Increase in the motivation to take further actions on flood risks issues for **93%** of participants, of which: - *very high increase: 43%*
	Informative session on Floods Directive and FRM plan and river descent	• Increase in participants' motivation to take further actions on flood risks on flood risks issues for **94%** of the involved persons, of which: - *very high increase: 29%*
	Interpretative visit to flood risks mitigation measures and deliberative workshop *Mixed: engagement; deliberative workshop*	• Increase in the proactive attitude for collective protection for **78%** of participants, of which: - *very high increase: 17%* • Increase in participants' motivation to take further actions on flood risks on flood risks issues for **61%** of the involved persons, of which: - *very high increase: 11%*
	Informative session on urban insurances *Public meeting*	• Increase in participants' motivation to take further actions on flood risks on flood risks issues for **60%** of the involved persons, of which: - *very high increase: 15%*
	Informative session on potential funding *Deliberative workshop*	• Increase in proactive attitude to group protection for **all participants**, of which: - *very high increase: 20%*
	Informative session and workshop on agricultural insurances *Mixed: public meeting and deliberative workshop*	• Increase in the motivation to reduce the vulnerability of crops for **93%** of the participants, of which: - *very high increase: 13%*
FR	**Participatory workshop** *Deliberative workshop*	• Increase in participants' motivation to protect themselves against flood risks • Increase in the motivation to act at community level • Increase in participants' motivation to be involved in collective participatory actions on flood risks, but lower motivation to lead individual actions at community level • Increase in the motivation of the municipality of Vitry to work with other actors on this issue
IT	**Walk on Trebbia river in Rivergaro** *Mixed: engagement; deliberative*	• Increase in participants' motivation to inform themselves more on flood risks for **all participants**, of which: - *very high increase: 45%* • Increase in participants' interest to be involved in participa-

Case area	Participatory action and mechanism	Achieved results on motivation[7]
	workshop	tory actions on flood risks for **all participants**, of which: - *very high increase: 64%* • Increase in participants' interest to take further actions on flood risks issues for **78%** of the persons involved
	Exploratory workshop on Trebbia river in Rottofreno *Deliberative workshop*	• Increase in participants' motivation to inform themselves more on flood risks for **all participants**, of which: - *very high increase: 17%* • Increase in participants' interest to be involved in participatory actions on flood risks for **91%** of participants - *very high increase: 9%* • Increase in participants' interest to take further actions on flood risks issues for **77%** of the persons involved
NL	**Walk through Borgharen, exhibition on flood risks and an informative and debate session** *Mixed: engagement; deliberative workshop*	• Increase in the motivation to participate in similar events for **97%** of participants, • Increase in the motivation to lead participatory actions for **32%** of participants • Increase in the motivation to take action on flood risks for **54%** of participants

Participatory processes have contributed in particular to increasing motivation on: dealing with flood risks and taking individual actions in this area; acting at community level by working jointly with other actors in this area; learning more on flood risks and diffusing knowledge acquired on this issue; being involved in participatory actions and to leading such actions at community level; and on subscribing specific insurances against floods.

On average, in all cases, over **50%** of the participants in the different actions have reported an **increase in their motivation** to mitigate flood risks.

Generally **participatory processes** have **contributed more to knowledge improvement** than **to motivation**. For instance, in the German case 80% of the participants in the movie screening have reported an increase in the understanding of flood risks compared to 54% of them that have declared an increase in the motivation to deal with flood risks issues. This is also confirmed in the Netherlands case, where 90% of the participants in the walk and following deliberative workshop have declared an increase in knowledge compared to 54% of them having expressed interest in taking further actions on flood risks. In the Italian case, reported increase in understanding flood risks regards between 73% and 94% of the participants in the actions, while the expressed interest in taking further actions in this area between 77% and 78% of the participants.

It is worth noting, however, that **better understanding of flood risks** and of their consequences **has contributed to increasing motivation**. For instance, in the French case increase in participants' motivation has been triggered by a better understanding of flood risks, of their consequences and of the actions to be taken in order to prevent and manage them. Understanding the actual risks and their consequences is an essential element for increasing actors', including citizens' motivation in this area.

While increase in knowledge on flood risks seems to trigger higher motivation to prevent and mitigate flood risks, differences in the increase level of these capacities may be explained by the **short duration** of **CAPFLO participatory processes**. As mentioned previously, on the one side many citizens still view themselves as the last element of the flood risks prevention and mitigation chain, while many institutional representatives/stakeholders are somehow reluctant to entrusting citizens with real responsibilities in the flood risks management system. Changing these frames requires an intensive and extensive participatory process that can challenge these views and allow interactions between "traditional" (top-down) and "modern" (bottom-up) frameworks and "supporters" in this area, while in most cases the CAPFLO participatory processes have included 2 participatory actions due to project time and budget constraints.

Participatory processes seem to be **more successful** in increasing **participants' motivation of being involved in participatory actions** and/or in **adopting individual actions** (e.g. correct behaviours for flood risks prevention and mitigation) than **in taking the lead** on **collective** actions in this area. For instance, in the Dutch case, while 97% of participants have reported being interested in using offers of participation in this area, 68% of them have declared themselves hesitant or reluctant to organising participatory actions themselves. This is also confirmed by the French case, where all participants have expressed their interest for participating in similar actions on flood risks, while only half of them have reported an interest in leading a collective action in their communities (e.g. neighbourhoods). In the German case, while 63% of the participants to the movie screening have reported being motivated to change their individual behaviours to adapt to local climate change impacts and 60% of them have expressed the intention to participate in other events on climate change and flood risks, only 55% of them have mentioned interest in pushing collective actions in this area. This shows that **better knowledge on flood risks** and **higher motivation to mitigate flood risks at individual level** are **not sufficient** for **motivating citizens to take the lead on collective actions** and **working collectively** in this area. In fact, besides knowledge on flood risks and interest in preventing and mitigating flood risks, this latter capacity requires also a good understanding of actors' mobilization strategies and tools and of partnership and conflict management tools as well as sufficient time and financial resources. Rarely do

citizens manage to have access to these capacities in the absence of institutional/stakeholders' support.

Future participatory processes targeting motivation to mitigate flood risks should also pay attention to the fact that **climate change topic** seems to **raise more motivation** than the **specific topic of floods**, especially in **contexts where flood risks is a new topic** in public debates: in the German case, 89% of the participants in the movie screening have reported an increase in the motivation to change individual behaviours due to climate change compared to 55% of them expressing interest in dealing with floods. **Embedding flood risks into climate change** may be a **strategy for** further enhancing at least **individual actions on flood risks prevention**.

Looking within and between cases at the **contribution of the various participatory mechanisms and actions**, one can note that there are **no relevant differences between them**. Rather the **contribution of the various mechanisms** seems to **depend on their implementation features and context**. For instance, in the Italian case mixed mechanisms (participatory walks followed by deliberative workshops) seem to have contributed more to increasing participants' motivation to take further action on flood issues than in the Dutch case. This may be due on the hand to the high emphasis on flood risks during the walk in the Italian case and on the other hand to the very recent severe floods in Trebbia. On the contrary, in the Dutch case, where severe flood events are not recent, the authorities participating in the action have de-emphasised the risk of floods.

Network

Participatory processes in Germany and France have specifically targeted network performance in the flood risks area.

In Germany, the capacity building process should have contributed to the creation of a network in the flood risks area "Iller network" within which to deliver all participatory actions targeting the community. Despite an initial interest of all participating stakeholders in joining forces for the creation of the network and delivery of the participatory process, the **network creation process** has been seriously **challenged** on the one hand by the **lack of sufficient time and human resources** of the **associations involved** in the initial talks and on the other hand by **their weak interest** in **less structured** and **traditional actions** in this area. Furthermore, as shown previously increasing citizens' motivation for collective action is rather challenging. Even when they are motivated to cooperate with other actors, this cooperation occurs more at informal level than within formal networks.

Even though the Iller network has not been completed, the **participatory process** has **contributed to increasing cooperation** among some of the actors (i.e. Sustainability Student Group, Food Sharing Community, Kayaking association, teacher) involved in the network creation. The teacher participating also wants to implement more actions like this from now on and his colleagues want to screen the movie during class. In addition, he wants to stay in contact with the researcher group, which is the same for the student group.

The French team has faced similar problems in the process of creation of a network on flood risks preparedness. As in the German case, **local stakeholders' lack of human and time resources** to invest in the creation of a network on flood preparedness and in taking its lead has proved to one of the **main challenges** to this process. However, most of the associations involved have sustained the process through the communication of participatory actions to their members. Furthermore, despite the fact that the participatory process has not resulted into a completed network on flood preparedness, **collaborations** between **local authorities**, the **CAPFLO research team** and the **other actors** involved in the flood risks management system **have been strengthened**. For instance, the municipality of Vitry has expressed interest in collaborating with the CAPFLO French research team in this area; the Red Cross Vitry has expressed interest in delivering a specific action on flood risks prevention, while the Centre Culturel Vitry has invited the CAPFLO research team to participate in a specific action on environmental issues. Furthermore, the action has contributed to reinforcing the interactions between the municipality of Vitry and citizens interested in flood risks.

The German and French cases show that network creation is a process that takes time and requires relevant time, human and financial resources that are not always available to associations in flood risks area, especially to small ones. In order to advance network performance in this area, a strong institutional support is needed to provide at least partially the resources needed. In addition, actors not directly involved in the flood risks area, but with a strong role in the community should be involved in the network creation process in order to increase its legitimacy at community level.

When conducting a network creation process, one has to consider also that this is a long-time process, which needs continuous engagement and investments.

Finance

The financial capacity has been specifically targeted by the Spanish participatory process through: i) an informative session on urban insurances (public meeting PM); ii) an informative session followed by a deliberative workshop on agricultural insurances

(mixed PM: public meeting and deliberative workshop) and a deliberative workshop on funding in the flood risks area (deliberative workshop PM).

