

Assessment of Groundwater Potential Zones Using GIS and Fuzzy AHP Techniques – A Case Study of the Titel Municipality (Northern Serbia)

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Supplementary Materials

Table S1. The pairwise comparison matrix for geomorphology

Geomorphology	1	2	3	4	5	6	7	8	9	10	Weights
Swamps and marshes	1/1/1	1/1/1	1/2/3	1/2/3	1/1/1	4/5/6	3/4/5	1/2/3	3/4/5	2/3/4	0.170
Rivers	1/1/1	1/1/1	1/1/1	1/2/3	1/1/1	4/5/6	3/4/5	1/2/3	3/4/5	2/3/4	0.157
Oxbow lake - abandoned major meander	1/3,1/2,1	1/1/1	1/1/1	1/1/1	1/3,1/2,1	3/4/5	2/3/4	1/2/3	2/3/4	1/2/3	0.120
River sand bar	1/3,1/2,1	1/3,1/2,1	1/1/1	1/1/1	1/3,1/2,1	1/1/1	2/3/4	1/2/3	2/3/4	1/2/3	0.100
Alluvial plain	1/1/1	1/1/1	1/2/3	1/2/3	1/1/1	5/6/7	4/5/6	2/3/4	3/4/5	2/3/4	0.184
Loess plateau	1/6,1/5,1/4	1/6,1/5,1/4	1/5,1/4,1/3	1/1/1	1/7,1/6,1/5	1/1/1	1/2/3	1/5,1/4,1/3	1/3,1/2,1	1/3,1/2,1	0.036
Areas of moderate sheet and rill erosion	1/5,1/4,1/3	1/5,1/4,1/3	1/4,1/3,1/2	1/4,1/3,1/2	1/6,1/5,1/4	1/3,1/2,1	1/1/1	1/3,1/2,1	1/1/1	1/3,1/2,1	0.037
Lower river terrace	1/3,1/2,1	1/3,1/2,1	1/3,1/2,1	1/3,1/2,1	1/4,1/3,1/2	3/4/5	1/2/3	1/1/1	2/3/4	1/2/3	0.090
Proluvial fan	1/5,1/4,1/3	1/5,1/4,1/3	1/4,1/3,1/2	1/4,1/3,1/2	1/5,1/4,1/3	1/2/3	1/1/1	1/4,1/3,1/2	1/1/1	1/3,1/2,1	0.041
Higher river terrace	1/4,1/3,1/2	1/4,1/3,1/2	1/3,1/2,1	1/3,1/2,1	1/4,1/3,1/2	1/2/3	1/2/3	1/3,1/2,1	1/2/3	1/1/1	0.065

