

Environmental - Geological Mapping in the Shkodra - Lezha Region (Albania)

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In Albania, only in these 4-5 last years is given attention to the environmental problems, which every day are getting more and more sharp pointed. The fact is that the low land and in the shoreline of Albania, the population is foreseen to be increased about twice in the end of this century and this without doubt will create ecological problems. To precede these problems we have undertaken some geoenvironmental studies mostly in the low part of Albania offering useful information of land use and infrastructure development. The environment as a dynamic system must be understood and regulated by the human being. Meantime that the human being understands the changes in the biological system, he has difficulties to see the progressive changes of the physical system. Precisely to study these changes a particular contribution give the earth sciences and among them geology helps in the solution of the environmental problems with the data derived from the following maps: Surface geological map. Geology is a part of our natural environment, so every geologic map is an environmental map as well, and in this framework the formation of region in question, according to the vulnerability to pollution can be classified. Considering the lithological and the susceptibility to pollution we can compile a variant of environmental map. In the geological variant maps can be included also the maps of "Thickness of Quaternary deposits", "Occurrences of economic mineral raw materials" etc., which completed geological data necessary for the planning. Geomorphological map. Apart from the traditional field surveying to compile this map a determined role played the aerial photos. Must to emphasize that mountainous

relief of the region was forming mainly during the pleistocene and on the holocene. The sediments of Pliocen and of the Quaternary are overlapping in a tectonic-karstic plain. Hydrogeological map. Hydrogeological mapping takes a very important place in the environmental studies. The protection of the water from the different pollutions is one of the main tasks of the environmental geology. This variant includes the map of "Hydrostatic level below the surface", the map of the "Depth of aquifers" etc. The hydrostatic level plays the important role in the preparation of geological map for environmental protection. Engineering-geological maps. For the preparation of the concerned map variants we relied on different sources including our geological and hydrogeological maps, descriptions of sections of shallow boreholes and drillings of minor depth, laboratory tests of samples and results of the complex engineering geological studies. The five maps variants included in this area, are as follows: Map of lithological logs of shallow boreholes. Map of geology at 2m, 5m and 10m

depths below surface. Map of construction suitability. All these maps are used for planning of construction and for environmental protection. According to these maps, the Kopliku region offers favourable condition suitability provided by gravels of high bearing capacity. Agrogeological maps. Formerly, soil-maps were just an instrument for agriculture and forestry. Today they are most effective data-bases for environment protection. Soil protection, in a wider sense is not only concerning the pedological soil, but also the earth-crust. So, the soil is a geological formation, which must be seen in the relation with parent rocks, with ground-water etc. Geological map for environmental protection. The maps of environmental-geological variant intend to protect the environment from the natural phenomenon and from the human activity. This map depicting the susceptibility to pollution of surficial formations is based on the simultaneous evaluation of interrelation between all elements taken from the upper variants.