



Communication

The organic reconstruction of agricultural fields degraded by slipping (B)

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Abstract

The hereby paper presents the rehabilitation of a land area degraded by landslide and unfit garbage disposal in the proximity of running waters in the Cluj-Napoca area. Soil degradation through landslide occurred in the spring of 2005, as a consequence of the heavy rainfall, the clogged up sewage network of Cluj and the unammended sidewalks for decades. Under these circumstances, the water flood on the streets, resulted from the heavy rainfall, spilled in the nearby gardens, causing severe land dislocations in the proximity of unregulated and garbage- clogged streams. The re-soiling of this degraded land required at first, the regulation of the stream located in the vicinity of the slid surface, then stopping the landslide by building a supporting wall, drawing off the pluvial waters from the damaged area through a pipe- network flowing over into the stream in the vicinity of the land (with a 6% slope of surface). In order to maintain the land stability, earth moving works were performed, the slopes and terraces were overgrown with grass, deep- rooting tree species were planted, the stream is permanently cleaned of the upstream garbage while the rehabilitated area is constantly under careful surveillance.

Keywords: organic reconstruction, agricultural fields, slipping

1. Introduction

In the last years, in Romania, the abundance of heavy precipitation, favoured the activation and expand of landslides on large agriculture lands. Through the glide process of land, had suffered not only agricultural surfaces, but were damaged and destroyed hundreds of buildings in villages or towns, were produced numerous degradations of highways and railways, were affected industrial and hydrotechnical buildings.

2. Material and method

The landslide surface taken under consideration is placed in south – west part of Cluj-Napoca area, Manastur section, Câmpului street, been at current hour used as the house with garden, having 1186.00 m² total surface “Integration plan in the zone”. From total surface, 560.00 m² forms an approximate platform to the street level with 6% slope, and the remainder surface (626.00 m²) constitutes an abrupt talus which comes down from patio quote to the basin Popii stream with 50 meter The land has fee access from Campului Street which is

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bound through western side. The versant is strong fragmentized, presenting breaks, slides and dense deep erosion formations.

In the studding lands, slide case, represented in picture 4 is limited to east part of Popii stream, ground movement was produce toward river, this identified also with the slope direction.

3. Results and discussion

From pedological and agrochemical point of view, the characteristic soil type for this zone is **preluvoil** (brown soil clay-illuvial) with the following profile: Ao-A/B-Bt-C.

The execution works of consolidation through supporting wall affected by landslide was executed below the ground line, perpendicular to the advanced direction of massive ground dislocation.

The supporting wall from glide zone, taken on study, achieved from granite stone and mortar cement with steel concrete, that to resist to overturn, longitudinal and vertical flexure.

Along with wall support realization was executed land working, achieving five terraces which immediately inseeded with perennial grass.

If the landslides are produced to, from cause of natural phenomenon and climatic conditions, residue pollution depends only on peoples carelessness and indifferent to throw garbage anywhere, been absolute necessary the education of the population with a view to respect himself and environment.

4. Conclusions

On big surfaces, where are produced slides in block, the land improvement and capitalization, are done differenced depending of current stage and prospect slide process, land stabilization requirements, soil nature, degradation grade and agrochemical requirements. The taken measure must bended on causes which lead to the landslides and to the conditions on which these appear.

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