Table S2. The pairwise comparison matrix for geology

Geology	1	2	3	4	5	6	7	8	9	10	11	12	13	Weights
ap-w	1/1/1	1/1/1	1/1/1	1/2/3	1/2/3	1/2/3	1/2/3	1/2/3	1/2/3	1/2/3	2/3/4	3/4/5	1/2/3	0.123
ap'	1/1/1	1/1/1	1/1/1	1/2/3	1/2/3	1/2/3	1/2/3	1/2/3	1/2/3	1/2/3	2/3/4	4/5/6	3/4/5	0.131
ap''	1/1/1	1/1/1	1/1/1	1/2/3	1/2/3	1/2/3	1/2/3	1/2/3	1/2/3	1/2/3	2/3/4	5/6/7	3/4/5	0.133
Pl ₃₋₃	1/3,1/2,1	1/3,1/2,1	1/3,1/2,1	1/1/1	1/1/1	1/1/1	1/1/1	1/1/1	1/1/1	1/1/1	1/2/3	4/5/6	2/3/4	0.074
b	1/3,1/2,1	1/3,1/2,1	1/3,1/2,1	1/1/1	1/1/1	1/1/1	1/1/1	1/1/1	1/1/1	1/1/1	1/2/3	4/5/6	2/3/4	0.074
a-w	1/3,1/2,1	1/3,1/2,1	1/3,1/2,1	1/3,1/2,1	1/1/1	1/1/1	1/1/1	1/1/1	1/1/1	1/1/1	1/2/3	4/5/6	2/3/4	0.072
a'	1/3,1/2,1	1/3,1/2,1	1/3,1/2,1	1/1/1	1/1/1	1/1/1	1/1/1	1/1/1	1/1/1	1/1/1	1/2/3	4/5/6	2/3/4	0.074
al	1/3,1/2,1	1/3,1/2,1	1/3,1/2,1	1/1/1	1/1/1	1/1/1	1/1/1	1/1/1	1/1/1	1/1/1	1/2/3	4/5/6	2/3/4	0.074
a''	1/3,1/2,1	1/3,1/2,1	1/3,1/2,1	1/1/1	1/1/1	1/1/1	1/1/1	1/1/1	1/1/1	1/1/1	1/2/3	4/5/6	2/34	0.074
am	1/3,1/2,1	1/3,1/2,1	1/3,1/2,1	1/1/1	1/1/1	1/1/1	1/1/1	1/1/1	1/1/1	1/1/1	1/2/3	4/5/6	2/34	0.074
ls-w	1/4,1/3,1/2	1/4,1/3,1/2	1/4,1/3,1/2	1/3,1/2,1	1/3,1/2,1	1/3,1/2,1	1/3,1/2,1	1/3,1/2,1	1/3,1/2,1	1/3,1/2,1	1/1/1	3/4/5	1/2/3	0.048
d	1/5,1/4,1/3	1/6,1/5,1/4	1/7,1/6,1/5	1/6,1/5,1/4	1/6,1/5,1/4	1/6,1/5,1/4	1/6,1/5,1/4	1/6,1/5,1/4	1/6,1/5,1/4	1/6,1/5,1/4	1/5,1/4,1/3	1/1/1	1/4,1/3,1/2	0.016
ls-rw	1/3,1/2,1	1/5,1/4,1/3	1/5,1/4,1/3	1/4,1/3,1/2	1/4,1/3,1/2	1/4,1/3,1/2	1/4,1/3,1/2	1/4,1/3,1/2	1/4,1/3,1/2	1/4,1/3,1/2	1/3,1/2,1	2/34	1/1/1	0.032

Table S3. The pairwise comparison matrix for land use/land cover

Land use/Land cover	1	2	3	4	5	Weights
Water bodies	1/1/1	1/2/3	2/3/4	4/5/6	7/8/9	0.419
Wetlands	1/3,1/2,1	1/1/1	1/2/3	3/4/5	6/7/8	0.285
Agriculture areas	1/4,1/3,1/2	1/3,1/2,1	1/1/1	2/3/4	4/5/6	0.179
Forest	1/6,1/5,1/4	1/5,1/4,1/3	1/4,1/3,1/2	1/1/1	2/3/4	0.080

Artificial surface	1/9,1/8,1/7	1/8,1/7,1/6	1/6,1/5,1/4	1/4,1/3,1/2	1/1/1	0.037
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Table S4. The pairwise comparison matrix for drainage density

Drainage density (km/km²)	1	2	3	4	Weights
0-1	1/1/1	1/2/3	3/4/5	5/6/7	0.496
1-2	3/1, 2/1,1	1/1/1	1/2/3	3/4/5	0.284
2-3	1/5,1/4/1/3	1/3,1/2,1	1/1/1	1/2/3	0.143
3-4	1/7,1/6,1/5	1/5,1/4,1/3	1/3,1/2,1	1/1/1	0.077

Table S5. The pairwise comparison matrix for slope

Slope	1	2	3	Weights
Flat	1/1/1	4/5/6	9/9/9	0.732
Moderate	1/6,1/5,1/4	1/1/1	4/5/6	0.210
Steep	9/9/9	1/6,1/5,1/4	1/1/1	0.058

