



# PRIMES

## Preventing flooding **R**isks by **M**aking resilient communiti**ES**

### Univpm

## Analysis of the Project Impacts (ACTION D)

15 January 2019

*Lead Partner*



Agenzia per la sicurezza territoriale e la protezione civile

*Partner*



Direzione Generale  
Cura del Territorio e dell'Ambiente





## Action D.1

# RISK PERCEPTION ANALYSIS

### ADULTS:

- In general, the **awareness of living in an area prone to floods has improved** in most areas, in the ex post phase, but citizens continue to think that **the causes of the floods are strictly structural**;
- **Trust in institutions has improved** almost everywhere, but the **perception of not receiving enough information remains stable**;
- On the other hand, the percentage of **citizens declaring to be available to attend courses increased**, preferring the type of public meetings;

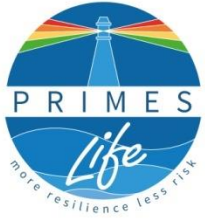
### CHILDREN:

- Faced with a natural phenomenon perceived as dangerous, **the youngest children** react following an **escape or concealment behavior**;
- Safe behavior "**Reaching high places**" to protect yourself from flooding becomes **more important as children grow older**, but not in all areas there is a good correlation between this behavior and age.



## Action D.1 RESILIENCE ANALYSIS

- The studied areas show an overall **increased level of community resilience**, except for Lido di Savio and Imola;
- The improvement in levels of social resilience is **more evident in smaller communities** compared to bigger ones **and in particular in those that hosted simulation activities**;
- The more influential macro-indicators for the improvement in social resilience seem to be **Trust** in the Institutions, **Awareness** of living in a territory with a specific climate related hazard **and Knowledge** on the available data on flood phenomena and their homogeneity.



## Action D.2 FRAMEWORK OF MONITORING INDICATORS

The monitoring framework is organized into a hierarchical structure. The accomplishment of the objectives of the Life PRIMES project have been evaluated via four pillars. Each pillar have been defined by specific criteria and indicators.

### COGES INDICATORS

COMMUNITY  
ENGAGEMENT

4 criteria

16 indicators

GOVERNANCE AND  
COMPLIANCE  
CAPACITIES

3 criteria

11 indicators

ENVIRONMENT

2 criteria

10 indicators

SOCIO-  
ECONOMIC  
CONTEXT

2 criteria

6 indicators



## Action D.2

# FRAMEWORK OF MONITORING INDICATORS

### **COMMUNITY ENGAGEMENT**

The aim of this pillar is to assess the level of involvement reached by the local communities with respect to the management of climatic risks and alerts.

The criteria for assessing the achievement of this objective are:

- a. Foster the awareness of climate change impacts, particularly of the flood risk;
- b. Increase societal cohesion enhancing the collaboration between Civil Protection and civil society; improving knowledge diffusion of emergency alerts and procedures;
- c. Move communities from a passive to an active approach to risk management, involving citizens in an innovative process of co-designing the Civic Adapt-Action Plans;
- d. Integrate soft adaptation actions in the daily life style and habits of local communities by stimulating voluntary activities for risk reduction.



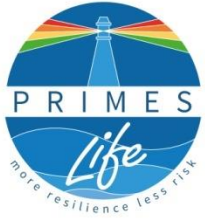
## Action D.2 FRAMEWORK OF MONITORING INDICATORS

### GOVERNANCE AND COMPLIANCE CAPACITIES

The aim of this pillar is to evaluate which processes allowed the institutions to reach a prominent level of networking and standardization as well as the reduction of bottlenecks in the management of the flood risk.

The criteria for assessing the achievement of this objective are:

- e. *Improve the cooperation at institutional level by homogenizing procedures, information and risk management systems in case of extreme events;*
- f. *Enhancing the management of alerts by creating a web space with simplified data exchange procedures;*
- g. *Ensure the networking of the Project and the replicability of the results.*



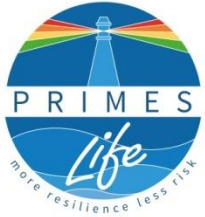
## Action D.2 FRAMEWORK OF MONITORING INDICATORS

### ENVIRONMENT

The aim of this pillar is to monitor the improvement that PRIMES could produce, in terms of environmental and life quality, in the areas where the Project has been implemented.

