

DEVELOPING HYDROTHERMAL RESOURCES IN ALBANIA WITH INNOVATIVE METHODOLOGIES



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The Association B.A.ZH NGO organized three field missions to Albania of Technical Director of the *Permanent Thermal Observatory* (PTO), Dr. Davide Rossi, in order to meet the relevant Albanian institutions and discuss their interest to explore the economic and touristic potential of hydrothermal resources in Albania and their development through innovative methodologies proposed by PTO. The first mission was carried out from 26 to 28 July 2010, the second mission was carried out from 3 to 5 November 2010 and the third mission was carried out from 2 to 5 February 2011.

Albania, located in the Mediterranean basin, has a climate of relatively short and wet winters and hot and dry summers. The climatic regional variety supports a rich flora and fauna. Albania is rich with hydrothermal resources, in Fushe Kruja, Elbasan, Benja, Permet, Vronomero, Leskovik, and other areas. Albania has considerable mineral resources, including chrome, nickel, copper, bauxite, phosphorite, oil and coal. Water resources are also abundant.

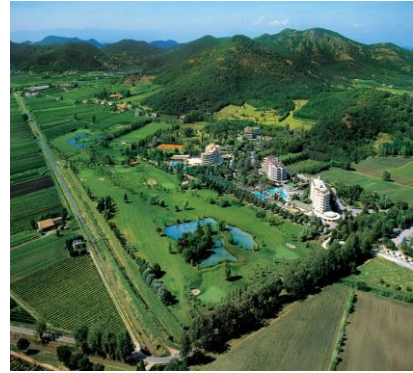


Hence, Albania is a very interesting country from a standpoint of natural resources. In particular, from a geological point of view, Albania is a country filled with mineral and hydrothermal resources. By developing important hydrothermal country resources, it could contribute to foster ways of ecologic tourism and health care along with significant economic spin-off for areas involved. The experiences of other countries show that this type of tourism is constantly increasing despite the international economic recession.



Albanian researchers undertook several studies up to date in the field of geology, in particular through international collaboration. In particular, some studies revealed to be highly relevant in the field of clay and mud.

In this framework, the Association B.A.ZH NGO (*Bashkepunimi per zhvillim, promovimin e rezurseve njerezore, sherbime sociale dhe ligjore si dhe integrimi i njerezve ne nevoje*) established a relation of partnership with the *Permanent Thermal Observatory* PTO[®] headed by Prof. Antonio Bettero and sited near the Cosmetological Chemical Centre “C.A. Benassi” of Department of Pharmaceutical Sciences of University of Padua, which devised an innovative approach of thermal biotechnologies.



The *Permanent Thermal Observatory* (PTO), established by the University of Padua in partnership with other qualified scientific territorial structures, since 1996 undertook research studies and developed techniques in the field of thermal mud. In particular, the PTO worked aiming at developing the unique Euganean thermal area characterized by the presence of *hydrothermal* resources known already at the ancient Roman times. Such resources triggered the development of spas hotels and the regional tourism in the area.

The methodological innovation, adopted by the PTO, consists of the study of specific thermal mud territorial features and their reproduction with biological methodologies. In this way, important thermal initiatives can be developed within a sustainable environmental process. The maturation process of thermal mud management can be undertaken through automatic or manual plants, situated in each thermal hotel.



In the light of these innovative methodologies, in 2010 the PTO began a research project aimed to qualify Japanese artificial thermal mud (Biofango[®]) and to develop an implementation method for the maturation process plant (Japan 2010). Its main purpose is to study the conditions of the management of biological maturation activity process. Similar methodological studies are taking place in Canada for the assessment of surface free energy of wood by contact angle analysis (UQAC 2009).

During the missions of the *Permanent Thermal Observatory*, the following Albanian scientific institutions of the University of Tirana were involved: the Department of Pharmaceutical Sciences, Faculty of Medicine, the Department of Earth Sciences, the Faculty of Geology and Mining and the Faculty of Natural Sciences.

Proposals were formulated during the field mission meetings for future collaborations, technical assistance and know-how transfer by the PTO. Within the project, the PTO Albania will be involved in the production of scientific research studies aimed to develop methods for surface energy components of natural Albanian thermal muds in process depending conditions, in order to implement of a maturation plant sited near an Albanian thermal structure. The maturation plant should consent to develop a first experimental monitoring activity for the determination of the quality, conformity, and maturation degree of “Albanian thermal muds” by TVS mud index[®].

The Department of Earth Sciences, Faculty of Geology, Polytechnic University of Tirana, the Department of Pharmaceutical Sciences, Faculty of Medicine of the University of Tirana, and the Faculty of Natural Sciences of the University of Tirana will be involved respectively on characterization of the chemical pattern and mineralogical phases of “Albanian thermal muds”, on the characterization of their maturation process from a pharmaceutical point of view united at an implementation of a maturation plant, and on the detection and mapping of biologic species



developed in the thermal water during the maturation process. By increasing the value of the Albanian hydrothermal resources, the objective is to promote human development by the institutional public and business sector in terms of education, research and productive capacity within the sustainable development of the country and in alignment with the central and local development policies for sustainable territorial tourism and specifically for the thermal tourism.

These activities will be implemented in Albania by the Non Governmental Organization B.A.ZH which gives continuity to the IDEASS country initiatives.

The Association B.A.ZH NGO - *Development Cooperation, Promotion of Human Resources, Social Services, Legal Assistance and Integration of Vulnerable Groups*, is a non governmental organization which aims to promote research activities, support supervised studies and carry out development cooperation projects in the field of environmental protection, infrastructure, health, agriculture, food farming, processing and research, social services, legal assistance, education and youth development, culture, training and development planning, in order to enhance local institutions, in collaboration and coordination with the local authorities, the Universities, NGOs, the International Organizations and other agencies.

For more information, please contact:

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