The main outcomes obtained by participatory actions in this area include:

- *Increase in the motivation to subscribe an appropriate urban insurance for 90% of participants;*
- *Increase in knowledge on urban insurances for 95% of participants;*
- *Increase in knowledge on access to compensation for 80% of participants;*
- *Change in the attitude towards self-protection for 73% of participants;*
- *Increase in the motivation to subscribe an insurance against flood risks for 90% of participants;*
- *Increase capacity and motivation to diffuse knowledge on urban insurances against flood risks for 75% of participants;*
- *Increase in knowledge on agrarian insurances for 60% of participants;*
- *Increase in motivation to subscribe an insurance for flood events for 54% of participants;*
- *Increase in knowledge on potential funding opportunities in the flood risks prevention and management area for 90% of participants;*
- *Increase in knowledge on other funding experiences for all participants in the workshop;*
- *Increase in the motivation to participate in the development of projects on flood risks prevention and management for 90% of participants*.

All three participatory mechanisms used seem to have the same potential for improving financial capacity on condition that attention is paid to their delivery features and context of implementation. For instance, the better results of the informative session on urban insurances compared to that on agricultural insurances is due on the one hand to the lack of concrete information in one of the two presentations of the latter session. On the other hand is due to higher knowledge capacity among participants involved (experts on agricultural insurances and farmers) in this second session compared to those of a more general public involved in the former.

Participation

Community participation in the flood decision-making system has been specifically targeted in the Italian and Spanish cases.

In the Italian case, the participatory process has aimed at increasing citizens' participation in the improvement of the information system on flood risks through the definition of the main messages for communicating flood risks at community level and pro-

viding input on the design and functions of the Arturo flood risks warning system at local level.

As explained in the chapter “Extent and diversity of the participatory processes”, this aim has been only partially achieved due to a limited participation of citizens in the participatory process. In fact, experts, volunteers in the flood risks and related areas and institutional representatives constitute 60% of the participants in the process, while only 32% are citizens and 8% entrepreneurs. Overall, 1% of the population of the two municipalities has participated in the process. The reasons for the limited participation have been analysed in-depth in the above-mentioned chapter. It is worth recalling here the citizens’ tendency to delegate flood risks prevention and management to institutional and civil protection representatives, the weak communication strategy, the lack of incentives to participation, logistic issues and the short duration of the participatory process.

While the participatory process has only partially enhanced people’s interest and involvement in the implemented actions, it has contributed to increasing participants’ awareness on citizens’ role in the flood risks management system and their knowledge on the strategies for mobilising citizens in these area. The two workshops targeting both citizens and stakeholders in this area have contributed to increase awareness and knowledge on citizens’ role and involvement in the system for all participants. On the contrary, the participatory workshop failed to improve this capacity mainly due to the fact that this aspect has been overlooked in the presentation of the two guides.

Furthermore, the actions have also contributed to extrapolating knowledge on what and how to communicate flood risks that is expected to be included in the Arturo app.

As the Italian case, the Spanish participatory process has also aimed at increasing community participation in the flood risks system. The outcomes of the Spanish process seem to be better than the Italian one in terms of participation extent, as detailed in the chapter “Extent and diversity of participatory processes”. Not only has the Spanish participatory process involved 17% of the population in the targeted area, but it has also contributed to enhancing citizens’ proactive participation in the flood risks management system, mainly through the diffusion of knowledge acquired on flood risks. Evaluation data gathered one month after the participatory process show that 96% of the people answering to the survey shared knowledge acquired on flood risks with the family, friends, work colleagues, neighbours, etc. Most of them did it through informal conversations (66% of participants), while 26% of the persons through specific knowledge dissemination products (e.g. news in social and traditional media; participatory actions, etc).

Proactive participation through the dissemination of knowledge acquired on flood risks is also a result of the French participatory process, and, in particular, of the deliberative workshop on flood risks. Some of the participants in the process have started diffusing knowledge on flood risks especially to their families and within their neighbourhoods.

Despite some positive results, increasing motivation for and actual proactive participation in the flood risks system is one of the critical aspects of the CAPFLO participatory process. As discussed previously in the report, citizens' increased knowledge and motivation do not trigger automatically their proactive engagement in the flood risks management system, but mostly only their passive use of participation offers. As explained previously, this is due to several reasons:

- Features of the risk management system (e.g. closed system; few opportunities for active participation; complex legal framework for proactive actions, etc) that not always favour citizens' proactive participation associated often to citizens' tendency to delegate their responsibilities to technical institutional or civil protection bodies;
- Citizens' reluctance in the flood risks management system and especially in its capacity to value their proactive participation;
- Lack of time resources to dedicate to flood risks actions due to commitment in other civil society actions or to the professional and personal life rhythms as well as of specific capacities to mobilise and manage participation and eventual conflicts in this area.

Evidence from the participatory cases suggests policy makers should adopt specific strategies to favour citizens' proactive participation in this area, such as, for instance:

- A more flexible and opened flood risks management system;
- A proposed-from-outside structure of their participation;
- Knowledge and financial capacities for the mobilisation and management of participatory actions in this area at community level;
- Support for the management of potential conflicts;
- Acknowledgement of their engagement through its formalisation in the flood risks management system;
- Legitimisation of citizens interested in taking proactive actions at community level, etc.

3.2 Sustainability of participatory processes

Increasing community participation in the flood risks area in order to sustain over time the capacity building process initiated by CAPFLO represents one of the overall objectives of the CAPFLO participatory processes.

Evidence from cases studies shows that the CAPFLO project has succeeded in ensuring a certain continuity of the participatory processes implemented:

- DE: the student group, involved in the implementation of the participatory process, will continue the diffusion of movies on climate change and flood risks. Furthermore, the teacher involved and colleagues of him want to show the movie 'Befure the Flood' during class and use material offered by the research group.
- ES: 96% of the participants answering to the second post evaluation questionnaire report having diffused knowledge on flood risks learnt during participatory processes. Most of them have used informal chats with family, friends, work colleagues, and social networks. Some of them have done it through specific media products (e.g. news on traditional media) or through specific participatory actions.
- FR: the municipality of Vitry is going to prepare a seminar and workshop on flood risks in autumn 2017, in collaboration with the French CAPFLO research team; Seine Grand Lac is preparing a call for local associations to work on flood risks preparedness; the Centre Culturel Vitry has invited the French CAPFLO research team to participate in Alternatiba, a civil initiative on environmental issues financed by the Centre; the Red Cross Vitry is interested in preparing a module on risks prevention for the inhabitants of Vitry.
- IT: both Rottofreno and Rivergaro will continue the participatory process in the context of the implementation of the Arturo local flood risks app. The mayor of Rottofreno, initiator of the Arturo app, aims to create an intermediary actor that can act as a link between citizens, institutions and civil protection volunteers and that can enhance spreading knowledge on flood risks among citizens, increase motivation to prepare for floods and to participate in the flood risks management system and take actions in case of floods for protecting their neighbours, etc. This intermediary actor will receive access to the Arturo app after a specific training. The mayor of Rivergaro has expressed interested in organizing informative events/sessions for increasing awareness on flood risks prevention and management measures and for motivating citizens to participate in the flood risks management system.

- NL: one of the public institutions involved is committed to propose to its organisation to carry out a regular check of people's view on, needs on and concerns with flood risks.

It is worth noting that in all cases, but for the Spanish one, the sustainability of the CAPFLO participatory processes is mainly ensured by either public bodies or stakeholders (e.g. associations in related fields). Citizens do not seem ready to take collective pro-active action for flood risks prevention and management, even though in all cases they have expressed interested in participating in other similar events and in diffusing them through their network. As cases studies point out, this may be due to several reasons:

- Lack of time either due to their private lives or their engagement in associations/etc;
- People are used to delegating flood risks prevention and management to public bodies and expect them to continue exercising this role;
- People perceive flood risks prevention and management as a technical issue requesting specific competences for taking action that they do not have. Furthermore, they consider institutions the depositary of the necessary knowledge and competences for taking action in this area;
- Some stakeholders (e.g. civil protection associations) are reluctant to accepting a deep engagement of citizens in this area and do not take action to encourage them to overcome barriers;
- In some of the case areas people perceive floods as a remote risk and consider that other risks are more relevant nowadays.

This implies that in order to increase citizens' pro-active collective action a change in the mindset of all actors in the flood risks system (public bodies, social actors, citizens) is needed. However, one should be aware that such changes requires extensive participatory processes taking place over long periods of time and their full institutionalization in the flood risks management system. Enhancing informal networks among already interested citizens that could act as an intermediary actor at community level may also further support change in mindsets. In addition, one should not neglect that participatory processes require financial, knowledge and time resources that should be made available for community members intending to take action in this area. Case studies evidence suggests that their lack may hinder community action in this area. In fact, in the DE cases the student group involved in the participatory process reports not being able to continue teaching on flood risks due to the extensive time resources needed. At the same time, it also acknowledges that, in the absence of the CAPFLO project, it would have not been able to discuss flood risks in the context of the movie

screening due to the lack of knowledge on the topic. In the French case, some associations report not being able to engage further in the topic due to the lack of available human resources. In Italian case, the municipalities report that they would have not implemented participatory actions with the same contents and the same time frame in the absence of specialised support and financial resources.

4. Quality of participatory processes

In all cases, participants have received well participatory processes, acknowledging the relevance and good quality of their organisation. In all CAPFLO participatory processes, over 70% of participants have declared themselves satisfied with the organisation of the participatory processes, as detailed in the table below. One can conclude, thus, that capacity building occurs in the context of high quality processes from the both of view of both contents and organisation.

