

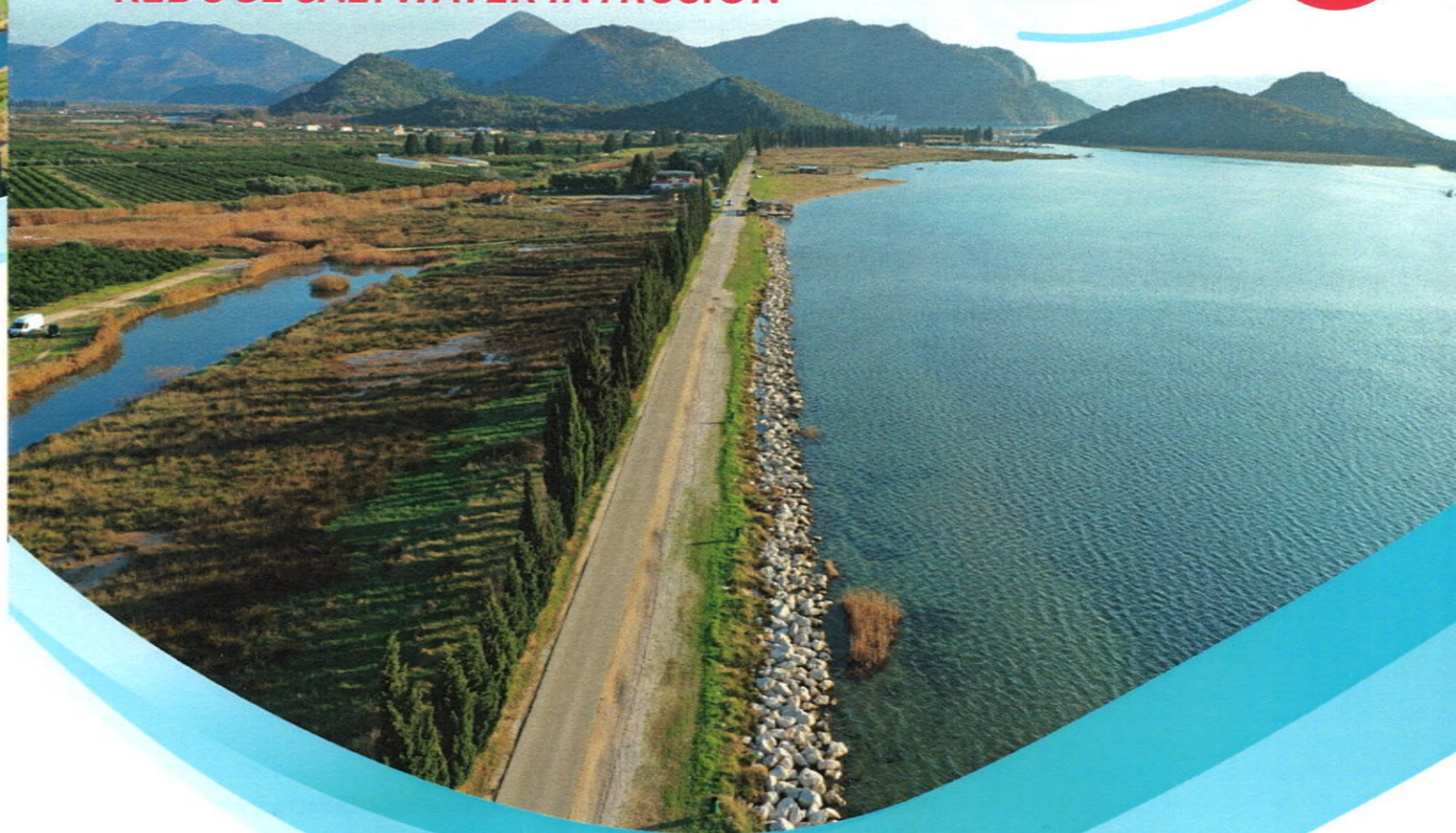


MoST

Monitoring Sea-water intrusion
 in coastal aquifers and
 Testing pilot projects
 for its mitigation



MITIGATION STRATEGIES TO REDUCE SALTWATER INTRUSION



CONTACTS

UNIVERSITÀ DI PADOVA Dipartimento ICEA
 Paolo Salandin
paolo.salandin@unipd.it

CNR
 Luigi Tosi
luigi.tosi@igg.cnr

CONSORZIO DI BONIFICA ADIGE EUGANEO
 Giuseppe Gasparetto Stori
giuseppe.gasparetto@adigeuganeo.it

