



FLOWERED

**FLOWERED** is coordinated by the Department of Chemical and Geological Sciences - University of Cagliari and it involves 13 Partners of 7 different Countries : Ethiopia, Italy, Kenya, Spain, Tunisia, Tanzania, United Kingdom

### Partnership

Department of Chemical and Geological Sciences

University of Cagliari, Italy

Desertification Research Centre

University of Sassari, Italy

Centro di GeoTecnologie

University of Siena, Italy

Departament de Cristallografia, Mineralogia i Dipòsits Minerals

Facultat de Geologia - Universitat de Barcelona, Spain

Institute of Biological Environmental and Rural Sciences

University of Aberystwyth, UK

College of natural Sciences University of Addis Ababa, Ethiopia

Department of Chemistry and Biochemistry, School of Science,

University of Eldoret, Kenya

Nelson Mandela African Institution of Science and Technology, Tanzania

Oikos East Africa, Tanzania

Observatoire du Sahara et du Sahel

International, Intergovernmental Organization operating in Africa's Sahara-Sahel Region

Hydro Technical Engineering S.r.l., Italy

Planetek Italia S.r.l., Italy

D D'Enginy Biorem S.L., Spain

Geomatrix PLC, Ethiopia



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## FLOWERED

de-Fluoridation technologies for imprOving quality of WatEr and agRo-animal products along the East African Rift Valley in the context of aDaptation to climate change

Ethiopia, Kenya and Tanzania



### FLOWERED OBJECTIVE

Is to contribute to the development of a sustainable water management system in areas affected by fluoride contamination in water, soil and food in the African Rift Valley (Ethiopia, Kenya and Tanzania), thus to improve living standards of its population.



**FLOWERED** aims to study, test and implement innovative defluoridation technologies for drinking and irrigation water that will mainly operate at small village scale and to develop an integrated, sustainable and participative water and agriculture management at a cross-boundary catchment scale.

On the basis of the complexity of the issue of water de-fluoridation, the proposed scientific approach in FLOWERED is based on a detailed knowledge of the geological and hydro-geological setting that controls contamination of water that constitute the prerequisite for the implementation of a sustainable water management and for the proposal of sustain-able and suitable strategies for water sanitation and agricultural system.

Innovative agricultural practices will be assessed, aiming to mitigate the impacts of fluoride contamination of water and soil on productivity of selected food and forage crops and dairy cattle health and production. The development of an innovative and shared Geo-data system will support the integrated, sustainable and participative management system.

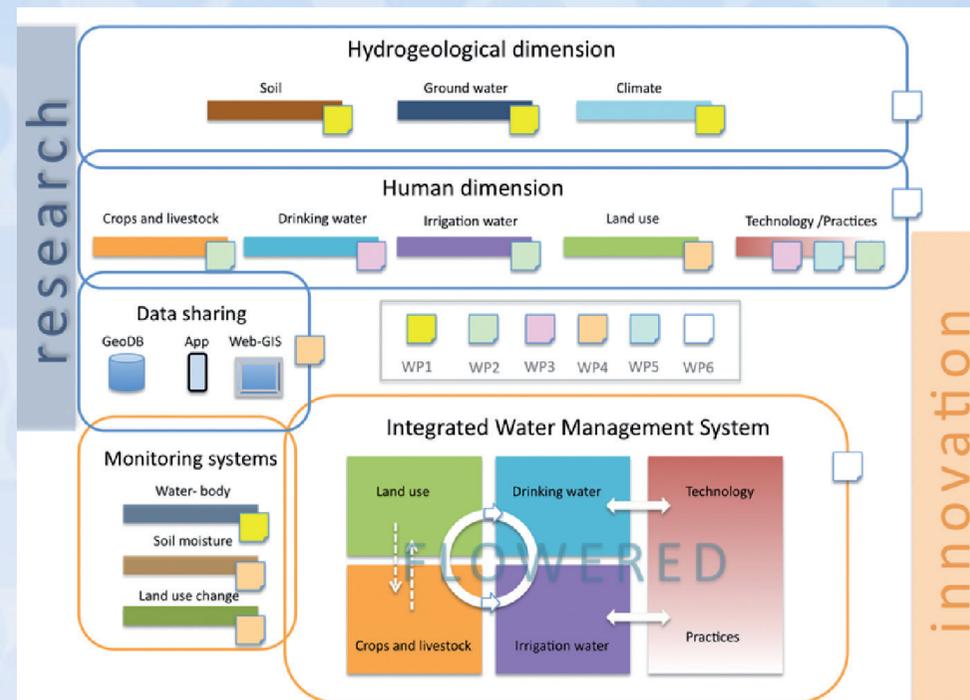
FLOWERED, focusing on innovative technologies and practices and taking into account local experiences, will implement an integrated water and agriculture management system and will enable local communities to manage water resources, starting from using efficient de-fluoridation techniques and applying sustainable agricultural practices.

The integrated approaches improve knowledge for EU partners, local researchers, farmers and decision makers. The Project through the involvement of SMEs will strengthen the development co-innovative demonstration processes as well as new market opportunities.



## FLOWERED METHODOLOGY

The FLOWERED methodology is planned to answer to the need to achieve an Integrated Water Management System based on the deep knowledge of the natural and human dimension of the study areas: research (blu boxes) and innovation (orange boxes) activities are overlapped to demonstrate the relationship between them.



## IMPLEMENTATION OF 8 WORK PACKAGES (WP) TO ACHIEVE THE FLOWERED OBJECTIVE

- WP1 - Advancing hydrogeological knowledge
- WP2 - Developing mitigation options for fluoride contamination in agriculture and livestock system
- WP3 - Developing innovative water defluoridation technologies
- WP4 - Innovative Geo-Data system for knowledge management
- WP5 - Socio-economic Analyses
- WP6 - Dissemination and Exploitation of results and Communication activities
- WP7 - Management
- WP8 - Ethics requirements