Table 7 Evaluation of the quality of participatory processes in the CAPFLO cases

Case area	Quality of the participation process
DE	*Pilot action I Movie screening on climate change* • 85% of participants satisfied with the clarity of objectives of the participatory process • 78% of participants satisfied with the possibility to express their opinions • 82% of the participants satisfied with the organisation of the action • 84% of participants consider the actions relevant for Ulm and Neu-Ulm *Pilot action II Teaching lesson* • 100% of participants satisfied with the clarity of objectives of the participatory process • 100% of participants satisfied with the possibility to express their opinions • 91% of participants satisfied with the organisation of the action • 74% of participants consider the actions relevant for Ulm and Neu-Ulm Pilot action II Kayaking with barbecue • 100% of participants satisfied with the clarity of objectives of the participatory process • 100% of participants satisfied with the possibility to express their opinions • 100% of the participants satisfied with the organisation of the action • 100% of participants consider the actions relevant for Ulm and Neu-Ulm
ES	*Kayaking with teachers and journalists followed by deliberative workshop* • 100% of participants satisfied with the clarity of the process objectives, the chance to express their opinions, the contents of the action and its organisation *Informative session on floods directive and interpretative visit-kayaking* • 87% of participants satisfied with the clarity of the process objectives, the chance to express their opinions, the contents of the action and its organisation *Interpretative visit to the last mitigation actions and deliberative workshop* • 100% of participants satisfied with the clarity of the process objectives, the chance to express their opinions, the contents of the action and its organisation *Deliberative workshops with school students* • 100% of participants satisfied with the clarity of the process objectives, the chance

Case area	Quality of the participation process
	to express their opinions, the contents of the action and its organisation *Informative session on urban insurances* • 99% of participants satisfied with the clarity of the process objectives, the chance to express their opinions, the contents of the action and its organisation *Workshop on funding in the area of flood risks prevention and management* • 100% of participants satisfied with the clarity of the process objectives, the chance to express their opinions, the contents of the action and its organisation *Informative session and deliberative workshop on agricultural insurances* • 95% of participants satisfied with the clarity of the process objectives, the chance to express their opinions, the contents of the action and its organisation
IT	• 100% of participants in all participatory actions satisfied with the clarity of objectives of the participatory process • 98% of the participants in all participatory actions satisfied with the information provided • 95% of the participants in all participatory actions satisfied with the chance to express their opinions • 96% of the participants consider issues discussed relevant for their territories • 98% of the participants in all participatory actions satisfied with the general organisation of the participatory actions • 98% of the participants in all participatory actions satisfied with the interactions with the facilitators
NL	• 92% of the participants consider actions relevant for their territory • 83% of the participants satisfied with the possibility to express their opinions • 100% of participants satisfied with the clarity of the objectives of the actions

5. Lessons learnt for the transferability and replicability of participatory processes

All participatory processes rendered important results regarding capacities, in particular knowledge, as depicted above. Although they were conducted in very different contexts, we aim at analysing their potential for transferability and replicability in this section. Initially it was planned to identify best practices on the basis of the five case studies. After reviewing and discussing literature on best practices jointly in the consortium, it became clear, however, that this approach encounters various obstacles. We will first outline these and present afterwards an alternative strategy, which puts emphasis on lessons learnt from the processes instead of categorizing them into best or good practices.

The section is organized as follows: (1) Introduction into best practices identification and difficulties linked to this approach; (2) introduction into identification of 'lessons learnt'; (3) analysis of the actual contributions of the different participatory mechanisms to the achieved changes per PM type; (4) comparative analysis and clustering of all enabling and hindering factors for PM types linked to participant mobilization and process effectiveness; (5) and eventually analysis of capacity increase linked to the initial level of capacities per case. Through the three-layered analysis, we aim to tease out the most relevant factors and lessons of the participatory processes, which provide important implications for the future design and application of similar processes in a variety of contexts.

Good and best practices

Good practices are the activities, techniques, methods, processes or mechanisms recognized the best able to improve the performance of an organization, project or program output, and minimize the possibility of error and failures that can compromise its viability (Bogan and English 1994). In other words, a best practice is a method or technique that has consistently shown results superior to those achieved with other means, and that is used as a benchmark (Bretschneider et al. 2005). Hence, a best practice intrinsically comprises three components that make it 'superior' in its value proposition than other practices: relevance, effectiveness, and potential for replication.

There are different approaches proposed in literature to identify a practice that embodies all three component. In the practitioner literature, Swart (2011) propose a categorization of different types of practices:

- **Developing:** in concept or development with potential for best practice. Relevance, effectiveness and potential for replication is not yet proven.

- **Promising:** has worked once and shows promise during its early stages to become best practice. Must have some objective basis for claiming effectiveness and potential for replication in other contexts.

- **Good** (has to meat most of the following criteria): leads to actual change; has impact on policy development; demonstrates innovative, replicable approach; demonstrates sustainability.

- **Best:** has consistently shown results superior to those achieved with other means in a given situation that could be adapted for other situations. Subjective and objective data sources must show effectiveness and successful outcomes.

A ‚best practice matrix' containing different criteria, which have to be met by practices support the identification of the above mentioned categories. This 'box-ticking' approach is seen rather critical in peer-reviewed literature; Bretschneider et al. (2005) for example stress in their methodology for best practice identification that a practice needs to be robust over all possible different contexts and to be tested in a comparative process between methodologies. They claim that a comparison of a sample of practices might yield maximum a good practice. Likewise, Bardach (2011) provides an eight-step guide for best practice identification, yet, puts emphasis on the methodological and practical pitfalls related to 'best practices research' (ibid.:109).

According to her, ‚the most important of these is relying on anecdotes and on very limited empirical observations for your ideas' (ibid.:109). She states that usually one will not be able to identify best practices, and even with good practices, internal validity problems - was it actually the practice that caused the result - are common (ibid.). Therefore, she distinguishes between the functions of the basic mechanism that the practice is supposed to yield and the particular features that embody these functions. The latter are separated into implementing, supportive and optional features. Implementing features are the ones characterizing the delivery of a practice, such as schedule and agenda, supportive features refer primarily to the resources used for the implementing ones, and optional features are the ones of interest to actors in the site where the practice is observed, i.e. contextual factors (ibid.).

The pilots actions conducted for CAPFLO encounter difficulties raised above for best or good practice identification. In comparison to the categorization proposed by Swart, due to the timeframe in which the research project is embedded, the definition of

'good' and 'best' would not be possible to reach. Furthermore, the testing of robustness over different contexts within our limited sample is difficult. Nonetheless, it seems viable to separate into function or the basic mechanism of a pilot action (the anticipated potential for a capacity) and features or factors that characterize the application of a pilot action to identify patterns that seemed to work rather robust over different contexts. Hence, in the following a three-step analysis is employed.

1. **Comparison of pilot actions with same or similar PMs:** The contribution to enhanced capacities is observed for all pilot actions with an anticipated potential in the different categories of knowledge, motivation, finance, networks and participation. Differently to the evaluation of former chapters, pilot actions are not grouped according to each country, but according to type of PMs applied. All pilot actions which used same or similar PMs are grouped together. Their actual contribution to change is outlined in all the capacities they intended to increase. At the same time, their process features are described. Those factors, which seemed very important for mobilization of participants on the one hand and process effectiveness on the other are teased out through a comparative analysis.
2. **Context analysis:** Afterwards, the context of pilot actions is explored, by grouping case studies into the ones with low, medium and high initial capacities. Thereby, factors which were constant over different contexts are identified.
3. **Effectiveness assessment:** Based on this analysis, the effectiveness of actions and important factors or practices leading to enhanced capacities are estimated. Finally, this effectiveness is compared with the hypothized one of PMs (Munaretto S., de Voogt D.L., 2016).

This three-tier analysis will allow for providing 'lessons learnt' for implementing the different types of PMs.

5.1 From potential to actual contribution of participatory mechanisms to improved social capacities

This section applies a comparative analysis of all participatory pilot actions drawing on same or similar PMs. For this aim, first all PMs were clustered: The French and the Italian team chose **PM7 – deliberative workshops** – for several activities. Hence, the actions drawing on this PM are the first group. Included into this group is also one informal meeting (FR), although it might not represent a deliberative workshop in the strict sense, but came closest to it.

Apart from PM7, all teams implemented mixed engagement activities, which comprised several, usually two to three PMs. As these mixed engagement initiatives ex-

ceed the categories defined in the participatory tool (Munaretto S., de Voogt D.L., 2016), they were grouped content wise. The Dutch, German and Spanish team employed **mixed engagement initiatives targeting pupils**. Whereas those applied different participatory activities, from river walks to storytelling, they all used one interactive activity for the pupils. For this reason, they represent the second group of PMs.

Apart from pupils as the main target group, the Dutch, German, Italian and particular Spanish team implemented **mixed engagement initiatives addressing citizens** in general. All of these pilot actions were conducted onsite, i.e. at the river, again through river walks or kayaking. For this reason, they built the third group. One pilot action, which was not onsite, but nevertheless added to this group is the movie screening in the German case. This is a clear difference to the rest; nonetheless, it seemed to fit better into this than another group.

Eventually, the Spanish team applied several **pilot actions that specifically targeted finance**, as already described before. The processes encounter the problem that they were only applied within the same context and all of them were targeted to different finance topics, and thus towards different outcomes (within the finance capacity category). Consequently, they will be excluded from this analysis, as it is not possible to apply.

For the analysis of these different PM groups, the **participatory processes are** separated into **potential of PM, mobilization of participants** and **effectiveness of action**. The participation literature stresses that for attending a participatory activity the **willingness of actors to participate is crucial**, as they weigh up expected costs and benefits of participation in particular when they perceive their concerns to be already sufficiently represented (Diduck and Sinclair 2002, Newig et al. 2017, Turner and Weninger 2005). Second, **strategies to balance costs of participation are important**: Where meetings and other participation events are held during work hours, and where attendance necessitates travel, the costs of participation are relatively high for actors without much resources (Newig et al. 2017), such as small NGOs or citizens in general.

As a result, we consider all process factors linked to the planning of pilots actions, which might have had a certain influence on the attendance rate. These are displayed in table 8.