REGIONE DEL VENETO Difesa del Suolo
 Valentina Bassan
valentina.bassan@regione.veneto.it

**UNIVERSITY OF SPLIT - FACULTY OF CIVIL
ENGINEERING, ARCHITECTURE AND GEODESY**
 Veljko Srzić
veljko.srzic@gradst.hr

CROATIAN WATER
 Stjepan Kamber
stjepan.kamber@voda.hr

**REGIONAL DEVELOPMENT AGENCY
DUBROVNIK-NERETVA COUNTY - DUNEVA**
 Petar Maleta
pmaleta@dunea.hr

European Regional Development Fund

www.italy-croatia.eu/most



MANAGING AUTHORITY
 Veneto Region
 Area for Human Capital, Culture and
 Programming of EU Funds
 Directorate for Joint Programming
 Organizational Unit Italy - Croatia MA

 Dorsoduro 3494/A,
 30123 Venezia (Italy)
 italia.croazia@regione.veneto.it
 +39 041 279 1781

JOINT SECRETARIAT - HEADQUARTERS
 At the premises of Veneto Region

 Dorsoduro 3494/A,
 30123 Venezia (Italy)
 JS.Italy-Croatia@regione.veneto.it
 +39 041 279 3120

COMBATING THE SALINIZATION OF THE COASTAL AQUIFERS: THE MoST PROJECT



Saltwater intrusion in coastal aquifers is a worldwide problem caused, among other factors, by aquifer over exploitation related to human activities, such as water supply for human consumption and irrigation, land reclamation of low-lying farmlands, land climate changes which contribute to the reduction of groundwater natural recharge. The need of taking into account this topic has been consequently intensified, with the aim to achieve a better understanding of the physical processes driving the continental marine water exchanges and define suitable countermeasures limiting the occurrence. Geophysical surveys and monitoring sites, as well as, laboratory and numerical experiments and a proper managing plan of freshwater the resources are essential for this purpose.

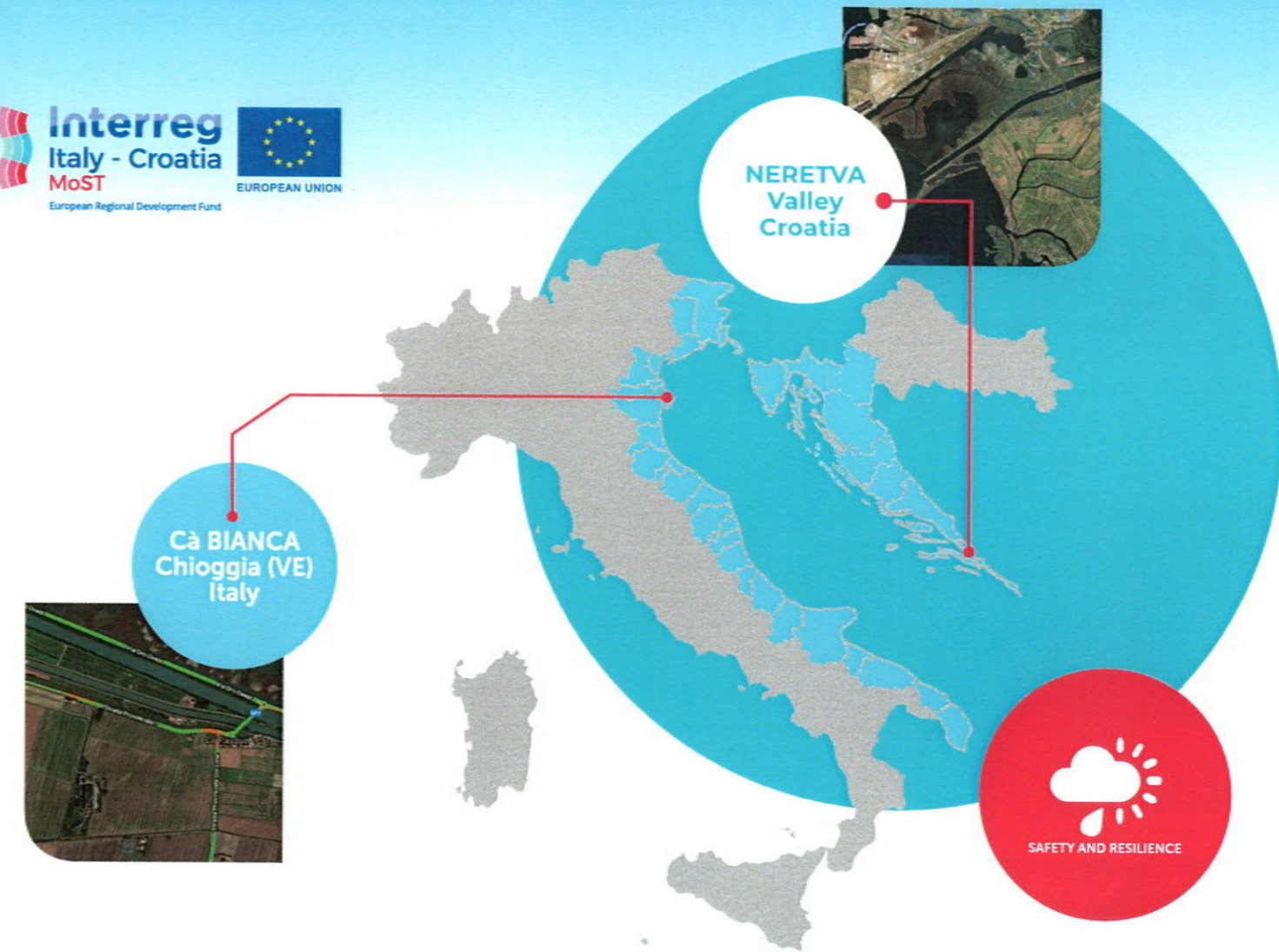
Both Italy and Croatia are significantly affected by saltwater intrusion in their coastal regions with serious consequences on agricultural activities and tourism that may become dramatic in relatively short time due to climate change effects. The main objective of MoST is the monitoring of the seawater intrusion in specific regions of the northern Adriatic coasts of Italy and south eastern Croatia to assess its relevance, and suggest/test appropriate countermeasures. In addition, the project expects to improve the capacity in transnational tackling saltwater contamination vulnerability and the preservation of strategic fresh water resources in coastal areas. The project will be developed with the collaboration and the involvement of local populations and local authorities, which will be the main stakeholders of the project actions because of the expected benefits on agriculture and tourist activities.

