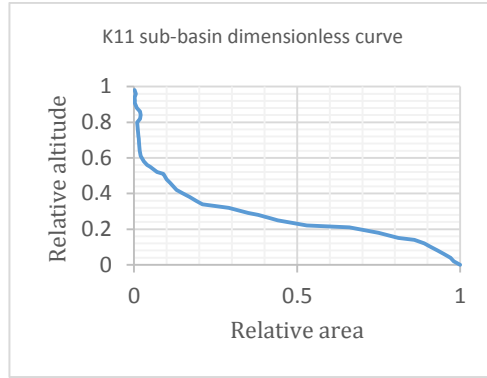
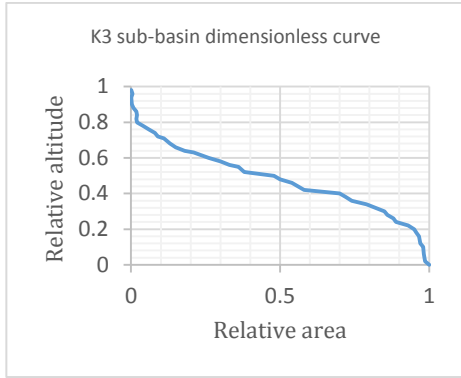


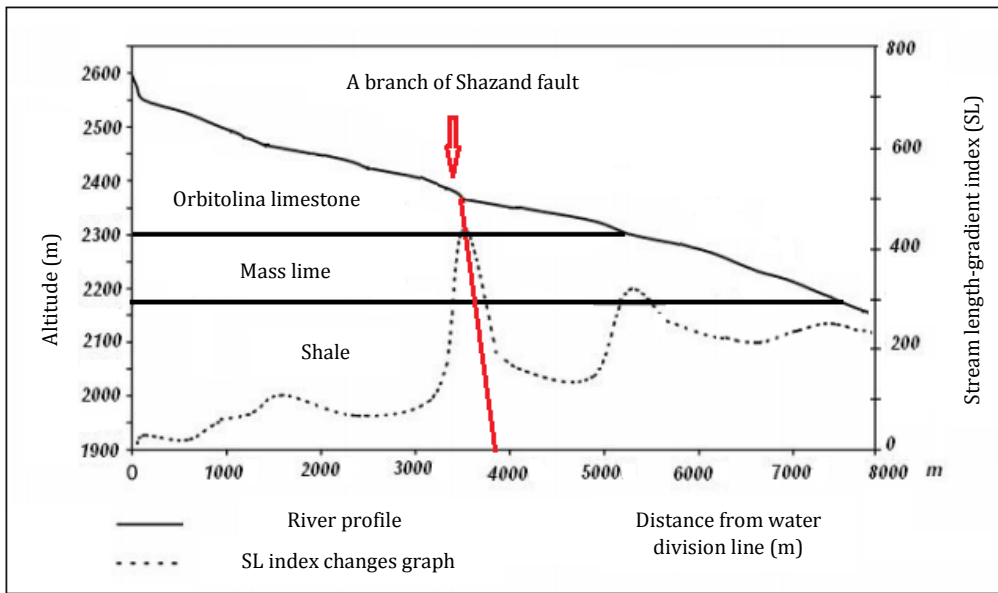
**Figure 3)** horsetail fault system at the end of south east of Shazand fault (some of its parts are located inside the studied area)



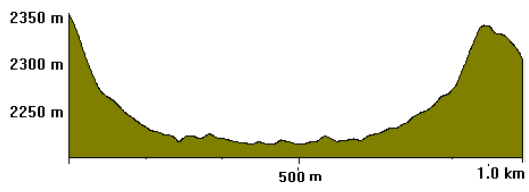
**Figure 4)** the evidence of sliding movements along Shazad fault branches in northern west of Mobarake village



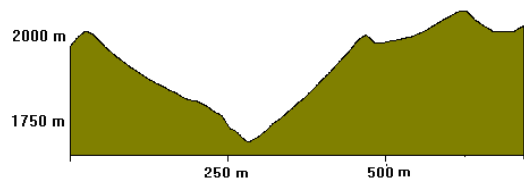
**Graph1)** dimensionless curve of the sub-basins in the studied area



**Graph 2)** river profile in the sub-basin number 3 affected by a branch of Shazand fault and changes in the geological formation

