RIVAM is a **interdisciplinary applicative research**, of which goal is to emphasize, through dissemination and young researchers' training actions:

☞ *a practical and efficient method for ecological rehabilitation of Bozanta Tailing Pond coming from non-ferrous mining industry of Baia Mare area, using zeolites as amendments*
☞ *acclimation of some vegetal species to physically-chemically-biologically particulars parameters of the pond;*
☞ *elaboration of some informative materials (brochures, Guide for good practices in hazards of non-ferrous industryand their dissemination to population (especially that located near the pollutant sources) in order to inform it about the actions in cases of some hazards producingto reduce the contamination risk/victims*

Reaching of final objective involves complementary activities from the fields: monitoring and reducing the environment pollution-microbiology-phytopatology:

1. Actions for identification, inventory and characterization of actual state of tailing ponds in Maramures area (Baia Mare): technical description (foundation, structure, physically-chemically stability, etc.) of tailing ponds (running or closed) in Baia Mare area; overview of rehabilitation and stabilization measures taken, description of ecological accidents induced, environment impact and rehabilitation actions; a synthesis of bibliographic data regarding the rehabilitation methods and assessment of practical application of them and the implementation of environment laws;

2. Action regarding the assessment of physic-chemically-biologically parameters of Bozanta tailing pond: sampling of soil and physically-chemically analysis (pH, electrically conductivity, porosity, capillarity, granullometry, specific area, organic and inorganic carbon, heavy metals content and speciation, corrosion processes, etc.); sampling of vegetal from pond's surface and chemically analysis (heavy metals content) and phytosanitary (vegetative density, roots lengths, necrosis, etc.); vegetal species with high adaptability to pond's physically-chemically parameters will be chosen;

3. Laboratory study of zeolite efficiency will be done in static and dynamic regime to simulate natural conditions the processes occurred; the evolution

of selected vegetative species will be monitoring using different mixtures soil/zeolite and varying different parameters (soil/zeolite mixing ration, the form of zeolite activation) in order to established the optimal conditions for selected species developing;

4. Study regarding the bio-accumulation mechanism of heavy metals in vegetal samples: based on analysis results correlation between monitoring parameters will be settled and mathematical modeling of bio-accumulation of heavy metals in plants will be performed;

5. "In situ" application of procedures and methodology settled for rehabilitation of tailing ponds: "in situ" on the studied surface of tailing pond will be applied the rehabilitation methodology studied in the laboratory: zeolite amendments will be applied, according to optimal solution established at laboratory level; on this area selected vegetal species will be seeded; the area will be monitorized following the time evolution of physically-chemically-biologically parameters in order to assess the efficiency of method;

6. Information of population about chemical hazards: in cooperation with Emergency Situations Inspectorates-Civil Protection and Public Health Agencies of MM and SM counties, materials (brochures, Guide for Good Practices) related to chemical hazards in non-ferrous industry will be elaborated; they will be disseminated to population (especially that located near the pollutant sources) in order to inform it about the actions in case of some hazards are producing to avoid the contamination risk/ victims.

7. Dissemination actions of project 's results (web page, scientific publications, CD-ROM presentation, media, participation in scientific events);

8. Human resources training activities (young and experienced researchers) in order to increase the competitiveness in the field of research-developing, for successfully participation in future funding national and international competition (PC 7, INTAS, INTERREG).

 9. Actions for project management: decisional flow, communication between partners and with funding institution, coordination of each activities and of entire projects