

16. Table of landslide hazard assessment result

Landslide hazard assessment result

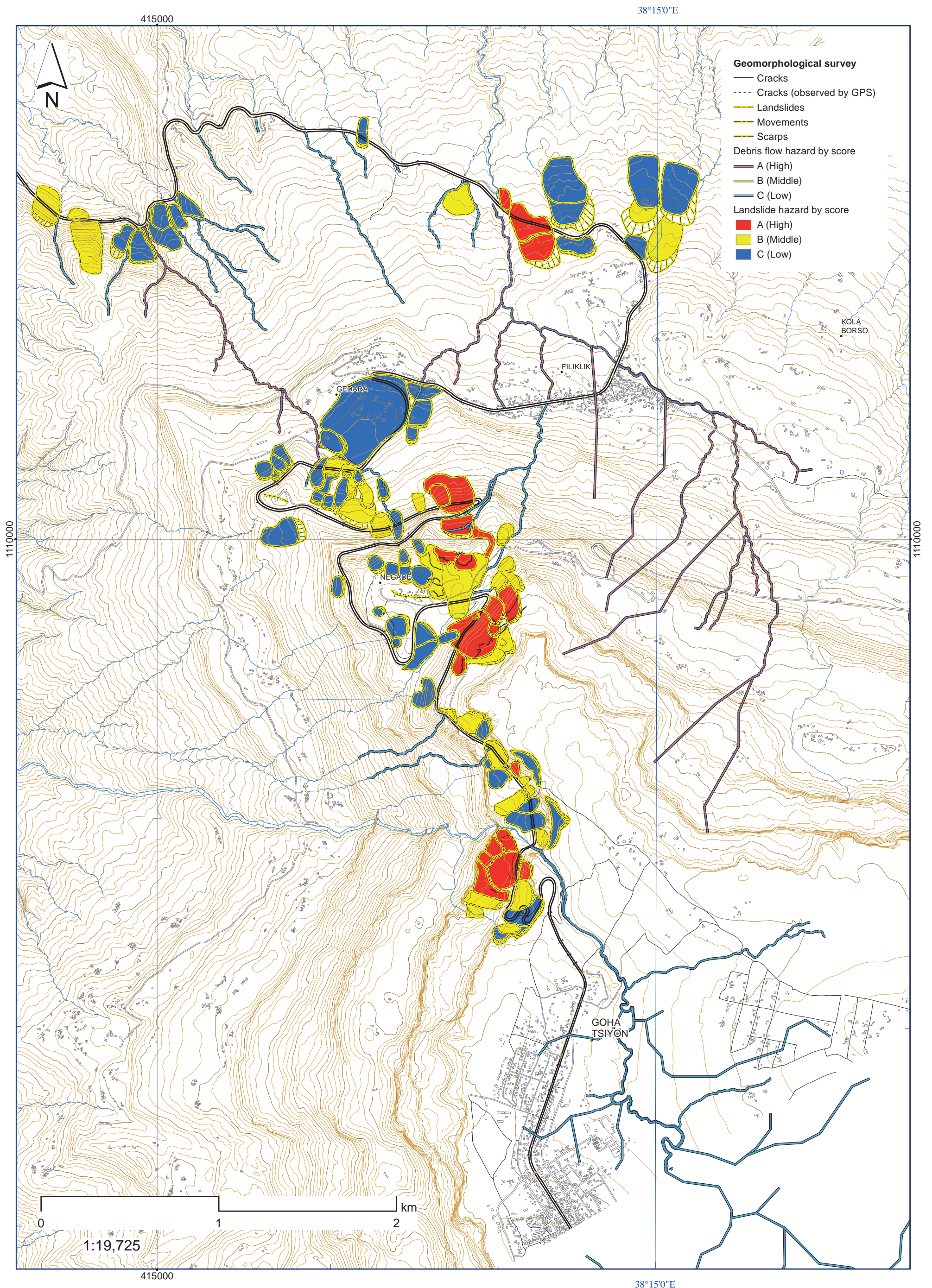
Landslide No.	A: Causes					B: History		C: Effectiveness of Countermeasures	D: Influence to the road	Score for Hazard Rank =A+B+C	Hazard Rank by the Score A: 12 to 24 B: 7 to 11 C: 2 to 6	Risk for the Road =Hazard X D	Main rock formation	Remarks
	Topographical feature		Geological conditions			Records of Landslide								
	Result of photo interpretation	Surface anomalies	Geological structure	Main rock formation	Hydrological feature	Improper works	Damage for construction and houses							
00-01	2	0	1	2	0	0	0	0	A	5	C	III	Ba, Co	
00-02	2	0	1	2	0	0	0	0	C	5	C	IV	Ba, Co	
00-03	4	0	1	2	1	0	0	0	B	8	B	III	Ba, Co	
00-04	2	1	1	2	0	1	0	0	A	7	B	II	Ba	
00-05	4	0	1	1	1	0	0	0	D	7	B	IV	Ba	
00-06	4	1	1	2	2	1	0	0	B	11	B	III	Co	
00-07	4	4	1	2	2	1	0	0	B	14	A	II	Py, Co	
00-08	4	4	1	2	1	2	4	-2	A	16	A	I	Py, Co	
00-09	4	0	1	2	2	2	2	0	A	13	A	I	Ba	cut slope, topple
00-10	4	4	1	2	1	0	0	0	C	12	A	III	Co	
00-11	4	4	1	2	1	0	0	0	C	12	A	III	Co	
00-12	4	4	1	2	1	0	0	0	B	12	A	II	Co	artificial fills
01-01	4	0	1	1	0	0	0	0	D	6	C	IV	Ba	
01-02	2	0	1	2	2	0	0	0	C	7	B	IV	Ba	
01-03	2	0	1	2	1	0	0	0	A	6	C	III	Co	
01-04	2	0	1	2	0	0	0	0	A	5	C	III	Co	
01-05	4	0	1	2	0	0	0	0	B	7	B	III	Co	
01-06	2	2	2	4	0	1	0	0	A	11	B	II	Py	collapse
01-07	2	2	1	1	0	0	0	0	D	6	C	IV	Co	
01-08	4	0	1	2	0	0	0	0	A	7	B	II	Ba	
01-09	4	4	2	2	0	0	0	0	A	12	A	I	Co, Py	
