



## Pilot actions for reduction risks

### Output T2.1



In each Country different pilot actions have been applied with the aim to make safer the selected areas respect to 3 types of risk.

In Italy for hydro, seismic and fire risk, in Montenegro for seismic one, in Albania for hydro and seismic ones.

In all PPs Countries a system of monitoring and control have been installed.

The 9 pilot actions realised, using new products and services, are able to demonstrate the possibility of a integrated and cross border cooperation for risk prevention.

## 1

### PILOT ACTION ABOUT HYDRO RISK

#### PARTNER PP2

The renaturalization and requalification of river areas foresee interventions of modeling of the banks, through the use of stones (areas close to the bank) and subsequently works in wood and planted vegetation. The aim is to guarantee a sustainable management of the works, well integrated in the context of high environmental landscape value and biodiversity.

#### Site 1 – Patemisco

The interventions of protection and stabilization of the sandy dunes was based on the use of techniques that involve the remodeling of the degraded dune profile, the placement of structural elements (of natural origin and essentially biodegradable) and the planting of native herbaceous and shrubby vegetation.

The structural defense of the dune fronts was obtained through the installation of a wattle, extended for 90 m, arranged parallel to the shoreline, for foot protection. The wattle was made up of heather rods (or similar) with a diameter of 30-50 mm and lengths of no less than 1.5 m, intertwined on uprights 70 cm apart and fixed with galvanized iron wire. The uprights, made of debarked poles of durable wood, were fixed to the ground to a depth of at least 70 cm by simple beating or drilling. Their diameter was 8-10 cm and their height above ground was about 40 cm. The pointed shaped end of the uprights subject to burial were treated with anti-rot protection such as flaming.

With the aim to reduce the surface erosion and to limit small landslides phenomena, a protective bio-mesh, made up of jute fiber mats with tensile strengths generally not exceeding  $3 \div 4 \text{ kN m}^{-1}$ , was installed starting from the wattle for 16 m in the inner top part of the dune.

To improve the efficiency of the work, the bio-mesh was turned upside down the foot of the wattle. In addition, to encourage the development of the roots and consistent with the basic principles of circular economy, wood chips, made from *Pinus halepensis* Mill. wood residues collected close to the intervention site, were added to the sand as soil conditioner or mulch.

#### Site 2 – Torre Colimena

The interventions of protection and stabilization of the sandy dunes was based on the same dune consolidation techniques adopted for Patemisco site that involve the remodeling of the degraded dune profile, the placement of structural elements (of natural origin and essentially biodegradable) and the planting of native herbaceous and shrubby vegetation.

The structural defense of the dune fronts was obtained through the installation of a wattle, extended for 80 m, arranged parallel to the shoreline, for foot protection. The wattle was made up of heather rods (or similar) with a diameter of 30-50 mm and lengths of no less than 1.5 m, intertwined on uprights 70 cm apart and fixed with galvanized iron wire. The uprights, made of debarked poles of durable wood, were fixed to the ground to a depth of at least 70 cm by simple beating or drilling. Their diameter was 8-10 cm and their height above ground was about 40 cm. The pointed shaped end of the uprights subject to burial were treated with anti-rot protection such as flaming.

## 2

### PILOT ACTION ABOUT HYDRO RISK

#### PARTNER PP6

Based on the facts and issues presented above, we can reach some conclusions regarding Erosion, Damage that can be caused by natural disasters, Causes of these phenomena and Recommended Interventions.

First it should be considered that erosion is a process which accompanies the entire surface of the earth, a phenomenon which occurs with different intensity, depending on factors: rainfall, soil type, terrain slope, type and density of vegetation, elements of climate, etc.

Taking into account the analysis made for 5 plants that can be used to moderate the erosion action in the respective area of the river "Tamze": Verri (Alnus sp.) *Alnus glutinosa*; Laurel (*Laurus nobilis*); Frashëri (*Fraxinus ornus*); Lajthia (*Corylus avellana*); Poplar (*Populus tremula*), we conclude that all five of these plants have their own characteristics that help moderate the erosive action. But, based on the characteristics we analyzed, alder turns out to be the best plant that adapts to the conditions of the area, accepts poor soils, prefers and tolerates moisture, accepts density, has strong root system and grows easily.

In order to have a more in-depth analysis and even more accurate conclusions, a longer duration of observation is needed. On the other hand, it would be important to analyze in the laboratory the characteristics of the plants taken in the analysis.

"The increase of protection is clear in the material, it is clear that the intervention:" Increase of protection of protection with water technique "of families and community" in the Municipality of Vau-Dejës-Albania ", is seen as a sign of interest.

The intervention in "Tamze" should be implemented according to the protection parameters, where it should be constructed, which should pay great attention to the parts of the measures against erosion.