Table S6. The pairwise comparison matrix for soil

Soil	1	2	3	4	5	6	7	8	9	10	11	12
1. Haplic Fluvisol (Sodic)	1/1/1	1/1/1	1/2/3	1/3,1/2,1	1/2/3	2/3/4	1/1/1	1/1/1	1/3,1/2,1	4/5/6	1/2/3	2/3/4
2. Haplic Fluvisol (Eutric, Siltic)	1/1/1	1/1/1	2/3/4	1/3,1/2,1	1/1/1	2/3/4	1/1/1	1/1/1	1/3,1/2,1	4/5/6	1/2/3	2/3/4
3. Haplic Fluvisol (Arenic)	1/4,1/3,1/2	1/4,1/3,1/2	1/1/1	1/5,1/4,1/3	1/4,1/3,1/2	1/1/1	1/4,1/3,1/2	1/4,1/3,1/2	1/5,1/4,1/3	2/3/4	1/3,1/2,1	1/1/1
4. Stagnic Fluvisol	1/2/3	1/1/1	3/4/5	1/1/1	1/2/3	3/4/5	1/2/3	1/2/3	1/1/1	5/6/7	2/3/4	3/4/5
5. Mollic Gleysol (Novic)	1/1/1	1/1/1	2/3/4	1/3,1/2,1	1/1/1	2/3/4	1/1/1	1/1/1	1/3,1/2,1	4/5/6	1/2/3	2/3/4
6. Luvis Chernozem	1/4,1/3,1/2	1/4,1/3,1/2	1/1/1	1/5,1/4,1/3	1/4,1/3,1/2	1/1/1	1/4,1/3,1/2	1/4,1/3,1/2	1/5,1/4,1/3	2/3/4	1/3,1/2,1	1/1/1
7. Calcic Chernozem	1/1/1	1/1/1	2/3/4	1/3,1/2,1	1/1/1	2/3/4	1/1/1	1/1/1	1/3,1/2,1	4/5/6	1/2/3	2/3/4
8. Calcic Chernozem (Glossic)	1/1/1	1/1/1	2/3/4	1/3,1/2,1	1/1/1	2/3/4	1/1/1	1/1/1	1/3,1/2,1	4/5/6	1/2/3	2/3/4
9. Calcic Chernozem	1/2/3	1/2/3	3/4/5	1/1/1	1/2/3	3/4/5	1/2/3	1/2/3	1/1/1	5/6/7	2/3/4	3/4/5
10. Haplic Chernozem	1/6,1/5,1/4	1/6,1/5,1/4	1/4,1/3,1/2	1/7,1/6,1/5	1/6,1/5,1/4	1/4,1/3,1/2	1/6,1/5,1/4	1/6,1/5,1/4	1/7,1/6,1/5	1/1/1	1/5,1/4,1/3	1/4,1/3,1/2
11. Luvis Chernozem	1/3,1/2,1	1/3,1/2,1	1/2/3	1/4,1/3,1/2	1/3,1/2,1	1/2/3	1/3,1/2,1	1/3,1/2,1	1/4,1/3,1/2	3/4/5	1/1/1	1/2/3
12. Luvis Chernozem	1/4,1/3,1/2	1/4,1/3,1/2	1/1/1	1/5,1/4,1/3	1/4,1/3,1/2	1/1/1	1/4,1/3,1/2	1/4,1/3,1/2	1/5,1/4,1/3	2/3/4	1/3,1/2,1	1/1/1
13. Colluvic Regosol (Calcaric)	1/6,1/5,1/4	1/6,1/5,1/4	1/4,1/3,1/2	1/7,1/6,1/5	1/6,1/5,1/4	1/4,1/3,1/2	1/6,1/5,1/4	1/6,1/5,1/4	1/7,1/6,1/5	1/1/10	1/5,1/4,1/3	1/4,1/3,1/2
14. Haplic Regosol (Calcaric, Siltic)	1/7,1/6,1/5	1/7,1/6,1/5	1/5,1/4,1/3	1/7,1/6,1/5	1/7,1/6,1/5	1/5,1/4,1/3	1/7,1/6,1/5	1/7,1/6,1/5	1/7,1/6,1/5	1/3,1/2,1	1/6,1/5,1/4	1/5,1/4,1/3
15. Calcic Chernozem	1/1/1	1/1/1	2/3/4	1/3,1/2,1	1/1/1	2/3/4	1/1/1	1/1/1	1/3,1/2,1	4/5/6	1/2/3	2/3/4
16. Gleyic Phaeozem (Pachic, Endosalic)	1/1/1	1/1/1	2/3/4	1/3,1/2,1	1/1/1	2/3/4	1/1/1	1/1/1	1/3,1/2,1	4/5/6	1/2/3	2/3/4
17. Haplic Gleysol	1/2/3	1/2/3	1/2/3	1/1/1	1/2/3	1/2/3	1/2/3	1/2/3	1/1/1	5/6/7	2/3/4	1/2/3
18. Mollic Gleysol (Clayic)	1/4,1/3,1/2	1/4,1/3,1/2	1/1/1	1/5,1/4,1/3	1/4,1/3,1/2	1/1/1	1/4,1/3,1/2	1/4,1/3,1/2	1/5,1/4,1/3	2/3/4	1/3,1/2,1	1/1/1
19. Mollic Gleysol (Calcaric)	1/5,1/4,1/3	1/5,1/4,1/3	1/3,1/2,1	1/6,1/5,1/4	1/5,1/4,1/3	1/3,1/2,1	1/5,1/4,1/3	1/5,1/4,1/3	1/6,1/5,1/4	1/2/3	1/4,1/3,1/2	1/3,1/2,1
20. Mollic Gleysol (Calcaric, Arenic)	1/6,1/5,1/4	1/6,1/5,1/4	1/4,1/3,1/2	1/7,1/6,1/5	1/6,1/5,1/4	1/4,1/3,1/2	1/6,1/5,1/4	1/6,1/5,1/4	1/7,1/6,1/5	1/1/1	1/5,1/4,1/3	1/4,1/3,1/2
21. Mollic Gleysol (Clayic)	1/6,1/5,1/4	1/6,1/5,1/4	1/4,1/3,1/2	1/7,1/6,1/5	1/6,1/5,1/4	1/4,1/3,1/2	1/6,1/5,1/4	1/6,1/5,1/4	1/7,1/6,1/5	1/1/1	1/5,1/4,1/3	1/4,1/3,1/2
22. Endosalic Mollic Gleysol (Clayic)	1/6,1/5,1/4	1/6,1/5,1/4	1/4,1/3,1/2	1/7,1/6,1/5	1/6,1/5,1/4	1/4,1/3,1/2	1/6,1/5,1/4	1/6,1/5,1/4	1/7,1/6,1/5	1/1/1	1/5,1/4,1/3	1/4,1/3,1/2
23. Endosalic Mollic Gleysol Sodic, Cleyic)	1/6,1/5,1/4	1/6,1/5,1/4	1/4,1/3,1/2	1/7,1/6,1/5	1/6,1/5,1/4	1/4,1/3,1/2	1/6,1/5,1/4	1/6,1/5,1/4	1/7,1/6,1/5	1/1/1	1/5,1/4,1/3	1/4,1/3,1/2
24. Solonchak	1/7,1/6,1/5	1/7,1/6,1/5	1/5,1/4,1/3	1/8,1/7,1/6	1/7,1/6,1/5	1/5,1/4,1/3	1/7,1/6,1/5	1/7,1/6,1/5	1/8,1/7,1/6	1/3,1/2,1	1/6,1/5,1/4	1/5,1/4,1/3
25. Solonetz	1/9,1/8,1/7	1/9,1/8,1/7	1/7,1/6,1/5	9/9/9	1/9,1/8,1/7	1/7,1/6,1/5	1/9,1/8,1/7	1/9,1/8,1/7	9/9/9	1/5,1/4,1/3	1/8,1/7,1/6	1/7,1/6,1/5