01-10	4	0	1	2	0	0	0	-2	B	5	C	IV	Co, Py	
01-11	2	0	1	2	1	0	0	0	C	6	C	IV	Co	
01-12	4	2	1	2	1	0	0	0	A	10	B	II	Co	
01-13	2	2	1	2	0	0	0	-2	A	5	C	III	Co, Py	
01-14	4	0	1	2	0	0	0	0	A	7	B	II	Co, Py	
02-01	4	0	1	4	0	0	0	-2	A	7	B	II	Co, Py	
02-02	4	0	1	1	0	0	0	0	B	6	C	IV	Ba	
02-03	4	4	1	2	1	2	0	0	A	14	A	I	Co	
02-04	4	0	1	2	0	0	0	0	C	7	B	IV	Co	
02-05	4	0	1	2	0	0	0	0	D	7	B	IV	Co	
02-06	4	4	1	2	1	2	0	0	A	14	A	I	Ba	
02-07	2	0	1	2	0	0	0	0	D	5	C	IV	Ba	
02-08	2	4	1	2	1	2	0	0	C	12	A	III	Ba	bad ditch, collapse
02-09	4	4	1	2	1	2	2	-2	A	14	A	I	Ba	bad ditch, collapse
02-10	4	4	1	2	1	0	0	0	C	12	A	III	Ba	
02-11	4	0	1	2	0	0	0	0	D	7	B	IV	Ba	
02-12	4	0	1	2	0	0	0	0	D	7	B	IV	Ba	
02-13	4	0	1	2	0	0	0	0	D	7	B	IV	Ba	
03-01	2	1	1	2	1	1	4	-4	A	8	B	II	Co	Countermeasures was completed
03-02	2	0	1	1	0	0	0	0	B	4	C	IV	Ba	
03-03	1	0	1	1	1	0	0	0	B	4	C	IV	Ba	
03-04	1	0	1	2	0	0	0	0	B	4	C	IV	Co	
03-05	2	0	1	2	0	0	0	0	C	5	C	IV	Co	
03-06	2	0	1	2	0	0	0	0	D	5	C	IV	Co	Countermeasures was completed
03-07	2	2	1	2	0	0	0	0	B	7	B	III	Co	
04-01	2	0	1	2	0	0	0	0	C	5	C	IV	Co	
04-02	2	0	1	1	0	0	0	0	C	4	C	IV	Ba	
04-03	2	1	1	2	0	0	0	0	D	6	C	IV	Co	
04-04	2	1	1	2	0	0	0	0	D	6	C	IV	Co	
04-05	2	1	1	2	0	0	0	0	D	6	C	IV	Co	
04-06	2	1	1	1	0	0	0	0	C	5	C	IV	Ba	
04-07	2	1	1	1	0	0	0	0	C	5	C	IV	Ba	
05-01	4	4	1	2	4	1	4	-4	A	16	A	I	Co	monitoring site
05-02	4	4	1	2	4	0	0	0	A	15	A	I	Co	monitoring site
05-03	4	4	1	2	1	0	0	0	B	12	A	II	Co	
05-04	4	4	1	2	1	0	0	0	B	12	A	II	Co	