Planting summer plants is seen as the best choice and this should be done with pre-prepared seedlings, as in this way the vegetation cover becomes faster and the effects of erosion become moderate by this force.

### 3

#### **PILOT ACTION ABOUT SEISMIC RISK**

##### **PARTNER LP**

An important table-top exercise (TTX) involving the territory of the province of Bari was held on 16th October 2020. Within 3 Watch Out Project, LP organized the simulation of an earthquake at a depth of 18 km and with a magnitude of  $M_w = 4.5$ . The exercise organized by the Puglia Region - Civil Protection Section, in agreement with the Prefecture of Bari and in collaboration with the National Department of Civil Protection, was held with the collaboration of the National Institute of Geophysics and Volcanology (INGV) and had as main objective the test of the communication flows between the Regional Civil Protection, the Prefecture which activated the Rescue Coordination Center (CCS), the Provincial Command of the Fire Brigade of Bari, the Provincial Coordination of Associations of Voluntary Service of the Province of Bari, 118 Direction Bari-BAT and local authorities (municipalities of Altamura and Santeramo in the specific case), in order to make the Apulian civil protection system more and more efficient in the national, European and cross-border context. The Municipalities of Altamura and Santeramo in Colle have activated their own Municipal Operational Centers (COC). The activation of the Regional Emergency Centers and the Union Mechanism of European Civil Protection was simulated, through the National Department of Civil Protection. The TTX related to seismic risk was organized to test local, regional, national and international procedures in case of earthquakes. Since Montenegro, Albania and Italy have a common risk of natural or man-made disasters, such trainings and exercises of authorities and stakeholders become relevant beyond the Italian borders. The table-top exercise (TTX) 2020 was an opportunity for the entire regional Civil Protection System to test an intervention model on the territory based on cooperation and the correct subdivision of roles and tasks, as well as to verify the resources actually available. and can be activated in case of real emergency. The exercise also provided the opportunity to verify the validity of emergency plans and to test the effectiveness of the planned communication flows. During the exercise phases, national operational measures consistent with the management of the epidemiological emergency COVID-19 were adopted and tested. In particular, communications through videoconferencing systems between the Prefecture and regional civil protection.

## 4

### PILOT ACTION ABOUT SEISMIC RISK

#### PARTNER PP5

Table Top Seismic Risk Exercise (TTX) took place in Igalo (Hotel Palmon Bay) on 22nd -23th of January, 2020 and was organized by the Directorate for Emergency Management of the Ministry of Interior, in the framework of the 3 WATCH OUT project. This exercise was opened by Director General of the Directorate for Emergency Management Mr. Mirsad Mulić and by the Major of Herceg Novi Mr. Stevan Katić.

The reason for choosing the site is because that Herceg Novi is one of the area with the highest degree of seismic risk. This municipality is also among those who have the highest degree of sensitivity to issues affecting the protection and rescue system and is acting appropriately in the area. The city was among the first to develop the municipal plan for protection and rescues from earthquake as well as municipal plan for protection and rescues from fires and floods. They also show the highest degree of firefighting voluntary initiative.

The TTX was attended by representatives of the Municipal Team for Protection and Rescue of Herceg Novi , led by the Head of the Team, Mayor of Herceg Novi Mr. Stevan Katic, radio amateurs, the Red Cross local organizations, mountaineering club, volunteers, firefighting teams, representatives of the Institute for Hydrometeorology and Seismology and the Ministry of Interior – Directorate for Emergency Management, as well as secretaries of municipal team for protection and rescue of the municipalities of Tivat and Kotor.

The exercise was aimed at testing the local and national plan for protection and rescue from earthquake and to practice local, national and international earthquake response procedures, as well as to exchange of experiences, knowledge, good practices and lessons learned when it comes to earthquake readiness. Also, the exercise provided an opportunity to practice the procedures of the Municipal Team for Protection and Rescue, educate them and familiarize them with their rights and obligations in the event of emergency situations caused by a natural disaster.

## 5

### **PILOT ACTION ABOUT SEISMIC RISK**

#### **PARTNER PP6**

The Municipality of Vau Deja is part of the Shkodra Region, with a distance of 20 km from Shkodra, 92 km from Tirana and 81 km from Rinas Airport. It has an area of 468 km where 10 465 ha are agricultural land.

The Municipality of Vau Dejës is bordered on the north and west by the Municipality of Shkodra, on the east by the Municipality of Fushë-Arrëz and on the south by the Municipalities of Puka and Lezha.

It consists of 6 administrative units with a population of 50,130 inhabitants, namely: Vau Dejës with 13,035 inhabitants, Bushat with 24,200 inhabitants, Vig-Mnelë with 2,177 inhabitants, Hajmel with 6,300 inhabitants, Temal with 2,520 inhabitants and Shllak with 1 899 inhabitants.