The criteria for assessing the achievement of this objective are:

- h. Reduced risk of flooding in the pilot areas through improved maintenance of the drainage network;*
- i. Ecosystems and biodiversity preservation deriving from a better maintenance of the territory.*



## Action D.2 FRAMEWORK OF MONITORING INDICATORS

### **SOCIO-ECONOMIC CONTEXT**

The aim of this pillar is to assess the potential economic activities triggered by the chosen adaptation policies.

The criteria for assessing the achievement of this objective are:

- j. Increased financial resources allocated by public administrations to reduce flood risk within the PRIMES areas;
- k. Decreased flood risk for key economic sectors (such as tourism, industry and agriculture) through strengthened adaptive capacity.





## Action D.2 ENVIRONMENTAL, SOCIO-ECONOMIC AND PROCEDURAL IMPACT REPORT

### COMMUNITY ENGAGEMENT



For what concern the community engagement, the Project achieved an **outstanding involvement of the pilot areas communities**, through the numerous workshops and particularly through the original on-line tool of the local Civic Adapt-Action Plans (CAAPs). All this effort, in addition to the alert simulations, have **increased the societal cohesion and, most importantly, fostered the flood risk perception and awareness of its possible impacts.**

Another positive outcome of this Project has been the **cooperation between the institutions involved**, that lead to advantageous data exchange to produce joint climate scenarios and **paved the way to the homogenization of the** three basic requirements for an effective **Early Warning System**: *i) data collection, ii) alert management, and iii) communication.* Moreover, this work has been shared in a common web-platform and disseminated during the workshops with the communities and the network with other Projects.



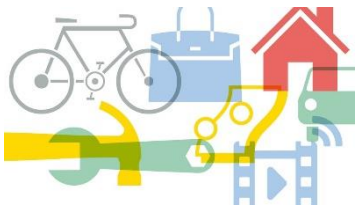
### GOVERNANCE AND COMPLIANCE CAPACITIES

## Action D.2

# ENVIRONMENTAL, SOCIO-ECONOMIC AND PROCEDURAL IMPACT REPORT

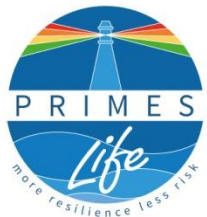
A separate discussion needs to be done for the last two thematic areas, namely environment and socio-economic context. In fact, the **Project has focused the activities on non-structural measures** for flood risk reduction. Not to mention the fact that the Project duration is not comparable to the **timing necessary to effectively influence initiatives on such sectors**. Therefore, the effects of the Project could not be measured directly.

### ENVIRONMENT



### SOCIO-ECONOMIC CONTEXT

However, the current outcomes suggest that **the communities perceive the criticalities related to the state of the environment and territory and**, most importantly, **are willing to support the expenditure of public money** for flood risk reduction and climate change adaptation. Nevertheless, it is suggested to focus future training on the **importance of the ecosystem and biodiversity preservation as a system for managing floods** and on the advantages of **investments on private economic activities to reduce the flood impacts**.



## Action D.2

# STRENGTHS AND BOTTLENECKS REPORT

### STRENGTHS

- ✓ High **involvement** of the pilot areas communities of a wide number of stakeholders for the compilation of the CAAPs and during the workshops;
- ✓ Increased **knowledge on the flood risk** and on how to integrate the **climate change adaptation** in everyone's daily life style;
- ✓ Implementation of effective and plausible **simulations**, which caused **enhanced coordination** between the institutions and the groups of volunteers that will act, in effect, in case of flood emergency;
- ✓ Delivery of **durable multimedia totems and traffic lights panels** which provide information on what to do in the event of floods as well as an illustration of the emergency and civil protection plans;
- ✓ Development of the present and future **climate scenarios** over the study area, through the work of scientific and technical experts;
- ✓ Effective (or envisioned) **implementation of the CAAPs in the Civil Protection Municipal Plans**;