05-05	4	4	1	2	4	0	2	0	B	17	A	II	Co	
05-06	2	2	1	2	0	0	0	0	D	7	B	IV	Co	
05-07	2	4	1	2	1	1	2	0	A	13	A	I	Co	
05-08	4	2	1	2	0	0	2	0	A	11	B	II	Co	
05-09	1	0	1	2	1	0	0	-2	A	3	C	III	Co	
05-10	4	0	1	2	0	0	0	0	A	7	B	II	Co	collapse
06-01	2	0	1	2	0	0	0	0	D	5	C	IV	Si	
06-02	1	0	1	2	0	0	0	0	C	4	C	IV	Si	
06-03	1	0	1	2	0	0	0	0	B	4	C	IV	Si	
06-04	1	0	1	2	0	0	0	0	B	4	C	IV	Si	
06-05	1	0	1	2	0	0	0	0	B	4	C	IV	Si	
07-01	2	0	1	2	1	0	0	0	A	6	C	III	Si	
07-02	2	0	1	2	0	0	0	0	C	5	C	IV	Si	
07-03	2	0	1	2	0	0	0	0	C	5	C	IV	Co	
07-04	2	0	1	2	0	0	0	0	B	5	C	IV	Si	
07-05	4	0	1	2	0	2	0	0	A	9	B	II	Si	collapse
07-06	2	0	1	2	0	0	0	0	B	5	C	IV	Co	
07-07	4	0	1	2	0	0	0	0	C	7	B	IV	Co	
07-08	4	0	1	2	0	0	0	0	B	7	B	III	Co	
07-09	4	0	1	2	0	0	0	0	A	7	B	II	Co	
07-10	4	0	1	2	0	0	0	0	B	7	B	III	Co	
07-11	2	0	1	2	0	0	0	0	A	5	C	III	Co	
07-12	2	0	1	2	1	0	0	0	D	6	C	IV	Co	
07-13	2	0	1	2	1	0	0	0	D	6	C	IV	Co	
07-14	2	0	1	2	1	0	0	0	A	6	C	III	Co	
08-01	2	0	1	2	0	0	0	0	D	5	C	IV	Co	
08-02	2	0	1	2	0	0	0	0	C	5	C	IV	Co	
08-03	1	0	1	2	1	0	0	0	B	5	C	IV	Co	
09-01	4	0	1	2	0	0	0	0	C	7	B	IV	Co	
09-02	2	0	1	2	0	0	0	0	D	5	C	IV	Co	
09-03	4	0	1	2	0	0	0	0	D	7	B	IV	Co	
09-04	1	0	1	2	0	0	0	0	D	4	C	IV	Co	
09-05	0	2	1	2	0	0	0	0	A	5	C	III	Co	
10-01	2	0	1	2	0	0	0	0	A	5	C	III	Co	

Landslide hazard assessment result

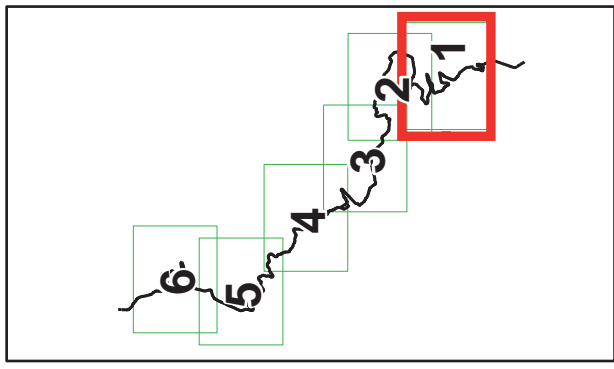
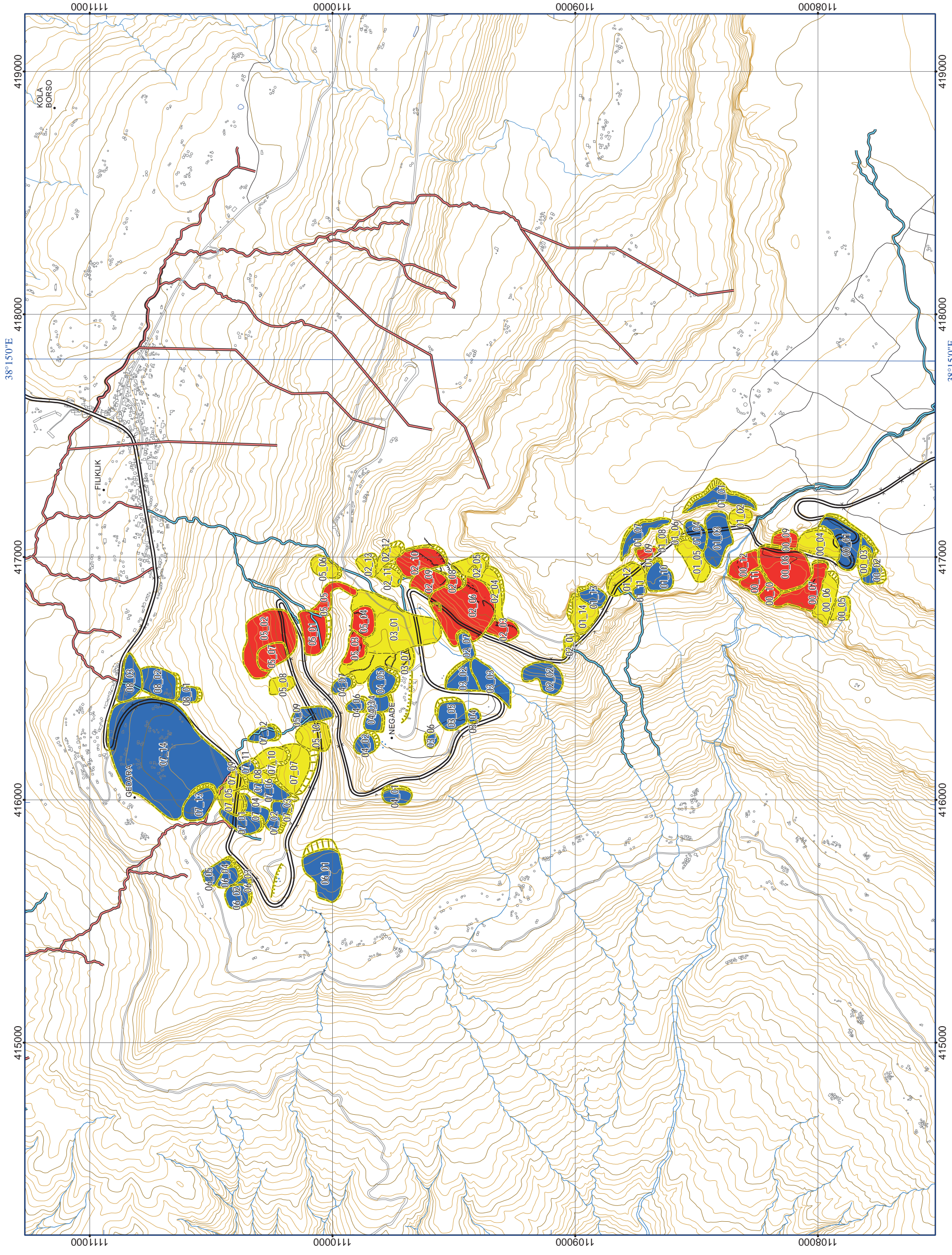