The same is done subsequently regarding process implementation and outcome. The delivery of a participatory process is claimed to be of major importance for process outcomes and acceptance or satisfaction from the side of participants (see Newig et al. 2017). Facilitation is by many supposed to be essential (ibid.). Furthermore, the exchange between lay-citizens and experts appears to have an effect on knowledge gen-

eration (Kochskämper et al. 2016). From the evaluation conducted before, one finding was that the organization within formal and in-formal settings seem to have played a role, which is thus included as an additional factor. Moreover, defining features of the action are included, such as the use of interactive tools. Eventually, the participant evaluation for every pilot action is included as a proxy for the organization and delivery of the action. Additionally, it shows the fair opportunity to have a say for participants in the discussions. All factors are displayed in table 13 on page 77.

Regarding the outcome of actions, we used the evaluations conducted by every team for every pilot action. Subsequent to every action, usually a questionnaire was handed out for all participants in order to assess whether some of the targeted capacities had been enhanced. Sometimes the evaluations were conducted qualitatively. We organized all different categories for which those evaluations asked and structured them accordingly into our indicator categories, as these categories were not always the same.

5.1.1 *Deliberative workshops (PM7)*

Aim (Potential of PM):

All the 5 participatory pilot actions that were organized in the format of a deliberative workshop (PM7), aimed to improve the social capacity of knowledge. The French workshop targeted additionally motivation and network building.

Participant attendance (outreach):

Table 8 Planning features and participant mobilization of pilot actions using PM7

Participatory mechanisms used	Planning						Participants
	Access	Invitation channels	Planning time (from invitation)	Duration of action	Time of the day	Incentives	Number
Workshop with professionals and citizens (FR)	Open	**Direct:** Telephone	Ca. 2 weeks	3 h	Saturday morning	No	7
Informal meeting with professionals (FR)	Open	**Direct:** Telephone, Email	Ca. 2 weeks	2h	Afternoon/ Evening of workday	No	4
Workshop with citi-	Open	**Direct:** Telephone; **Indi-**	Ca. 2 weeks	2,5 h	Saturday morning	No	10

Participatory mechanisms used	Access	Planning: Invitation channels	Planning: Planning time (from invitation)	Planning: Duration of action	Planning: Time of the day	Planning: Incentives	Participants Number
zens (IT)		**rect:** Social media; posters					
Workshop with professionals (IT)	Selected	**Direct:** Telephone and Email	Ca. 2 weeks	2,5 h	Evening during workday	No	15
Exploratory workshop (IT)	Open	**Direct:** telephone; **Communication by collaborator** (mayor) **Indirect:** social media; posters,	Ca. 2 weeks	3h	Evening during workday	No	25

Table 8 conveys that some factors seem more important than others:

(1) Except for the informal meeting (FR), the actions organized during the **evening of workdays** had more attendance than the actions organized at Saturday morning. This might be distorted by the factor that one of the Italian workshops did target selected stakeholders instead of completely open participation. Nevertheless, it was also mentioned as one of the difficulties by invited participants of the French case study that they were not sure about their time on Saturday morning. Further, invited participants perceived flood risk mitigation as a very technical issue and did not see the need for them to participate. This resonates with the claims in literature linked to the willingness to participate, as explained above.

(2) Another factor that appears to be important is the **type of invitation channel** used. Both Italian workshops with open participation used direct and indirect communication tools as well as different communication tools, such as social media, posters and telephone. With the **mix of different communication tools**, they were able to attract more people, even though the French team contacted 250 people.

(3) Regarding the type of invitation channel used, what shows very clearly is that communication, dissemination and invitation by a **local collaborator** appears to play a major role.

Figure 2: Participant mobilization of deliberative workshops

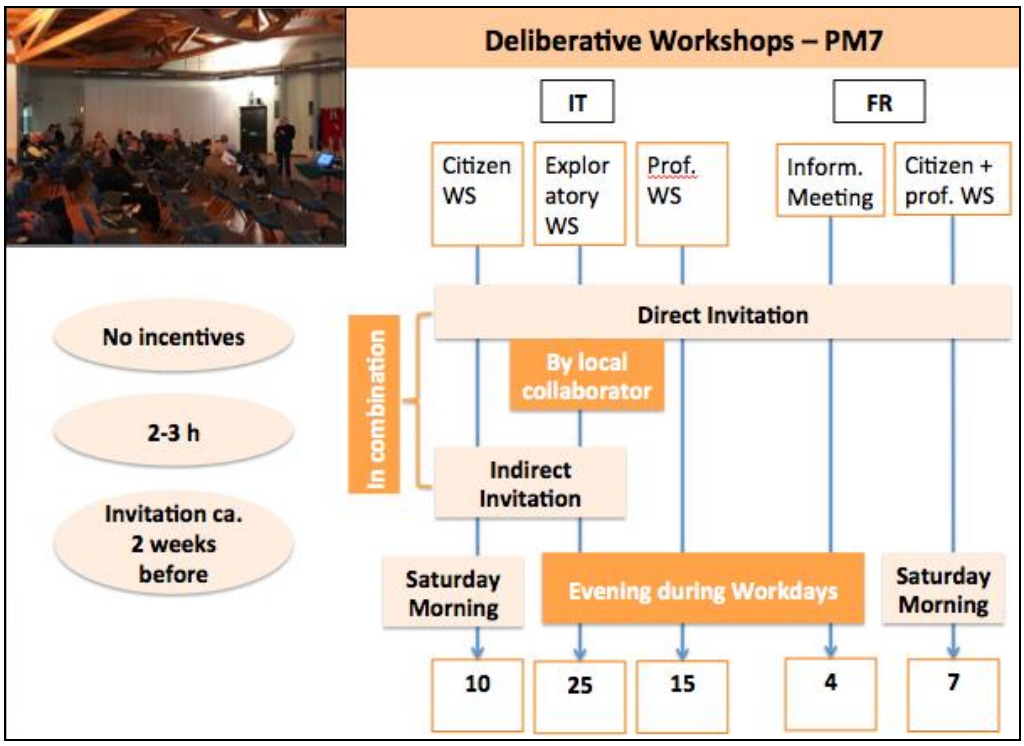


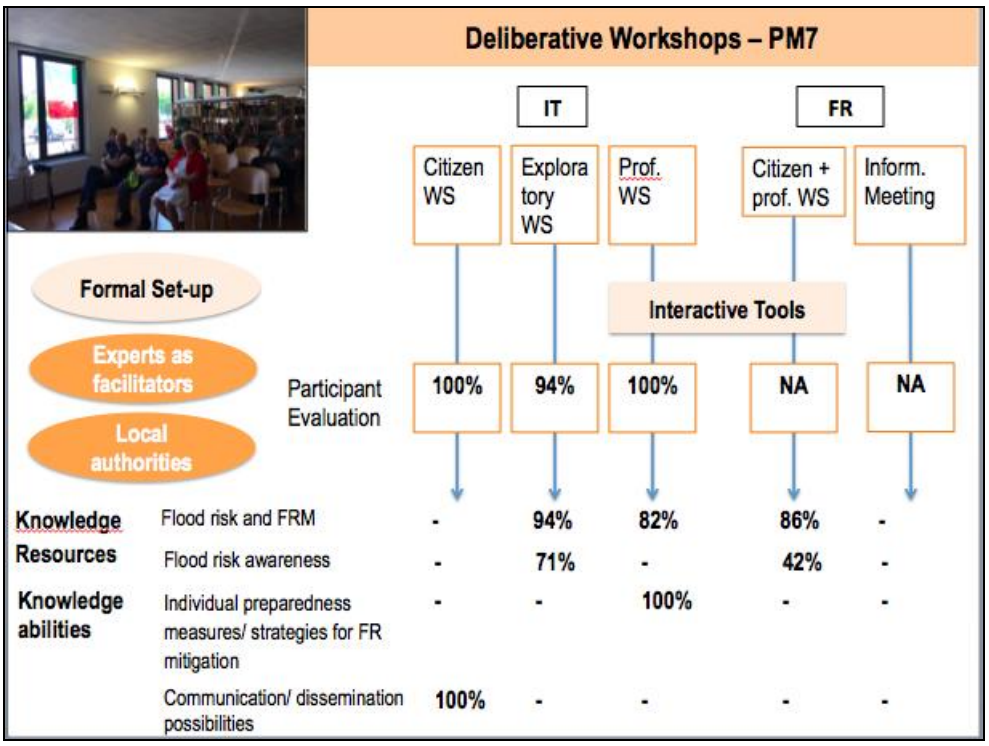
Figure 2 summarizes these findings. All important factors seemingly influencing the number of participants are shown for each participatory action. The factors that were used for all workshops are displayed at the right site. Those factors that appear to have had a strong influence, as discussed above, are marked in darker colour.

Effectiveness of actions (outcome):

As stated before, all the actions using primarily PM7 aimed to improve the capacity of knowledge. Table 9 shows in which categories of knowledge improvement could be achieved. All deliberative workshops reached a rather high improvement of knowledge, usually between 70 to 100%. Only in the French case, there is one number below 50%, but it is important to consider the context in this case, as the majority of participants stated to have had already a rather profound knowledge on this topic.

The rest of implementing factors are rather similar for all actions, apart from the use of interactive tools (see figure 3). This means on the one hand that it is not possible to differentiate between which of them were more effective than others. On the other side, as several of them are also supported by literature, it appears reasonable to put emphasis on the **involvement of experts, different actor types** (all actions invited also local administration), and **facilitation.**

Figure 3: Effectiveness of deliberative workshops



In addition to knowledge, the French pilot action also targeted motivation and network building. Comparison to the Italian workshops is not possible, as these did not have this goal; however, it is possible to highlight some process features that might have fostered the enhancement of both capacities. As described before chapter 6, there were indications of improved motivation (individual and to a lesser extent collective behaviour) and first steps towards network building in the French deliberative workshop. For network building, it seems on the one hand crucial that the French team **established already contacts before the process through different informal meetings** and invited these contacts, representing different actor groups such as state and non-state ones, to the meeting. The **face-to-face contact** between different actors seems crucial for further bonding. Motivation is more difficult to tackle, as also described before. Again, it seems that the involvement of different actors face-to-face played a critical role.