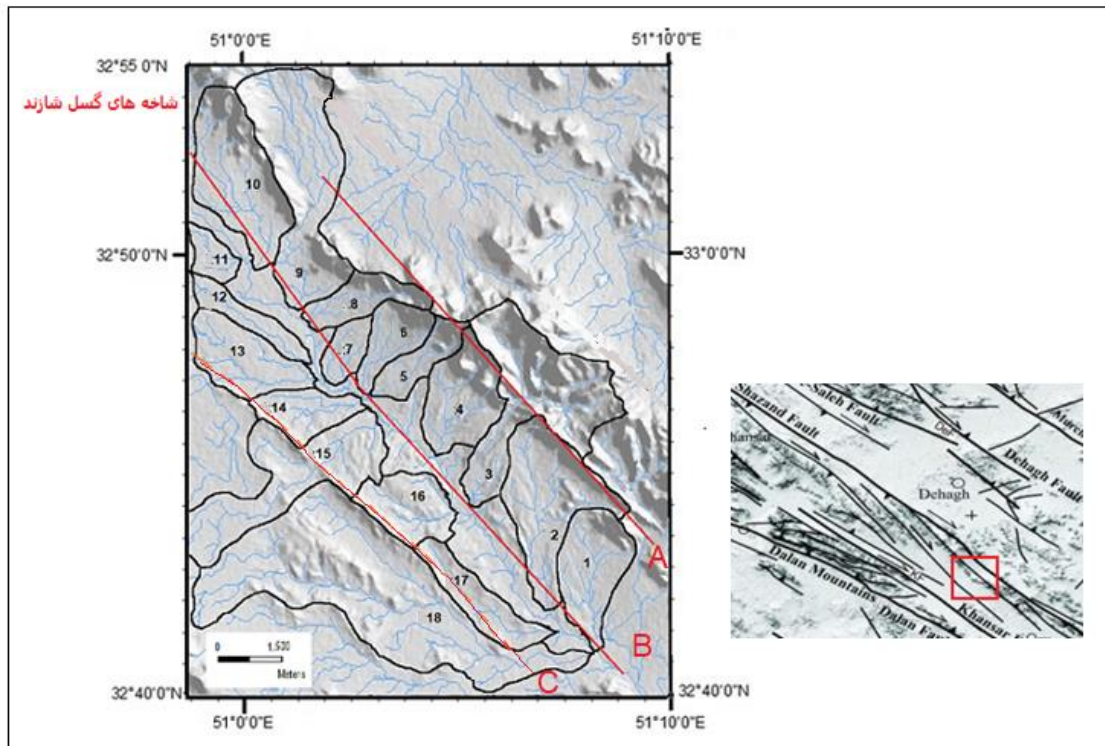


b. sub-basin 18 (inactive)



a. sub-basin 3 (semi-active)

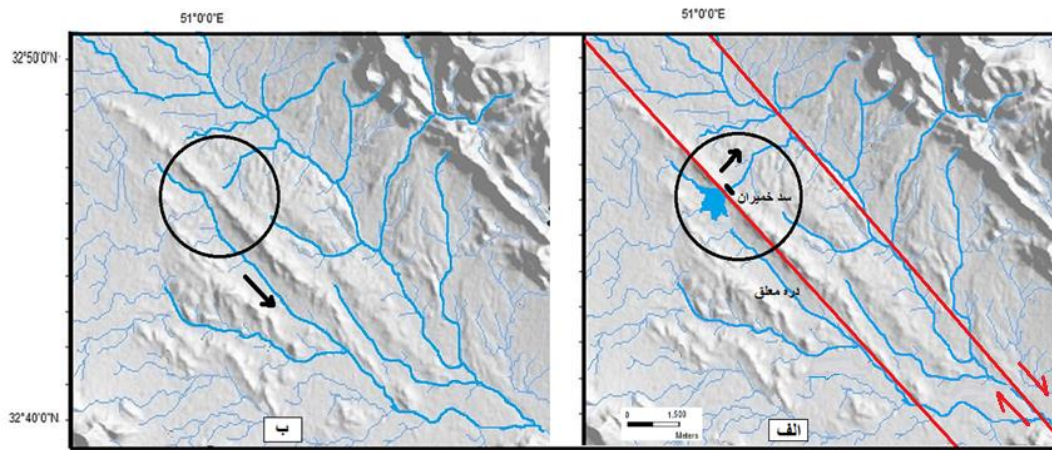
**Graph 3)** samples of the valley's profile in the region



**Figure 5)** classification of the sub-basins in the studied area

**Table 1)** the calculation of the relative index of active tectonic (Iat) in the region

Sub-basin	V index	Facet % index	S index	SL index	Af index	Bs index	Hi index	S/n	Iat level
1	3	2	2	3	2	3	2	2.43	3
2	2	1	2	2	2	3	2	2	2
3	2	2	2	1	3	3	1	1.71	2
4	2	2	1	2	2	3	2	2	2
5	2	2	1	2	2	1	2	1.71	2
6	2	2	2	2	2	3	3	2.28	3
7	3	2	2	3	2	3	2	2.43	3
8	2	2	2	3	3	2	3	2.43	3
9	3	2	3	3	2	2	3	2.57	4
10	3	2	3	3	1	3	3	2.57	4
11	3	2	3	3	1	3	3	2.57	4
12	2	2	1	2	3	1	2	1.86	3
13	2	2	2	3	1	3	3	2.28	3
14	2	2	2	2	1	2	2	1.86	2
15	2	2	2	2	2	2	1	1.86	2
16	2	2	2	2	2	3	1	2	2
17	2	2	2	2	3	1	2	2	2
18	3	3	3	3	3	2	3	2.86	4



b) the situation before deviation

a. the situation after deviation

**Figure 6)** changes in Khamiran river route due to Shazand fault activities and lowering the basis level of the region





**Figure 7)** the location of Khamiran dam on Khamiran river



**Figure 8)** Gullies near Varposht village