Landslide No.	A: Causes					B: History		C: Effectiveness of Countermeasures	D: Influence to the road	Score for Hazard Rank =A+B+C	Hazard Rank by the Score A: 12 to 24 B: 7 to 11 C: 2 to 6	Risk for the Road =Hazard X D	Main rock formation	Remarks
	Topographical feature		Geological conditions			Records of Landslide								
	Result of photo interpretation	Surface anomalies	Geological structure	Main rock formation	Hydrological feature	Improper works	Damage for construction and houses							
10-02	2	0	1	2	1	0	0	0	C	6	C	IV	Co	
10-03	1	0	1	2	1	0	0	0	D	5	C	IV	Co	
10-04	4	1	1	2	4	0	0	0	B	12	A	II	Co	
10-05	4	2	1	2	2	0	4	0	A	15	A	I	Co	
10-06	2	2	1	2	1	2	2	0	A	12	A	I	Co	
10-07	2	2	1	2	1	0	0	0	C	8	B	IV	Co	
11-01	2	0	1	0	0	0	0	0	A	3	C	III	Gy	
13-01	1	0	1	0	1	0	0	0	B	3	C	IV	Gy	
13-02	1	0	1	2	1	0	0	0	B	5	C	IV	Co	
13-03	2	0	1	2	1	0	0	0	B	6	C	IV	Co	
13-04	2	0	1	2	1	0	0	0	A	6	C	III	Co	
13-05	2	0	1	0	1	1	0	0	B	5	C	IV	Gy	
13-06	2	0	1	0	1	0	0	0	A	4	C	III	Gy	
13-07	4	0	1	0	2	1	0	0	A	8	B	II	Gy	collapse
13-08	1	2	1	2	1	1	2	0	A	10	B	II	Co	
14-01	4	0	2	0	1	0	0	0	A	7	B	II	Gy	gypsum quarry
14-02	2	0	1	0	1	1	0	0	B	5	C	IV	Gy	
14-03	2	0	1	2	0	0	0	0	A	5	C	III	Co, Gy	
15-01	1	0	1	2	0	0	0	0	B	4	C	IV	Co, Si	
17-01	1	0	1	0	0	0	0	0	A	2	C	III	Ss	
17-02	2	0	1	0	0	0	0	0	A	3	C	III	Ss	
18-01	1	2	1	0	1	2	0	0	B	7	B	III	Ss	erosion from calvert
19-01	1	0	1	2	0	0	0	0	B	4	C	IV	Co, Ss	
19-02	1	0	1	2	0	0	0	0	B	4	C	IV	Co, Ss	
20-01	1	2	1	2	2	1	0	0	A	9	B	II	Co, Ss	collapse on cut slope
21-01	1	2	1	2	2	1	0	0	A	9	B	II	Co, Ss	collapse on cut slope