The intervention is structured in 3 main steps that correspond to the 3 technical WPs of the project:

- 1. Studying**
 Includes the increasing of technical-scientific knowledge about the sites where the project will be carried out and the setup of a monitoring system.
- 2. Testing**
 Includes the realization of pilot sites where innovative measures for halting saltwater intrusion and manage properly the groundwater circulation will be tested and applied in order to promote the keeping of agricultural practices.
- 3. Transferring**
 Includes the design of adaptation plans that will be designed considering both data provided by the monitoring system and effects measured on the pilot sites. In the adaptation plans procedures to adopt for halting saltwater intrusion and also measures for keeping adequate incomes from agricultural practices also in case of saltwater intrusion (adaptation) will be described. These measures will include the selection of species/varieties, the implementation of specific water management procedures, the adoption of specific cultivation techniques, etc.

Partners:

- LP: University of Padova – Department ICEA
- PP1: CNR
- PP2: Consorzio di Bonifica Adige-Euganeo
- PP3: Regione Veneto – Direzione Difesa del Suolo
- PP4: University of Split – Faculty of Civil Engineering Architecture and Geodesy
- PP5: Croatian Water
- PP6: Regional Development Agency Dubrovnik – Neretva County (DUNEA)



APPLICATION: MEASURES FOR THE PREVENTION AND MITIGATION OF SALTWATER INTRUSION IN THE NERETVA VALLEY



In order to reduce the negative impact of saltwater intrusion in the Neretva valley, which is recognized as a highly endangered area by saltwater impact, the following project activities will be carried out to protect agricultural production and the environment:

- implementation of in situ investigations works to capture for geological and hydrogeological conditions at the Neretva valley site which has been selected as a project case study,
- updating of the existing monitoring system in the Neretva coastal site by adding multiparametric measurement sensors. After the installation is done, web and mobile application will be developed to increase the aquifers state visibility as well to increase the general insight to salinity dynamics within the project area,
- testing of the proposed measures to reduce the negative effects of seawater intrusion in order to examine their effectiveness,
- selection of appropriate measures to increase water quality in coastal aquifers in the pilot area.