5.1.2 *Mixed engagement initiatives targeting pupils*

Aim (Potential of PM):

4 pilot actions addressed pupils. They represented usually a mixture of PM2 (public meeting), PM7 (deliberative workshop), PM8 (role playing/ simulation) or PM10 (engagement initiative) in different constellations. They all targeted principally knowledge and one of them also motivation (DE).

Participant attendance (outreach):

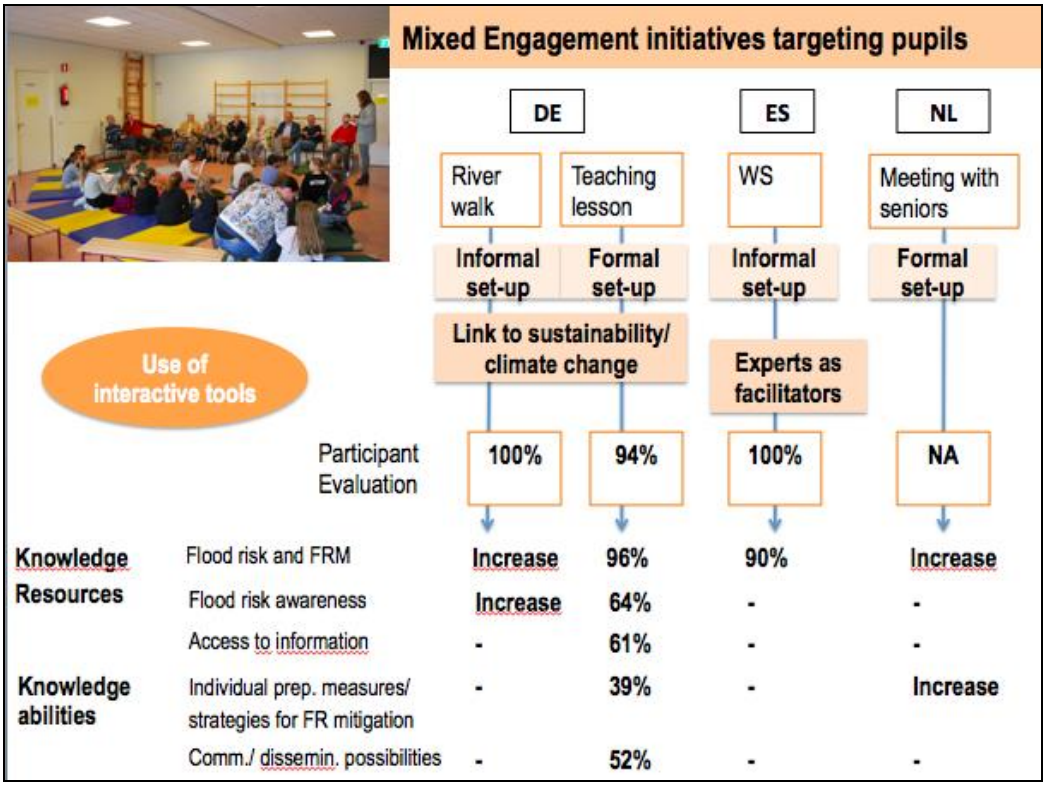
The planning of these actions is rather different from all the other pilot actions regarding mobilization. Mobilization is not required or only to minimal degrees; planning the action in organizational terms is far more important. In all cases, the **direct contact or contact via local collaborators with teacher(s)** were an important feature for the organizational process.

Effectiveness of actions (outcome):

All pilots could improve knowledge capacities substantially (see table 11, figure 4). These knowledge capacities seem to refer mainly to basic knowledge, advanced categories, such as communication possibilities on floods or individual preparedness measures could not be reached in the same degree, even when targeted, such as in the German case. Nonetheless, it has to be stressed that pupils were between 11 and 16 years old, therefore it might be more challenging to transmit advanced knowledge types.

What appeared crucial for these cases was the **use of an interactive tool**, as some of the actions were organized within a formal or an informal set-up. All actions made use of an interactive tool and all succeeded in the goal of knowledge gain. In Germany, the tool was in both cases games in the form of a quiz (one time on climate change, one directly on floods), in the Netherlands storytelling between students and elderly people, and in Spain a game in form of a land use simulation.

Figure 4: Effectiveness of mixed engagement initiatives targeting pupils



Since the simulation game used in Spain is comparatively more challenging than the games/quiz used in the other countries, it seems also important that **experts were involved as facilitators**. Additionally, the **link to sustainability and climate change adaptation** used in Germany appear to have been an important feature to bring the topic across. The teaching lesson was embedded into local effects of climate change and respective adaptation, a video of a flash flood in a relatively close town during 2016 was screened and the mentioned climate quiz applied. For the river walk with pupils, flood risk management was connected to sustainable food consumption, as the pupils learned during the walk by means of the flood quiz that land used for agriculture (in particular conventional agriculture) is situated very close to the rivers and frequently problematic for flood risk mitigation.

5.1.3 *Mixed engagement initiatives onsite and not onsite targeting citizens*

Aim (potential):

The majority of pilot actions (7) represented mixed engagement initiatives targeting citizens. They were principally carried out onsite, i.e. directly at the river. They usually comprised PM2 (public meeting), PM7 (deliberative workshop) and PM10 (citizen engagement initiatives). The major goals were knowledge and motivation improvement.

Participant attendance (outreach):

Table 9 Planning features and participant mobilization of pilot actions using mixed engagement initiatives targeting citizens

Participatory mechanisms used	Planning						Participants
	Access	Invitation channels	Planning time (from invitation)	Duration of action	Time of the day	Incentives	Number
Kayaking with informative session and discussion (DE): PM2/ PM7/ PM10	Open (limited places)	**Direct:** Email, Communication by local collaborators	Ca. 2 weeks	4-5 h	Evening during working days	Yes (free kayak, free food)	12
Walk and river descent (ES): PM7/ PM10	Open (limited places)	**Direct:** Communication by known local actors	2 weeks	3,5 h	Evening during working days	Yes (free kayak, refreshments)	16
Informative session and river descent (ES): PM2/PM10	Open (limited places)	**Direct:** Whatsapp Group; Email **Indirect:** Social media, Posters	3 weeks	4h	Sunday morning	Yes (free kayaking, free food)	29
Onsite visit and delib. workshop (ES): PM7/ PM10	Open	**Direct:** Telephone; email, Whatsapp group **Indirect:** Social media, Posters	4 weeks	7h	Sunday	Yes (food)	20
River Walk (IT): PM7/ PM10	Open	**Indirect:** Social media; Posters	Ca. 2 weeks	3h	Saturday afternoon	No	16
River Walk	Open	**Direct:**	Ca. 6-8	3,5 h	Saturday	Yes (food	25-30

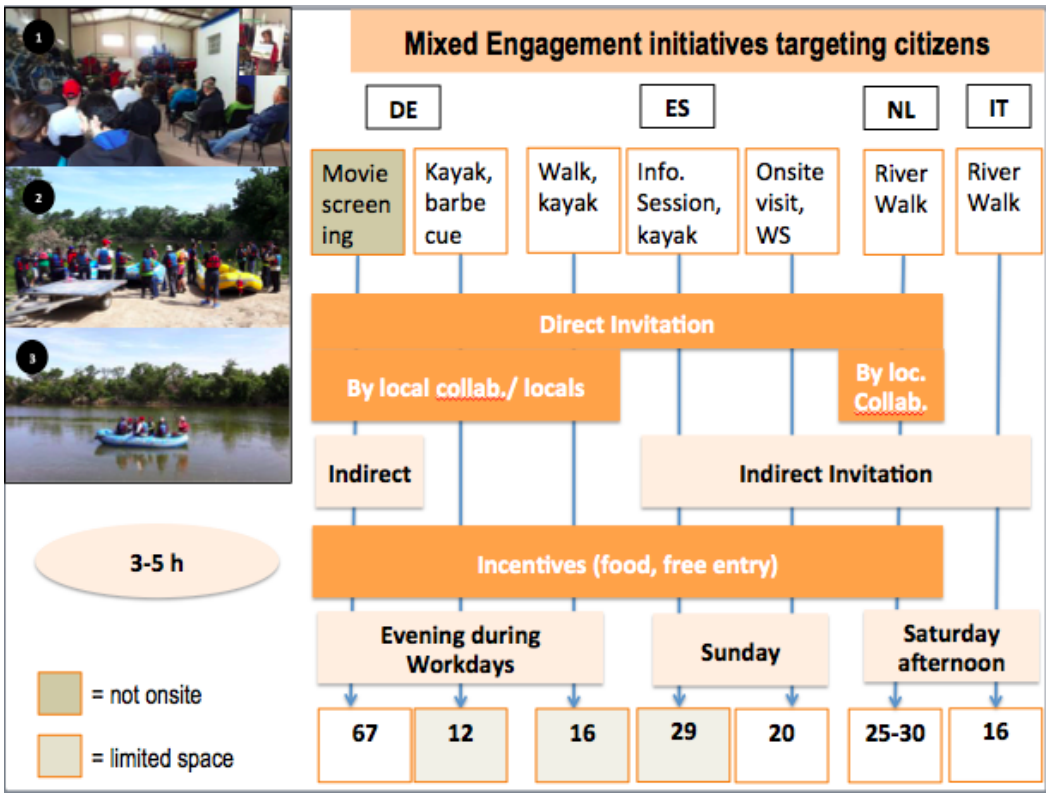
Participatory mechanisms used	Planning: Access	Invitation channels	Planning time (from invitation)	Duration of action	Time of the day	Incentives	Participants Number
(NL): PM7/ PM 10		Communication by collaborator (Grensmaas Consortium) **Indirect:** Local news, online newsletter; posters, flyers	weeks			and drinks)	
Not on site							
Movie screening with informative session and discussion round (DE): PM2/ PM7/ PM10	Open	**Direct:** Email, Communication by local collaborators **Indirect:** social media, posters, website of cinema	Ca. 2 weeks	3 h	Evening during working days	Yes (free entry)	67

Table 9 shows rather clearly what we already discussed before, mixed engagement initiatives seem to attract more participants than deliberative workshops (as only PM). Even the events with limited places showed similar numbers in participants. Leaving this overall differences aside, some features or factors seem to corroborate their importance:

(1) For mixed engagement initiatives, a mixture of direct and indirect information channels is important, but it seems that **direct invitation through local collaborators or known influential contact**s can have the same effect on citizen mobilization as using a mix of direct and indirect invitations.