Soil	13	14	15	16	17	18	19	20	21	22	23	24	25	Weights
1	4/5/6	5/6/7	1/1/1	1/1/1	1/3,1/2,1	2/3/4	3/4/5	4/5/6	4/5/6	4/5/6	4/5/6	5/6/7	7/8/9	0.067
2	4/5/6	5/6/7	1/1/1	1/1/1	1/3,1/2,1	2/3/4	3/4/5	4/5/6	4/5/6	4/5/6	4/5/6	5/6/7	7/8/9	0.056
3	2/3/4	3/4/5	1/4,1/3,1/2	1/4,1/3,1/2	1/3,1/2,1	1/1/1	1/2/3	2/3/4	2/3/4	2/3/4	2/3/4	3/4/5	5/6/7	0.038
4	5/6/7	5/6/7	1/2/3	1/2/3	1/1/1	3/4/5	4/5/6	5/6/7	5/6/7	5/6/7	5/6/7	6/7/8	9/9/9	0.067
5	4/5/6	5/6/7	1/1/1	1/1/1	1/3,1/2,1	2/3/4	3/4/5	4/5/6	4/5/6	4/5/6	4/5/6	5/6/7	7/8/9	0.056
6	2/3/4	3/4/5	1/4,1/3,1/2	1/4,1/3,1/2	1/3,1/2,1	1/1/1	1/2/3	2/3/4	2/3/4	2/3/4	2/3/4	3/4/5	5/6/7	0.038
7	4/5/6	5/6/7	1/1/1	1/1/1	1/3,1/2,1	2/3/4	3/4/5	4/5/6	4/5/6	4/5/6	4/5/6	5/6/7	7/8/9	0.056
8	4/5/6	5/6/7	1/1/1	1/1/1	1/3,1/2,1	2/3/4	3/4/5	4/5/6	4/5/6	4/5/6	4/5/6	5/6/7	7/8/9	0.056
9	5/6/7	5/6/7	1/2/3	1/2/3	1/1/1	3/4/5	4/5/6	5/6/7	5/6/7	5/6/7	5/6/7	6/7/8	9/9/9	0.067
10	1/1/1	1/2/3	1/6,1/5,1/4	1/6,1/5,1/4	1/7,1/6,1/5	1/4,1/3,1/2	1/3,1/2,1	1/1/1	1/1/1	1/1/1	1/1/1	1/2/3	3/4/5	0.022
11	3/4/5	4/5/6	1/3,1/2,1	1/3,1/2,1	1/4,1/3,1/2	1/2/3	2/3/4	3/4/5	3/4/5	3/4/5	3/4/5	4/5/6	6/7/8	0.045
12	2/3/4	3/4/5	1/4,1/3,1/2	1/4,1/3,1/2	1/3,1/2,1	1/1/1	1/2/3	2/3/4	2/3/4	2/3/4	2/3/4	3/4/5	5/6/7	0.038
13	1/1/1	1/2/3	1/6,1/5,1/4	1/6,1/5,1/4	1/7,1/6,1/5	1/4,1/3,1/2	1/3,1/2,1	1/1/1	1/1/1	1/1/1	1/1/1	1/2/3	3/4/5	0.022
14	1/3,1/2,1	1/1/1	1/7,1/6,1/5	1/7,1/6,1/5	1/8,1/7,1/6	1/5,1/4,1/3	1/4,1/3,1/2	1/3,1/2,1	1/3,1/2,1	1/3,1/2,1	1/3,1/2,1	1/1/1	2/3/4	0.018
15	4/5/6	5/6/7	1/1/1	1/1/1	1/3,1/2,1	2/3/4	3/4/5	4/5/6	4/5/6	4/5/6	4/5/6	5/6/7	7/8/9	0.056
16	4/5/6	5/6/7	1/1/1	1/1/1	1/3,1/2,1	2/3/4	3/4/5	4/5/6	4/5/6	4/5/6	4/5/6	5/6/7	7/8/9	0.056
17	5/6/7	6/7/8	1/2/3	1/2/3	1/1/1	3/4/5	4/5/6	5/6/7	5/6/7	5/6/7	5/6/7	6/7/8	9/9/9	0.065
18	2/3/4	3/4/5	1/4,1/3,1/2	1/4,1/3,1/2	1/5,1/4,1/3	1/1/1	1/2/3	2/3/4	2/3/4	2/3/4	2/3/4	3/4/5	5/6/7	0.035