## Action D.2

# STRENGTHS AND BOTTLENECKS REPORT

### STRENGTHS

- ✓ Development of **homogeneous guidelines** for the regional civil protection of Emilia-Romagna, Marche, and Abruzzo devoted to: (i) collection, selection and evaluation of data; (ii) management of criticalities and alerts; (iii) communication and involvement of the population;
- ✓ Numerous actions devoted to **environmental preservation and restoration** and to specific reduction of flood hazard undertaken by the regional and local institutions, during the Project duration;
- ✓ Sign of the 5-year-long protocol “**After Life Plan**” by all the PRIMES partners and beneficiary municipalities with the following objectives: i) update of the web-platform; ii) networking; iii) dissemination of good practices in regional and national policies; iv) support to local administrations of the pilot areas accompanied by a monitoring action with respect to the implementation Project-related activities; v) monitoring and dissemination of results in the scientific community.



# Action D.2

## STRENGTHS AND BOTTLENECKS REPORT

### WEAKNESSES

- ✓ Possible underestimation of the Project impacts due to the **missing information from some municipalities**;
- ✓ It was not possible to analyze the **categories of stakeholders** that filled in the on-line CAAPs;
- ✓ Lack of **entrepreneurs and agricultural owners** in the compilation of the CAAPs;
- ✓ Delay on data collection and analysis for the climate common scenarios due to very **different datasets, especially in the case of the marine data**;
- ✓ **Different policies** of the three regional civil protections in the dissemination of monitoring data.



# Action D.2

## STRENGTHS AND BOTTLENECKS REPORT

### EMERGING NECESSITIES

- ✓ Strengthen of the number of **training courses, alert simulations, education, and information activities**;
- ✓ **Inform the population on** the possible benefits, even economical, deriving from the managing of floods through **green and recreational infrastructures**;
- ✓ Increase the awareness of the **personal responsibility in flood risk reduction**;
- ✓ Establish **periodic** training with more realistic local situations, extend the **simulations** to a wider range of population, and **codify a specific sound or alarm** for flood emergencies.



# Action D.2

## STRENGTHS AND BOTTLENECKS REPORT

### OPPORTUNITIES

- ✓ Increase the dedicated training courses by exploiting the **willingness of the communities in moving to a proactive approach** towards flood risk reduction;
- ✓ **Suggested homogenization of further easy-to-implement criteria** for the managing of the alerts in the three partner regions;
- ✓ **Use** the new homogenized criteria in **the new web platform for the spreading of** rapid, uniform, and simplified **information** for the benefit of citizenship;
- ✓ The expenditure of the **public money for the reduction of flood risk** seems to be **justifiable by the population**, given the results of the CAAPs.



## Action D.2

# STRENGTHS AND BOTTLENECKS REPORT

### RECOMMENDATIONS FOR FUTURE IMPLEMENTATION

The Project PRIMES has been realized with a structure that is easily replicable and transferable in other areas. In fact, there are few key features that should be considered for its effective implementation.