(2) The most important factor appears to be **incentives for participation**, usually in the form of food and drinks or free entry for an activity in our cases. We already discussed incentives in chapter 3.2.2, but it is worthwhile to put emphasis on this factor again, as it seems to influence the outreach a lot. In comparison, the rest of factors appear not as important, as there is no clear pattern seemingly affecting participant mobilization (see figure 5). In addition, the only action, which did not use incentives, had comparatively lower attendance than the ones using incentives. It is also worthwhile to highlight that all deliberative workshops worked without incentives, which might be one explanation for the comparatively lower participant attendance.

Figure 5: Participant mobilization of mixed engagement initiatives targeting citizens



Effectiveness of actions (outcome):

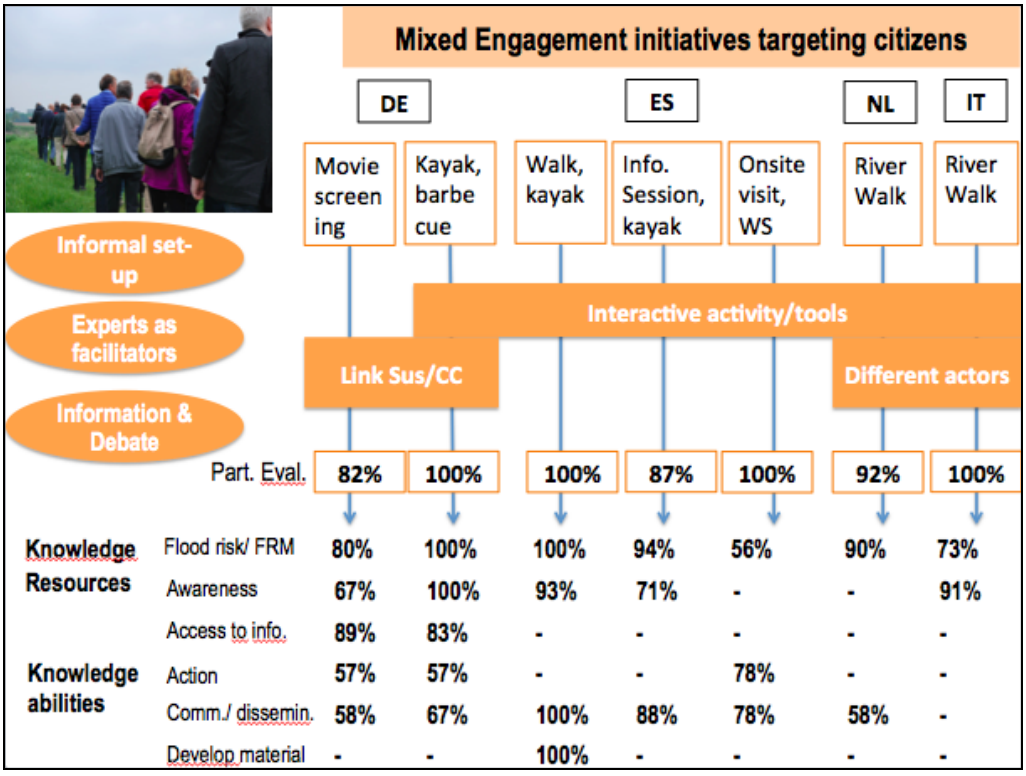
Knowledge: All mixed engagement initiatives improved knowledge substantially. Mainly the basics in knowledge on floods, flood risk, FRM and flood risk awareness could be improved. Nonetheless, table 13 and figure 6 show also that different knowledge types – which are associated to more advanced knowledge – could be tackled, if they were intentionally targeted.

It becomes further clear that the not onsite action reached overall lower knowledge gain than the onsite actions. This indicates that not onsite engagement initiatives such as a movie screening attract a lot of people on the one hand, but seem not as effective as onsite engagement actions regarding knowledge enhancement.

From the process features it is difficult to estimate the most important ones, as all mixed engagement initiatives drew on more or less the same features:

(1) All pilot actions were conducted in an **informal, casual manner**.
(2) **Facilitation and experts** were involved in all of the processes.
(3) Apart from having a major **interactive activity** (except for the movie), all pilot actions used an **informative session or material and a debate** or the possibility for exchange.

Figure 6: Participant mobilization of mixed engagement initiatives targeting citizens



Once more the **involvement of different actor types** (municipal, agencies, lay citizens) appeared to foster knowledge exchange and therefore gain between these actors in both river walks (IT, NL).

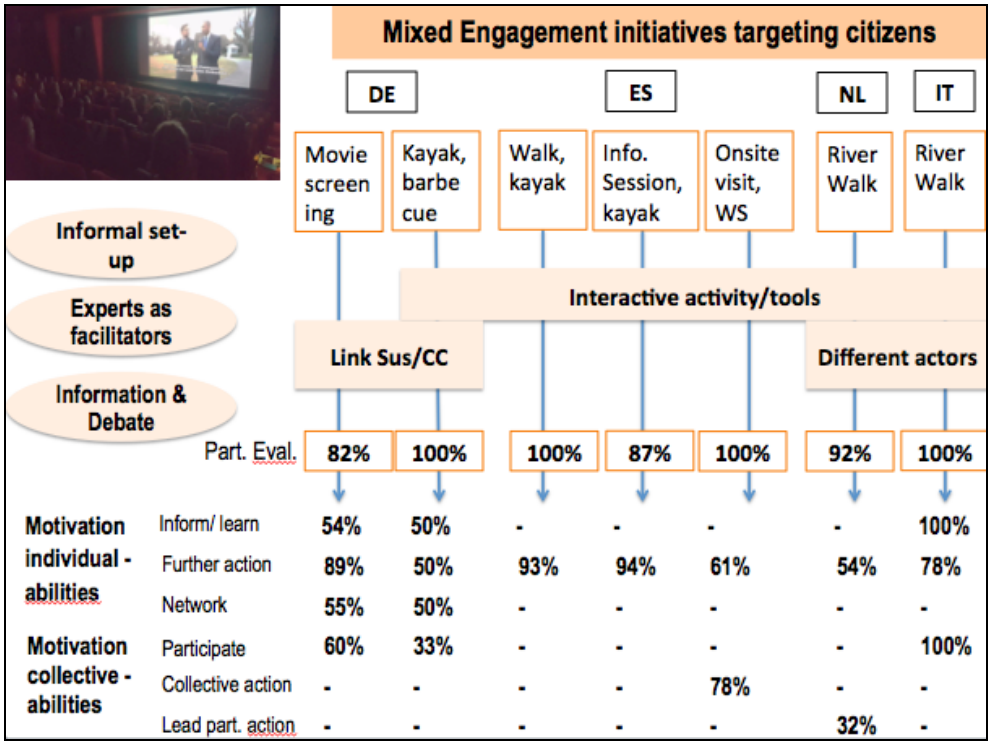
The German actions were again **linked to local climate change adaptation and sustainable food consumption**. The embedding into these larger areas seemed to incentivise discussion and knowledge gain within these topics and flood risk mitigation.

Motivation: The capacity of motivation was more difficult to tackle, as already described before in the report (see table 10 and figure 7). Interestingly, the motivation scores are also distributed rather uneven, i.e. there is no discernible pattern such as in knowledge. As the process features are the same, motivation is going to be compared to the initial capacity assessment. This might render insights into the causality and working of the pilot action's mechanism.

Table 10 Contribution to motivation capacities and process features of pilot actions using mixed engagement initiatives with same process features

	Motivation to mitigate flood risk: abilities Motivation to…			Motivation to work collectively: abilities Motivation to…		
	Inform/ learn	Take further action	To network	To participate	Collective action	Lead participatory actions
Kayaking with informative session and discussion (DE): PM2/ PM7/ PM10	**50%**	**50%**	**50%**	**33%**	-	-
Walk and river descent (ES): PM7/ PM10	-	**93%**	-	-	-	-
Informative session and river descent (ES): PM2/PM10	-	**94%**	-	-	-	-
Onsite visit and delib. workshop (ES): PM7/ PM10	-	**61%**	-	-	**78%**	-
River Walk (IT): PM7/ PM10	**100%**	**78%**	-	**100%**	-	-
River Walk (NL): PM7/ PM 10	-	**54%**	-	-	-	**32%**
Not on site						
Movie screening (DE): PM2/ PM7/ PM10	**54%**	**89%**	**55%**	**60%**	-	-

Figure 7: Effectiveness of mixed engagement initiatives targeting citizens regarding motivation



It is in particular startling that in both the Italian and Spanish actions enhanced motivation is as prevalent. When compared to the initial capacity assessment, however, it becomes clear that in both countries, motivation was rather high from the beginning (see figure 8). In Italy collective and individual motivation scored already in the highest possible range and in Spain particularly individual motivation was high and collective motivation on a medium level. Where motivation was high already, this could be maintained. Similarly, the level of collective motivation in Spain could be raised.

Nevertheless, motivation usually was enhanced also in all other cases through pilot actions that aimed to tackle this capacity. This is especially prominent for individual motivation, which could be improved from a low to medium and in one case also medium to high level.

Going back to the different process features, it is consequently feasible to compare the actions conducted in Germany and the Netherlands, as they had initially rather low scores. Contrary to knowledge, in particular the movie screening appears to have fostered individual and collective motivation. Since the movie screening was embedded into local climate change adaptation and the onsite action into sustainable food consumption, it seems that individual behaviour is more triggered through the climate change topic. On the other hand, a movie on the issue that calls specifically for action is most possibly also a trigger.

