Relict landslides, gullies and geoheritage sites – Băiceni village

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I. BĂICENI GEOHERITAGE SITE

Cucuteni – Cetățuia site is located at the edge of the Laiu plateau, on a promontory cut by a gully, and is bounded on north, east and south sides by deep-seated landslide scarps [1]. The main inhabitation of the settlement is attributed to Cucuteni A. This settlement is related to the Băiceni – Dâmbul Morii settlement, located downstream, at the base of the hillslope, on the relict landslide deposits, between Recea and Morii rivers (Fig. 1). The site was populated in the Cucuteni A and AB phases. The complex landslides that affect the north, west and south hillslopes are retrogressive landslides which generated the slide of the sandstone layer over the underlying claystones and sands (Fig. 2).

II. BĂICENI LANDSLIDE

The complex landslide from Băiceni village is a relict landslide with a Lower Holocene or Upper Pleistocene age [2]. The genesis of the landslide is related to the retrogressive model of slope evolution [Fig. 2] identified by [1, 2, 3], and used by the chalcolithic populations to establish their settlements [1].

The landslide body is covered by layers of buried paleosoils (Fig. 3 a, b) which show intense hillslope evolution and argue the old age of the initial movement.

The stratigraphy of the landslide toe, which cover the floodplain deposits of the Băiceni valley, was interpreted using a 2D ERT scan (Fig. 4).

The Băiceni landslide was argued as a geoheritage site by [4].

III. MORII GULLY

The Băiceni landslide is incised by two streams, which evolved (Fig. 1, 2) through regressive erosion. In the last 100 years their channel heads evolved as gullies, the Morii gully showing continuous activity from the '70 (Fig. 5, 6) [5].

ACKNOWLEDGMENT

We are grateful to Prut-Bârlad Water Administration who provided us with the LIDAR data. We have used the computational facilities given by the infrastructure provided through the POSCCE-O 2.2.1, SMIS-CSNR 13984-901, No. 257/28.09.2010 Project, CERNESIM (L4).

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Fig. 1. 3D view of the Băiceni geoheritage site [3]: LiDAR shaded image and the landslide inventory from [1]

Fig. 2. Geomorphological interpretation of the Băiceni geoheritage site retrogressive mass movement model [2].

Fig. 3. Stratigraphy of the Băiceni landslide body cover, revealed in the Morii river bank showing buried soils (the location of the photos is shown in Fig. 1 – red a and b)

Fig. 4. Băiceni geoheritage site stratigraphy interpreted from 2D ERT.

Fig. 5. Aerial image of the Morii gully (1971).

Fig. 6. Aerial image of the Morii gully (2008).