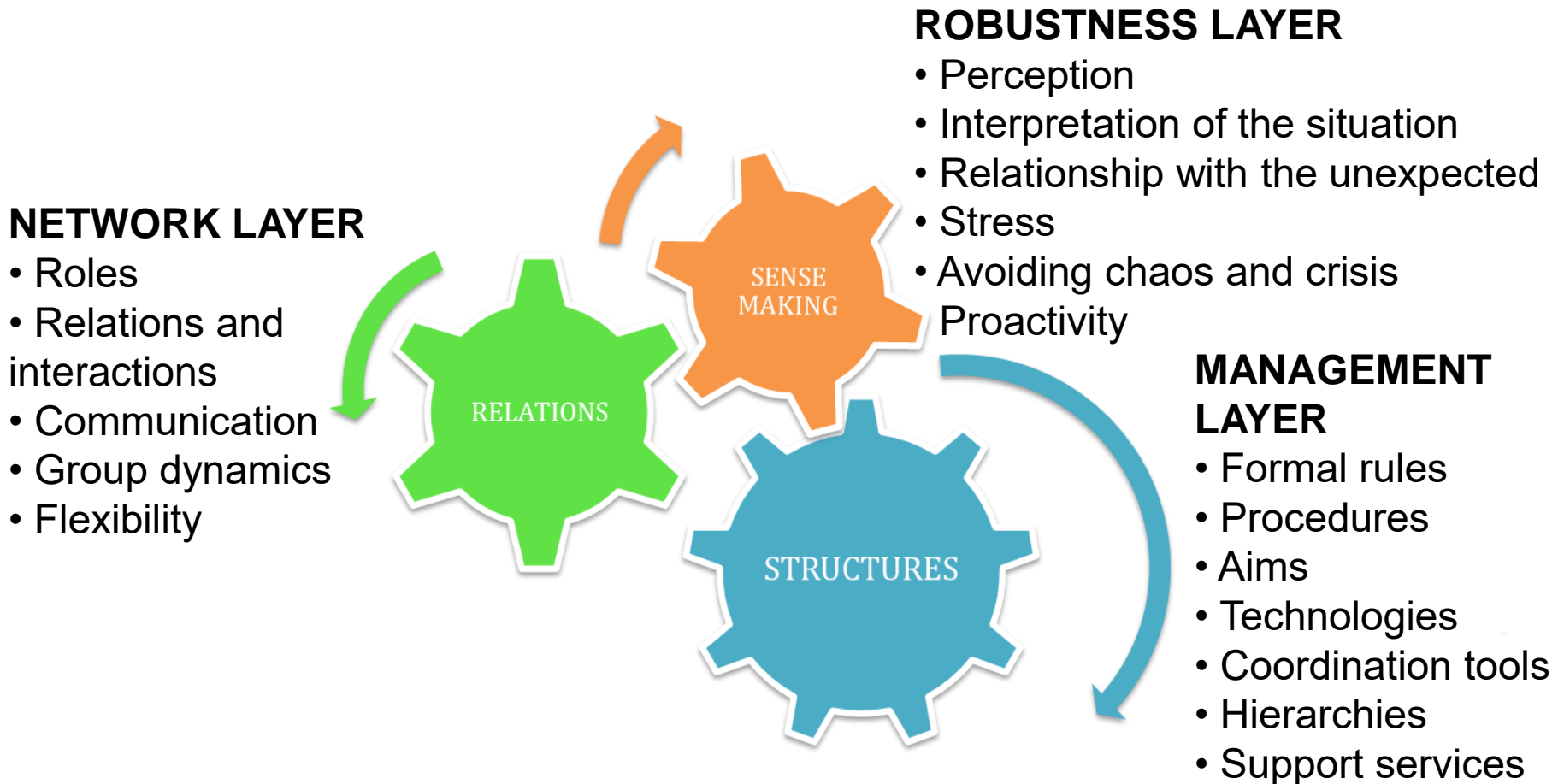
- ✓ First, the greatest effort should be devoted to the **involvement of all the stakeholders of the community**, because they all have an essential role in the development of incisive flood risk reduction strategies.
- ✓ Second, **the on-line tool for the compilation of the CAAPs** should be as much as possible **playful, user-friendly, suitable for both young and old, and in multiple languages**.
- ✓ Third, the **web portal** should be keep **updated with the alert issued and with all the knowledge and necessary information** collected and organized in order to activate voluntary and daily actions for the prevention of the risks.
- ✓ Forth, to enhance the spread of the best practices of the Project to other public administrators and communities, and therefore ensuring the replicability, a **collaboration with external (national and international) civil protection agencies** should be envisioned.



## Action D.2

# MONITORING OF THE ALERT SIMULATIONS

## INTERVIEWS FOR MONITORING AND EVALUATING THE ALERT SIMULATIONS





## Action D.2



# MONITORING OF THE ALERT SIMULATIONS

## OUTCOMES

The analyses showed from both **the organizers and the participants interviewed an overall positive reaction to the events**, great **satisfaction for the response of the participants and for the relations built**, and **constructive proactivity towards the unexpected and the necessary improvements**.

Nonetheless, some problems and some suggestions emerged from this investigation. Mostly, the **need for codified alarms and strengthen procedures, for extra communication tools in case the envisioned ones do not work, for simulations with more realistic scenarios, and for more targeted information during the training sessions**.

It is worth noting that **the majority of the suggestions arose from the participants**, thus stressing the importance of an evaluation activity extended to all the participants.



# Thanks for your attention



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