Figure 8: Motivation and networks in the initial assessment in comparison to actual contribution

	DE	ES	FR	IT	NL
Motivation (individual)	Very low	High	Low	High	Low
Contribution:	Medium to high	High	Medium	High	Medium
Motivation (collective)	Very low	Medium	Low	High	Medium
Contribution:	Low to medium	Medium to high	Low to medium	High	Low to Medium
Networks	Very low	Medium	Very low	Medium	Medium
Contribution	Low	-	Low	-	-

Networks: As already discussed in this report, the network capacity proved to be together with motivation a lot more difficult to enhance than knowledge. Nonetheless, both the French and the German team managed to improve the capacity slightly. We already discussed above that **pre-established contacts and face-to-face contact** to local actors played out as essential for the French team in this context. Both factors seem substantiated by the participatory capacity building process of the German team. The contacts built up through the first deliberative workshop that was organized for the pilot action selection allowed for the planning and implementation of actions with local collaboration, but as well for further bonding between the local actors. This bonding was always achieved to face-to-face contact during the actions. The local collaborator was crucial for all these means. Since this contact was established through the deliberative workshop only three month before the participatory processes, it seems that former long-term contacts are not necessary, when a contact to a **motivated local collaborator** can be established.

5.2 Assessment of Participatory Mechanisms' Potential to build social and civic capacity

Before turning to conclusions, this chapter concludes with an updated assessment of the potential of participatory mechanisms to capacity building. In the CAPFLO Participatory tool (Munaretto S., de Voogt D.L., 2016), this potential was ascribed to all different PMs hypothetically. In the following chapter we compare the theoretical with the actual contribution. Table 11 shows the assessment conducted in the participatory tool.

Table 11. Assessment of Participatory Mechanisms' Potential to build social and civic capacity (score: 0 – no potential; 1 – low potential; 2 – moderate potential; 3 – high potential)

Participatory Mechanism	K.1.		K.2.	M.1.	M.2.	N.1.		N.2.	F.1.*	F.2.*		P.1.	
	Resources	Abilities				Resources	Abilities			Resources	Abilities	Resources	Abilities
PM 1. Broadcast / distribution	1-2	0	0	1	0	1-2	1-2	0	0-3	0-1	0-3	0	1
PM 2. Public meetings	1-2	1	1	1	1	1	1	0	0-3	0-1	0-3	1	1
PM 3. Citizen polling	1	1	1	1	0	1	0	0	0-2	0-2	0-1	1-2	1
PM 4. Citizen advising	1	1	1-2	2	2	1	1	2	0-3	0-3	0-1	2	1
PM 5. Expert advising	2	1	2	2	2	2	2	1-2	0-3	0-3	0-1	2	1
PM 6. Negotiations and mediation	1	3	2	1	2	2	2	2	0-1	0-3	0-2	2	1
PM 7. Deliberative workshops	3	3	2	3	2	3	2	2	0-3	0-1	0-3	2	2
PM 8. Simulations and role-playing	1	2	1	3	3	2	2	3	0-2	0-1	0-1	1	1
PM 9. Citizens' science	2-3	3	1-2	2	2	3	2	1	0-2	0-3	0	1-2	2
PM 10. Citizen engagement initiatives	2-3	2-3	2	2-3	2	2	1-2	1-2	0-3	0-3	0-2	1	2-3

*In most cases, whether the dimension Finance is influenced by the Participatory Mechanism depends mostly on the content of the participatory process, rather than on the setup (which the PM describes). Therefore, in most cases, the score can range from 0-3, depending on the subject of the participatory process. There are some exceptions to this notion (e.g. PM 8 and 9), which are elaborated in Annex D.

Out of the list of ten PMs, the CAPFLO partners and stakeholders did not select all of them. As already described above, those mostly **applied were PM 2, PM 7, PM 8, and PM 10**. Exclusively PM 10 was applied in its 'pure' form, all additional PMs were conducted in a mixed format. For this reason, it is not possible to update or corroborate scores given for PM2, as this PM was never used solely. Likewise, the capacity mainly targeted was knowledge; therefore the mechanisms' contribution is only discussed for this category based on comparatively robust results.

The only PM used on its own was **PM 7**. Regarding **knowledge (K1), the scores of 3 were sustained** by the results of all deliberative workshops. They function very successfully for enhancing knowledge.

PM 8 was only used together with other PMs in all actions targeting pupils. Yet, the use of interactive tools, which comprise PM 8, was identified as the main enabling feature of these pilot actions. Thus, **for K1 both numbers should be increased to 3** in the context of actions with pupils. Arguably, PM 8 should also function beyond the interaction with school pupils, but as it was only used in this context for the employed pilot actions, this is up for further investigation.

PM 10 was also only conducted together with additional PMs, particularly PM 2 and 7. The impact on knowledge, however, was rather high, especially for onsite actions, hence, the hypothized **level of 2 to 3, can be raised to 3** rather confidently. The importance of information and discussion integration into PM 10 has to be stressed in this context, though.

5.3 Lessons Learnt

The comparative analysis over different case and capacity contexts revealed that there are certain factors or process features that seem rather robust and can be assumed to work for other participatory processes as well. This is especially true for processes targeting knowledge, as all processes achieved to tackle this capacity, irrespective of the initial level. The rest of capacities proved to be more challenging, in particular motivation. Participatory actions and mechanisms should be adapted to the context, i.e. the initial motivation level. For network building, pre-established contacts, particularly to a local collaborator, and face-to-face communication between organizer and collaborator, as well as between collaborator and all additional participants are extremely important.

Since the analysis was conducted qualitatively the factors are not yet generalizable, but provide important indications for further use and investigation.

Table 12 summarized all important factors found through the analysis.

Table 12 Important process features for transferable and replicable processes.

Capacity	Enabling factors	
Knowledge	Mobilization	Effectiveness
PM7 – Deliberative workshops	▪ Evening during working days. ▪ Different invitation channels, such as combination of direct and indirect invitation. ▪ Invitation by local collaborator. ▪ Incentives.	▪ Experts as facilitators (professional and/or social). ▪ Involvement different kind of actors.
Mixed engagement initiatives (PM2/PM7/PM8/PM10)	▪ Direct invitation, in particular by local collaborator. ▪ Incentives. ▪ Informal character.	▪ Informal set-up. ▪ Information and debate. ▪ Interactive activity. ▪ Experts as facilitators. ▪ Link to sustainability or climate change helpful.
Motivation	Mobilization	Effectiveness
Mixed engagement initiatives (PM2/PM7/PM8/PM10)	Same as above	Initial low motivation: ▪ Link to climate change adaptation. Initial high(er) motivation: ▪ Same factors as knowledge
Networks		
PM 7 and Mixed engagement	-	▪ Pre-established contacts (no long-term contacts

		necessary). ▪ Face-to-face contact. ▪ Local collaborator. ▪ Sufficient timeframe.

Table 13 Contribution to knowledge capacities and process features of pilot actions

Participatory mechanisms used	Social capacity						Process features
	Knowledge: resources			Knowledge: abilities			
	(Better) Understanding of flood risk and FRM	Improved flood risk awareness of own region	Knowledge on available information and how to access it.	Knowledge on individual preparedness measures/ strategies for FR mitigation	Knowledge on communication/ diffusion/ dissemination possibilities	Knowledge on developing material linked to floods	
PM 7. Deliberative workshops:							
Workshop with professionals and citizens (FR)	**86%**	**42%**	-	-	-	-	• Formal set-up • Involvement of local authorities • Involvement of experts and social actors as facilitators • Use of interactive tools • No evaluation of the event
Workshop with citizens (IT)	**-**	**-**	-	-	**100%**	-	• Formal set-up • Involvement of experts as facilitators • Involvement of local politicians in the interaction with participants • Participant evaluation: **100%**
Workshop with professionals (IT)	**82%**	**-**	-	**100%**	-	-	• Formal set-up • Involvement of local politicians • Involvement of experts as facilitators • Use of interactive tools • Participant evaluation: **100%**
Exploratory workshop (IT)	**94%**	**71%**	-	**-**	-	-	• Formal set-up • Involvement of local politicians • Involvement of experts as facilitators • Participant evaluation: **94%**

Participatory mechanisms used	Social capacity						Process features
		Knowledge: resources			Knowledge: abilities		
	(Better) Under-standing of flood risk and FRM	Improved flood risk awareness of own region	Knowledge on available information and how to access it.	Knowledge on individual preparedness measures/ strategies for FR mitigation	Knowledge on communication/ diffusion/ dis-semination pos-sibilities	Knowledge on developing material linked to floods	
Mixed engagement initiatives targeting pupils:							
Teaching lesson (DE): PM2/ PM7/PM8	**96%**	**64%**	**61%**	**39%**	**52%**	-	• Formal set-up • Use of interactive tools • Link to resilience • Participant evaluation: **97%**
River walk with pupils (DE): PM2/PM8/PM10	**Increase**	**Increase**	**-**	**-**	**-**	-	• Informal set-up • Use of interactive tools • Link to sustainability • Qualitative participant evaluation: **very satisfied**
Workshop with school students (ES): PM7/PM8	**90%**	**-**	**-**	**-**	**-**	-	• Formal set-up • Use of interactive tools • Involvement of experts as facilitators • Participant evaluation: **100%**
Meeting elemen-tary pupils with seniors (NL): PM7/PM8/PM10	**Increase**	**-**	**-**	**Increase**	**-**	-	• Informal set-up • Use of interactive tools • Qualitative participant evaluation: **very satisfied**.

