O12-6 RESULTS OF GEOLOGICAL AND ENGINEERING STUDIES ON THE QUATERNARY LOOSE DEPOSITS ON THE WESTERN COASTAL ZONE (ALBANIA)

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In this paper briefly some results of the study for Quarternary loose deposits in the coastal zone Durres-Seman (Fier), is evidenced.

The aim of this study was to carry out a set of geological, engineering-geological and seismological data. These data are necessary for important engineering consructrions, urban planning as well as tourism and infrastructure development.

The zone Durres-Seman (Fier) is the western part of Periadriatic Depression.
The Periadratic basin, formed since Serravalian, subsequently to the main folding and thrusting of Ionian zone, is filled by Miocene and Pliocene molasses (Aliaj,1994).

The geological structures of the Periadratic Depression are built by some linear relatively narrow anticlines and wide synclines with north-northwestern extension.

The Mio-Pliocene anticlines are superimposed overthrust or backthrust faults, that usually are not observable on the earth surface, but they are detected by seismic explorations.

The Miocene molasse transgressively and with strong angular unconformatiy overly the Ionian and Kruja structures, mainly along the eastern and southern margins of Periadratic Depression, the seismic methods considerably help in the evidence of Mio-Pliocene folds and thrust and backthrusts complicated them. The buried anticlines are also well investigated by seismic explorations. The angular unconformities are well determined too (Skrami, Nishani, Hyseni, 1994).

The main objectives of the study are:
1-The lithological-facial zoning by mapping of lithological compositions and facial distribution.

2-The geological-geophysical zoning by mapping of Quaternary unconsolidated sediment floor. From geological point of view is attained to be done:
-the description and the lithological correlation
-the individualisation of two depositional sequences of third order, where system tracts such as lowstand wedge, transgressive an high stand ones are evaluated.
-the characterisation of sedimentary environments, especially, for the Quaternary upper part (0-30 m.)

3-The engineering-geological zoning by its mapping together with the geotechnical data such as physico-mechanical parameters, grain size curves and deformations curves.

In geological-engineering aspect is given:
-the geomorphological parameters of the region
-the hydrogeological conditions
-the physical-mechanic indicators of the rocks, especially of the Quaternary loose deposits
-the geotechnic classification of the rocks.

Former fundamental geotechnic studies and many samoles, both in outcrops and subsurface are taken into consideration for the above purposes.

For the study of geodynamical model and especially for dynamic parameters of the soils the engineering seismic method is used. The study of the seismic velocity for shear and compressional waves in the earth surface and in the depth by the “down-hole” method is treated on another special paper.

4-The assessment seismic hazard using the engineering-geological and engineering-seismological data for determination of the zones susceptible of liquefaction of coastal sands and the zones capable to be compressed.

From seismological viewpoint is given:
-the seismicity of the zone
-the seismotectonic characteristics
-the seismic hazard

5-Besides this, there is treated the actual sedimantology, near the seacoast, where factors controlling the seacoast moving are analyzed. So, it is evidented the zone where the land surface is increased against the sea (Shkumbini delta) or decreased due to the seawater transgression (Seman region). In this contact, the subenvironment such as alluvion plain, front delta, lagoons and marshes, coastland beach down to prodelta or outer shelf are determined.

As a conclusion by integrating the geological, engineering-geologic, seismological and seismic data, is achieved the categorisation of the studied region, where the seismic hazard parameters and engineering-geology conditions are included.

Based on the present legislation, the conclusions and the results of this study will be in the benefit to some important institutions, also to all the interested people.

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