21-02	4	1	1	0	1	2	0	0	A	9	B	II	Ss	cut slope
21-03	4	1	1	2	1	0	2	0	A	11	B	II	Co	
21-04	1	0	1	2	1	0	0	0	C	5	C	IV	Co	
21-05	4	4	1	2	1	0	0	0	C	12	A	III	Co	
21-06	2	2	2	2	2	0	2	0	B	12	A	II	Co	cut slope
22-01	4	4	1	2	1	0	2	0	B	14	A	II	Co	monitoring site
22-02	2	1	1	2	1	0	0	0	D	7	B	IV	Co	
22-03	1	4	1	2	1	1	0	0	B	10	B	III	Co	
25-01	1	4	1	2	1	0	2	0	A	11	B	II	Co	
26-01	1	2	1	2	1	0	2	0	A	9	B	II	Co	
26-02	4	0	1	2	0	0	0	0	D	7	B	IV	Co	
26-03	4	0	1	2	0	0	0	0	D	7	B	IV	Co	
26-04	4	0	1	2	0	0	0	0	D	7	B	IV	Co	
26-05	2	0	1	2	0	0	0	0	C	5	C	IV	Co	
26-06	4	4	1	2	1	0	0	0	D	12	A	III	Co	
26-07	4	0	1	2	0	0	0	0	B	7	B	III	Co	
26-08	4	4	1	2	0	0	4	0	A	15	A	I	Co	
27-01	4	4	1	2	1	0	2	0	A	14	A	I	Co	
27-02	2	4	1	2	0	0	2	0	A	11	B	II	Co	
27-03	2	1	1	2	0	0	2	0	A	8	B	II	Co	
27-04	4	4	1	2	1	2	4	0	A	18	A	I	Co	
27-05	4	2	1	2	1	0	0	0	D	10	B	IV	Co	
27-06	4	4	1	2	1	0	2	0	B	14	A	II	Co	
27-07	2	2	1	2	0	0	0	0	D	7	B	IV	Co	
27-08	1	4	1	2	0	1	4	0	A	13	A	I	Co	
28-01	4	4	1	2	1	0	4	0	A	16	A	I	Co	monitoring site
28-02	4	4	1	2	2	0	0	0	C	13	A	III	Co	
28-03	4	4	1	2	2	0	0	0	C	13	A	III	Co	
28-04	4	4	1	2	2	0	4	0	A	17	A	I	Co	
28-05	4	4	1	2	2	0	4	0	A	17	A	I	Si	monitoring site
28-06	1	4	1	2	1	0	4	0	A	13	A	I	Si	monitoring site
29-01	1	0	1	2	1	0	0	0	A	5	C	III	Co, Si	old landslide
30-01	1	2	1	2	1	0	2	0	A	9	B	II	Co	
30-02	1	4	1	1	1	0	4	0	A	12	A	I	Lm	
30-03	4	0	1	1	1	0	0	0	A	7	B	II	Lm	
30-04	4	2	1	2	1	0	2	0	A	12	A	I	Co, Lm	
30-05	4	0	1	2	1	0	0	0	A	8	B	II	Co	
31-01	4	2	1	2	1	0	2	0	A	12	A	I	Co	
