STUDY OF THE MEDICAL GEOLOGY AND GEO HAZARDS IN WESTERN IRAN

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This research, based on the study of medical geology in Sanginabad region. Sanginabad which is part of the Sanandaj-Sirjan structural zone, in west Iran.The Sanandaj-Sirjan Zone (SSZ) is located between the central Iran block and the Zagros Fold-Thrust Belt and is a part of the Zagros orogen. The water in Sanadaj and Bijar area is polluted by metal and semimetal components. Lifetime decreasing, getting cancer and large number of kidney disease are the main problems that have been reported amongst inhabitants because of the polluted water with these components. The basic researches in Sanandaj area started from 2003-2004 with identification the high risk regions from the normal risk regions. The first step of the sampling was started on the surface waters and underground waters in small scale but with wide range at the surface. These samples obtained better indexes and data from the rocks and soils samples. According to the data from rocks and soils specimens, we can find the source of this anomaly and high potential risk area in that region. By a totally overview we notice the additions of some metal and semimetal elements in the structural units on the region. The lithology of Bijar region is composed of igneous, metamorphic and sedimentary rocks. The igneous rocks are being a part of The Urumieh-Dokhtar Magmatic Assemblage that forms a distinct linear intrusive-extrusive complex, which extends along the entire length of Zagros orogen, with a width of over 4 km. The Urumieh-Dokhtar Magmatic Assemblage contains various lithologic units including Diorites, gabbros, granodiorites, granite bodies of different size, widely distributed basaltic Lava flows, trachybasalts, ignimbrites and pyroclastic rocks, mostly tuffs and agglomerates.
According to the volcanism activities we have mineralization that formed from southeast (Dashkasan mine) to northwest (zarshuran mine).the main minerals of this mines are including gold (Au), realgar (AsS), orpiment (As_2S_3), Stenonite (Sb_2S_3) and Cinnabar (HgS) that have increased the Hg, Sb, As elements enormity at this region. Sweet water deposits (travertine) that are belong to quaternary is distributed at the whole of region. These deposits of porous travertine sediments specified with yellowish white color. The hydrothermal activities are related with new volcanism of the region. devolatilization of the lower magmas have brought the arsenic to the hydrothermal system then entered to the groundwaters.

Keywords: Medical Geology, geo-hazards, Environmental Geology