



Raising awareness for research on earth walls, and earth scientific aspects

Hanneke van den Ancker (1), Pieter Dirk Jungerius (2), Henk Baas (3), Bert Groenewoudt (3), and Charlotte Peen (4)

(1) Geoheritage NL, Oude Bennekomseweg 31, 6717 LM Ede, Netherlands (info@geoheritage.nl), (2) University of Amsterdam - IBED, University of Amsterdam, P.O. 94248, 1090GE Amsterdam, Netherlands, (3) RCE - Cultural Heritage Agency of the Netherlands, Smalle pad 5, 3811 MG Amersfoort, Netherlands, (4) Gemeente Ede, Raadhuisplein 3, 6711 DE Ede, Netherlands

A conference to raise awareness

In the Netherlands, little research on earth walls has been done. To improve attention for earth walls, a number of organisations, including Geoheritage NL, organized a conference at the RCE, the Cultural Heritage Agency of the Netherlands. The conference* presented a state-of-the-art of research done. The book with the presentations, and extra case studies added, was published in December 2012. The book concludes with a research action list, including earth science research, and can be downloaded freely from the internet. It has English summaries.

The earth science aspects

Historical earth walls do not only add cultural value to a landscape, but also geodiversity value. Apart from geomorphological aspects, the walls contain information about past land- and climate conditions:

- They cover up a former topography, a past landscape. A relevant source of scientific information where lands are levelled, as is the case in many parts of The Netherlands;
- The soil formation under the earth wall is a reference soil. The soil formation in the top of the wall gives insight in the rate of soil formation in relationship with the age and parent material of the wall;
- The soil profiles of different age have ecological significance. Older walls with a more pronounced soil formation often hold forest flora that has disappeared from the surrounding environment, such as historical bush or tree species, autogenetic DNA material or a specific soil fauna;
- The materials in the earth walls tell about the process of wall-building. Paleosols and sedimentary structures in the earth walls, in the gullies and colluvial fans along the walls contain information about past land management and climate.
- The eroded appearance of the earth walls is part of their history, and contain information about past management and land conditions, has ecological relevance, for example for insects, and is often visually more interesting. Insight in the rates of erosion are important for earth wall maintenance.

A reconnaissance study of earth science aspects of earth walls in Ede

The poster further presents a reconnaissance study in the municipality Ede describing differences in morphology, geology and soil profile development. E.g. totally black platten A-like horizons occur over 1 m thick, as well as differences in brown B-horizons from 0 cm, 2-3 cm to 15-20 cm. Inferred from cultural data, 2-3 cm B-horizons have an age of about two - three hundred years.

Reference

Henk Baas, Bert Groenewoudt, Pim Jungerius, Hans Renes (eds.), 2012. Tot hier toe en niet verder – historische muren in het Nederlandse landschap., RCE - Cultural Heritage Agency of the Netherlands, Amersfoort (includes English summaries)