31-02	4	0	1	2	1	0	0	0	A	8	B	II	Co	
31-03	1	2	1	2	1	0	2	0	A	9	B	II	Co	
31-04	1	4	1	2	1	2	4	0	A	15	A	I	Co	
31-05	2	2	1	2	1	0	4	0	A	12	A	I	Co, Si	
31-06	2	2	1	2	1	0	4	0	A	12	A	I	Co, Si	
31-07	0	4	1	2	1	2	4	0	A	14	A	I	Co, Si	
31-08	0	4	1	2	1	2	4	0	A	14	A	I	Co, Si	
32-01	1	2	1	1	1	0	2	0	A	8	B	II	Lm	
33-01	2	2	1	2	1	0	0	0	A	8	B	II	Co	slope collapse
33-02	2	1	1	2	0	0	2	-4	A	4	C	III	Co	Countermeasures was completed
33-03	2	1	1	2	1	0	2	-4	A	5	C	III	Co	Countermeasures was completed
34-01	4	0	1	1	0	0	0	0	A	6	C	III	Ba	rock fall
34-02	4	0	1	1	0	0	0	0	A	6	C	III	Ba	
35-01	2	0	1	1	1	0	0	0	A	5	C	III	Ba	
35-02	2	2	1	1	1	1	0	0	B	8	B	III	Ba	
35-03	2	0	1	1	1	0	0	0	C	5	C	IV	Ba	
35-04	2	0	1	1	1	0	0	0	C	5	C	IV	Ba	
38-01	0	4	1	1	1	2	2	0	A	11	B	II	Ba	

17. Hazard map (Rank of landslide and debris flow by score)

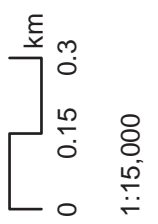
The Project for Developing Countermeasures against Landslides in the Abay River Gorge
HAZARD RANK OF LANDSLIDE AND DEBRIS FLOW BY THE SCORE (FR January 2012)



HAZARD RANK OF LANDSLIDE AND DEBRIS FLOW BY SCORE (FR January 2012)



- Geomorphological survey**
- Cracks
 - - - Cracks (observed by GPS)
 - Landslides
 - Movements
 - Scarps
- Debris flow hazard by score**
- A (High)
 - B (Middle)
 - C (Low)
- Landslide hazard by score**
- A (High)
 - B (Middle)
 - C (Low)
 - Contour (25m)
 - Contour (5m)



HAZARD RANK OF LANDSLIDE AND DEBRIS FLOW BY SCORE (FR January 2012)