19	1/2/3	2/3/4	1/5,1/4,1/3	1/5,1/4,1/3	1/6,1/5,1/4	1/3,1/2,1	1/1/1	1/2/3	1/1/1	1/1/1	1/1/1	2/3/4	4/5/6	0.026
20	1/1/1	1/2/3	1/6,1/5,1/4	1/6,1/5,1/4	1/7,1/6,1/5	1/4,1/3,1/2	1/3,1/2,1	1/1/1	1/1/1	1/1/1	1/1/1	1/2/3	3/4/5	0.022
21	1/1/1	1/2/3	1/6,1/5,1/4	1/6,1/5,1/4	1/7,1/6,1/5	1/4,1/3,1/2	1/1/1	1/1/1	1/1/1	1/1/1	1/1/1	1/2/3	3/4/5	0.022
22	1/1/1	1/2/3	1/6,1/5,1/4	1/6,1/5,1/4	1/7,1/6,1/5	1/4,1/3,1/2	1/1/1	1/1/1	1/1/1	1/1/1	1/1/1	1/3,1/2,1	3/4/5	0.021
23	1/1/1	1/2/3	1/6,1/5,1/4	1/6,1/5,1/4	1/7,1/6,1/5	1/4,1/3,1/2	1/1/1	1/1/1	1/1/1	1/1/1	1/1/1	1/2/3	3/4/5	0.022
24	1/3,1/2,1	1/1/1	1/7,1/6,1/5	1/7,1/6,1/5	1/8,1/7,1/6	1/5,1/4,1/3	1/4,1/3,1/2	1/3,1/2,1	1/3,1/2,1	1/2/3	1/3,1/2,1	1/1/1	2/3/4	0.018
25	1/5,1/4,1/3	1/4,1/3,1/2	1/9,1/8,1/7	1/9,1/8,1/7	9/9/9	1/7,1/6,1/5	1/6,1/5,1/4	1/5,1/4,1/3	1/5,1/4,1/3	1/5,1/4,1/3	1/5,1/4,1/3	1/4,1/3,1/2	1/1/1	0.011

