



DAM SAFETY SURVEY ON DRIN AND MAT RIVER CASCADES

Duration of the Project

2005-2006

Swiss Grant Contribution

CHF 250'000.–

Location

Drin and Mat River Cascades

Project Partners and Beneficiaries

Albanian Energy Corporation (KESH)

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1. Context

- The five hydropower plants (HPPs) on Drin and Mat River Cascades represent more than 90% of Albania's installed power capacity. Although the operation of these HPPs is under control, the seven dams and appurtenant structures show signs of distress.
- The Albanian Energy Corporation (KESH), as the owner and operator of the HPPs and dams, states an urgent need for remedial civil works at the dams and appurtenant structures and called for a study, on the status of their safety conditions. The complex study is being carried out by a technical advisory team of the Swiss company of Electrowatt-Ekono Ltd. Financed by SECO with an amount of CHF 250'000.–
- Given the huge economic losses and the heavy human consequences that may result from an eventual complete destruction of the dam structures, or from a land slide into the lakes, it is imperative to detect and eliminate existing damages and risks as soon as possible, not to be faced with an unexpected situation.



2. Objectives

- The objective of the Albania dam safety survey is to design a national dam safety program, enabling KESH to improve the safety of the pre-sent infrastructure on the Drin and Mat River Cascades and operate it conform to the Albanian Law Nr. 8681 "On Project, Construction, Operation and Maintenance of Dams" and to international standards.
- This requires an in-depth analysis and assessment of the current state of the respective dams, the catchment area and downstream situation, and the existing monitoring, control and alarm systems. The study will result in a list of technically feasible prioritized projects, forming together a national dam safety program.
- Given the crucial and vital importance of ensuring the sustainability in hydro-power generation in Albania, the survey will include a realistic time schedule, organizational set-up and estimated costs for the recommended rehabilitation and prevention interventions. The proposed options should follow the best cost-benefit ratio.



3. Activities

- The scope of service for this dam safety survey will focus on the following **4 Modules**:
- **Module I:** The institutional capacity building for responsible KESH staff and management, and for the national Albanian Dam Safety Supervising Board which includes
 - Analyse the existing legal requirements and the institutional set-up in Albania regarding dam safety
 - Analyse the functioning – including independency, financing, staffing, qualifications – of the existing Albanian Dam Safety Supervising Board
- **Module II:** Catchment area/basin of the lakes: Geological hazard assessment (including detection and monitoring of hot-spots; hydrological data network/data access)
 - Determination of the seismic zones based on databases of earthquakes dating back to historic times
 - Identification of tectonic or seismic faults in the area of the power plants and reservoirs
- **Module III:** Dams and appurtenant structures: civil works and monitoring/control system
- **Module IV:** Downstream: civil works and dam brake analysis-emergency action plan