Participatory mechanisms used	Social capacity						Process features
		Knowledge: resources			Knowledge: abilities		
	(Better) Understanding of flood risk and FRM	Improved flood risk awareness of own region	Knowledge on available information and how to access it.	Knowledge on individual preparedness measures/ strategies for FR mitigation	Knowledge on communication/ diffusion/ dissemination possibilities	Knowledge on developing material linked to floods	
Mixed engagement initiatives onsite							
Kayaking with informative session and discussion (DE): PM2/ PM7/ PM10	**100%**	**100%**	**83%**	**57%**	**67%**	-	• In-formal set-up • Information and debate • Involvement of experts in flood risk and climate change • Interactive activity • Link to sustainability and resilience • Participant evaluation: **100%**
Walk and river descent (ES): PM7/ PM10	**100%**	**93%**	-	-	**100%**	**100%**	• Informal set-up • Use of interactive tools • Link to sustainability • Participant evaluation: **100%**
Informative session and river descent (ES): PM2/PM10	**94%**	**71%**	-	-	**88%**	-	• Formal set-up • Use of interactive tools • Involvement of experts as facilitators

Participatory mechanisms used	Social capacity						Process features
		Knowledge: resources			Knowledge: abilities		
	(Better) Under-standing of flood risk and FRM	Improved flood risk awareness of own region	Knowledge on available information and how to access it.	Knowledge on individual preparedness measures/ strategies for FR mitigation	Knowledge on communication/ diffusion/ dis-semination possi-bilities	Knowledge on develop-ing material linked to floods	
							• Participant evaluation: **87%**
Onsite visit and delib. workshop (ES): PM7/ PM10	**56%**	-	-	**78%**	**78%**	-	• Informal set-up • Use of interactive tools • Participant evaluation: **100%**
River Walk (IT): PM7/ PM10	**73%**	**91%**	-	-	-	-	• Informal set-up • Involvement of different actors (state; non-state, en-trepreneurial) as collabora-tors • Information and debate • Involvement of experts on flood risks and participation as facilitators • Interactive activity • Participant evaluation: **100%**
River Walk (NL): PM7/ PM 10	**90%**	-	-	-	**58%**	-	• Informal set-up • Involvement of different actors (state; non-state, en-trepreneurial) • Information and debate • Involvement of experts as facilitators

Participatory mechanisms used	Social capacity						Process features
		Knowledge: resources			Knowledge: abilities		
	(Better) Under-standing of flood risk and FRM	Improved flood risk awareness of own region	Knowledge on available information and how to access it.	Knowledge on individual preparedness measures/ strategies for FR mitigation	Knowledge on communication/ diffusion/ dis-semination possi-bilities	Knowledge on develop-ing material linked to floods	
							• Interactive activity • Participant evaluation: **92%**
Not on site							
Movie screening with informative session and discus-sion round (DE): PM2/ PM7/ PM10	**80%**	**67%**	**89%**	**57%**	**58%**	**-**	• Informal set-up • Information and debate • Involvement of experts as facilitators • Link to resilience and sus-tainability • Participant evaluation: **82%**

6. Conclusions and recommendations

The CAPFLO project assumes that an improvement in social capacities should result in higher local resilience to flood risks and examines whether and to which degree participatory approaches contribute to social capacity building. For testing this hypothesis, the CAPFLO participatory tool was developed that identified and listed different participatory mechanisms as well as their anticipated impact on social capacities. The PMs were selected by the CAPFLO partners together with stakeholders of each case study. Deliberative workshops were selected, but also a mix of public meetings, simulations and roleplaying, and citizens' engagement initiatives.

Regarding the different capacities, all of these actions achieved to enhance knowledge significantly. In particular all onsite mixed engagement actions had a rather high effect on knowledge, whereas the only engagement actions not employed onsite, had a lower effect (still rather high without onsite comparison).

Generally, participatory processes have contributed more to knowledge improvement than to motivation. Additionally, participatory processes seem to be more successful in increasing participants' motivation of being involved in participatory actions and/or in adopting individual actions (i.e. correct behaviours for flood risks prevention and mitigation) than in taking the lead on collective actions. Where motivation was already high before the participatory actions, the high level could be maintained or increased, whereas where motivation was low from the beginning, the capacity was more difficult to tackle. Nonetheless, all participatory processes that targeted motivation could improve this capacity to a certain degree. Contrary to the knowledge cluster, the engagement actions not onsite could improve (individual and collective) motivation more than the onsite actions.

Networks were also established in two cases, although network building within a rather short timeframe of several month proved to be difficult. Therefore, the networks established can be better described as the first important steps towards robust networks. Self-organized networks could not be fostered.

Finance was specifically targeted by the Spanish team, and all applied pilot participatory actions managed to increase particularly knowledge on insurance types and funding opportunities as well as the motivation for self-protection.

Despite some positive results, increasing motivation for and actual proactive participation in the flood risk management system is one of the critical aspects of the CAPFLO participatory processes. Citizens' increased knowledge and motivation seemed not to trigger automatically their proactive engagement into the flood risk management sys-

tem, but mostly their passive use of participation offers. Yet, the pilot actions implemented by the CAPFLO partners were not resembling formal participation offers for Floods Directive implementation, and had therefore a distinctive outreach and activation function for different actor groups (e.g. lay-citizens versus stakeholders). Participation in the CAPFLO cases did not mean participatory planning within the flood risk management and governance system or only to a very limited degree (e.g. in Italy). Hence, the participation dimension of our assessment tool that was conceptually rather directed towards the formal management and governance system proved difficult to measure in our empirical contexts, and limited proactive engagement is only a slight indication.

In all cases there is a continuity of participatory processes ensured by actors participating in the pilot actions. The actors are public bodies or stakeholders (e.g. associations), not citizens as such, although these confirmed their interest in participating in similar events or distribute them in their specific networks. In general, the participant evaluation of the process delivery showed that participatory processes in all cases were assessed as very positive.

For the transferability or replicability of processes, a comparative analysis of important process features was conducted. The analysis was separated into participant mobilization and process effectiveness. Similar processes applied to different contexts were examined; thus, the results are likely to be stable over different contexts and therefore transferable.

Mobilization was linked to several factors impacting on the willingness of participants to attend processes: For deliberative workshops within a formal set-up, the combination of direct and indirect invitation appeared important. For conducting the workshops, Saturday morning seemed not to be a preferred time, evenings during working days were more suitable for participants. For engagement initiatives, direct invitation proved to be critical and irrespective of the participatory activity, especially the invitation by a local collaborator appeared crucial. Eventually, incentives for participation seemed vital.

Regarding effectiveness in the enhancement of knowledge, regardless from the level of initial capacities, all participatory actions supported knowledge substantially. In the context of deliberative workshops, experts as facilitators (professional and social) as well as the involvement of different kind of actors constituted essential features. For engagement initiatives once more experts as facilitators were an important process feature, but also the structuring into an information and discussion part with one (interactive) activity within an informal set-up. Interactive activities were further of high

importance for the engagement with pupils. The involvement of different actor types and the link to sustainability or local climate change adaptation characterized supporting features.

The applicability of participatory processes to enhance motivation as a capacity is rather dependent on the context, i.e. the level of motivation that existed initially. Future participatory processes targeting motivation to mitigate flood risks with initially low motivation should pay attention to the fact that climate change seems to raise more motivation than the specific topic of floods, especially in contexts where flood risk is a new topic for the community. Apart from the indication of the viability of this strategy, motivation for flood risk mitigation is a topic for more in-depth or future studies.

For network building, pre-established contacts, particularly to a local collaborator, and face-to-face communication between organizer and collaborator as well as between collaborator and all additional participants are extremely important. Even if these features were established, only first steps of network building could be achieved within the timeframe of several month.

In conclusion, the participatory mechanisms used for the participatory capacity building process all achieved to improve the targeted capacities, whereas knowledge represented the capacity that could be improved best; it was also the capacity targeted the most in this regard. There were also advancements in the additional four capacities, but not to the same degree.

References

Bogan, C.E. and English, M.J. (1994), Best Practices, LLC, Benchmarking for Best Practices: Winning Through Innovative Adaptation. New York: McGraw-Hill.9.

Bretschneider, S., Marc-Aurele, F.J., Jr., and Wu, J. (2005), Best Practices Research: A methodological guide for the perplexed, Journal of Public Administration Research and Theory (15)2:307-323.

Bardach, E. (2011), A Practical Guide for Policy Analysis: The Eightfold Path to More Effective Problem Solving. Thousand Oaks, CA: Sage.

De Voogt, D.L. & Munaretto, S. (2016), Task D. Participatory Tool. Institute for Environmental Studies. Amsterdam University: Amsterdam.

Diduck, Alan, and A. John Sinclair. (2002). "Public Involvement in Environmental Assessment: The Case of the Nonparticipant." *Environmental Management* 29 (4):578-88.

Dzialek J., Biernacki W., Bokwa A. (2013) "Challenges to Social Capacity Building in Flood-affected Areas of Southern Poland" Natural Hazards and Earth System Sciences, 13, 2555-2566, Copernicus Publications, (www.net-hazards-earth-syst-sci.net/13/2555/2013/doi:10.5194/nhess-13-2555-2013)

European Commission (2013) EVALSED: the resource for the evaluation of Socio-Economic Development - Evaluation guide, http://bit.ly/2gbw9DR

Kochskämper, E., Challies, E., Newig, J., & Jager, N. W. (2016), Participation for effective environmental governance? Evidence from Water Framework Directive implementation in Germany, Spain and the United Kingdom. J*ournal of Environmental Management 181*: 737-748.

L. Oriard, C. Larrue, G. Hubert, F. Ballif (2016) Capflo Capacity assessment tool, http://capflo.net/outcomes/

L. Oriard, C. Larrue, CAPFLO Case studies comparative analysis, http://capflo.net/outcomes/

Newig, J., Challies, E., Jager, N. W., **K**ochskämper, E., & Adzersen, A. (2017). The Environmental Performance of Participatory and Collaborative Governance: A Framework of Causal Mechanisms. *Policy Studies Journal* [Free Open Access Content].

Turner, M.A., and Weninger, Q. (2005), "Meetings with Costly Participation: An Empircal Analysis." Review of Economic Studies 72 (1):247-268.