Table S7. The comparison of normalized AHP and normalized FAHP weights

Theme	Features/class	AHP weight for features	FAHP weight for features	AHP weight for theme (%)	FAHP weight for theme (%)
Geomorphology	swamps and marshes	0.177	0.170	29.73%	29.21%
	river	0.165	0.157		
	oxbow lake-abandoned major meander	0.119	0.120		
	river sand bar	0.096	0.100		
	alluvial plain	0.191	0.184		
	loess plateau	0.036	0.036		
	areas of moderate sheet and rill erosion	0.035	0.037		
	lower river terrace	0.083	0.090		
	proluvial fan	0.039	0.041		
	higher river terrace	0.060	0.065		
Soil	Haplic Fluvisol (Sodic)	0.064	0.067	26.04%	26.35%
	Haplic Fluvisol (Eutric, Siltic)	0.064	0.056		
	Haplic Fluvisol (Arenic)	0.029	0.038		
	Stagnic Fluvisol	0.093	0.067		
	Molic Gleysol (Novic)	0.064	0.056		
	Luvic Chernozem	0.029	0.038		
	Calcic Chernozem	0.064	0.056		
	Calcic Chernozem (Glossic)	0.064	0.056		
	Calcic Chernozem	0.096	0.067		
	Haplic Chernozem	0.013	0.022		
	Luvic Chernozem	0.042	0.045		
	Luvic Chernozem	0.029	0.038		
	Colluvic Regosol (Calcaric)	0.013	0.022		
	Haplic Regosol (Calcaric, Siltic)	0.009	0.018		
	Calcic Chernozem	0.064	0.056		
	Gleyic Phaeozem (Pachic, Endosalic)	0.064	0.056		
	Haplic Gleysol	0.088	0.065		
	Mollic Gleysol (Clayic)	0.028	0.035		
	Mollic Gleysol (Calcaric)	0.018	0.026		
	Mollic Gleysol (Calcaric, Arenic)	0.013	0.022		
	Mollic Gleysol (Clayic)	0.013	0.022		
	Endosalic Mollic Gleysol (Clayic)	0.013	0.021		
	Endosalic Mollic Gleysol Sodic, Cleyic)	0.013	0.022		
	Solonchak	0.009	0.018		
	Solonetz	0.005	0.011		
Geologija	ap-w	0.127	0.123	22.70%	21.18%
	ap'	0.133	0.131		
	ap"	0.134	0.133		
	Pl2+3	0.074	0.074		
	b	0.074	0.074		
	a-w	0.074	0.072		
	a'	0.074	0.074		
	al	0.074	0.074		
	a"	0.074	0.074		

	alm	0.074	0.074		
	ls-w	0.042	0.048		
	ls-rw	0.031	0.032		
	d	0.017	0.016		
LULC	water bodies	0.432	0.419		
	wetlands	0.278	0.285		
	agriculture areas	0.173	0.179	10.23%	10.87%
	forest	0.079	0.080		
	artificial surface	0.038	0.037		
Slope	flat (0-3)	0.520	0.530		
	gentle (3-9)	0.209	0.202		
	moderate (9-18)	0.142	0.139	6.55%	7.30%
	steep (18-25)	0.097	0.093		
	very steep (25-31)	0.033	0.036		
Drainage	very low (0-1)	0.513	0.496		
	low (1-2)	0.275	0.284	4.75%	5.08%
	moderate (2-3)	0.138	0.143		
	very high (3-3.84)	0.074	0.077		