With the new administrative division in 2015, the Municipality has under its administration the city of Vau Deja and 47 villages.

The main economic activity is based on agriculture and livestock, small business and services.

The Municipality of Vau Dejës also has a development in the energy production sector, with the hydropower plant of Vau i Dejës, Koman, with HPPs Ashta 1 and Ashta 2.

In the Municipality of Vau Dejës is located the regional landfill of Bushat, as a point of waste collection and processing for the Shkodra-Lezha region.

The Fire Department covers all the above mentioned areas, administrative units and population.

## 6

### PILOT ACTION ABOUT FIRE RISK

#### PARTNER LP

Managing fire hazards and fighting large-scale forest fires was the central topic of 3 large exercises in three different countries that took place on 31 May 2021. This event was made possible in full respect of the limitations posed by the pandemic, by the joint efforts of the 3 Watchout national teams from Italy, Albania, and Montenegro.

This entire geographical region poses severe risks of large fires, especially during the summer season. The use of advanced protocols and procedures, high tech equipment, and testing of different scenarios in research of best practices are the features of the modern approach to fire hazard. Different geographical regions and different organizational and operational frameworks in our countries have provided a series of important insights. Our region has made an important step forward and improved the safety, while our Project has achieved one of the most important and demanding milestones.

The 3 field exercises took place in 3 important locations. The Italian teams have chosen a demanding setting of the Civil Protection field camp in Ugento in the Apulia region. The Albanian exercise took place in Vau i Dejës, while the Montenegrin part of the exercise was deployed within the municipal area of the Capital, in the location of Luznica.

Risk analysis, maps, and strategies. European cooperation in dealing with emergencies by protecting the environment, territories, landscapes. Constant exchange of best practices and skills, training, precious investments in technologies and safety. There is all this in the anti-forest fire drill (AIB) which took place on May 31, 2021, at the dog training camp of the National Fire Brigade, located in the municipality of Ugento, in the province of Lecce. The exercise, carried out jointly and with a common methodology between the project partners (Ministry of the Interior, Emergency Situation Directorate - Montenegro, Lezha Region - Albania, NGO Pfd - Albania), is part of the trilateral project "3 Watch Out" (Ways, Tools and Challenges for Our Safety), co-financed under the "Interreg IPA CBC Italy Albania Montenegro 2014-2020" Program and in the more general context of the European strategy for cross-border cooperation in the Adriatic-Ionian macro-region.

It was a significant moment of simulation in the activation of the AIB module provided by the European Civil Protection Mechanism which coordinates the actions of prevention and management of hydrogeological, seismic and forest fire risks in the EU area.

For the Apulian Civil Protection, the Ugento exercise represents at the same time a dress rehearsal for the start of the anti-fire campaign that traditionally starts in our country from mid-June continuing until September, but above all the concrete opportunity to verify by putting the know-how acquired over years of experience in the field in fighting forest fires is available to other countries. One of the activities on which the history of the Apulian regional civil protection is based.

A joint effort to prevent risks, to prepare for the management of natural or man-made disasters, in the use of expert groups of volunteers trained to react in a timely manner to emergencies, which allows to protect the environment, the safety of citizens and to bring immediate assistance to populations affected by disastrous events. This effective model of prevention and safety on the fire front has involved the Puglia Region, the Regional Civil Protection and the National Department of Civil Protection, the Fire Brigade, the



Regional Agency for irrigation and forestry activities (ARIF) for years, local authorities and administrations, together with the vast world of volunteering and the various associative components of civil protection.

The exercise represented an opportunity for training both for the Civil Protection system, in particular for the Volunteers of the European Module of Civil Protection for the active fight against forest fires according to the principles of the European Union Civil Protection Mechanism and for both Albanian and Montenegrin colleagues who, with their Civil Protection systems, will have to integrate to ensure that any rescue operations can be coordinated in the Mediterranean area.

**7-8-9**

**A SYSTEM OF MONITORING AND CONTROL HAVE BEEN INSTALLED.**

**PARTNERS. LP, PP2, PP3 AND PP5**

The deliverable D.T.2.4.1 Systems for warning and control of risks contains all details and photos of equipment for each partner.

This project is co-financed by the European Union under the instrument for Pre-Accession Assistance (IPA II)

This document has been produced with the financial assistance of the Interreg IPA CBC Italy-Albania-Montenegro Programme. The contents of this document are the sole responsibility of Puglia Region Civil protection Department as Lead partner and can under no circumstances be regarded as reflecting the position of the European Union and of the Interreg IPA CBC Italy-Albania-Montenegro Programme Authorities.