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"Soil improvment" impacts on the karstic and coastal landscape of Murge Alte (Southern Italy).

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The Murge area (Puglia, southern Italy) is a morpho-structural high of the Apulian foreland. The upper part of the Murge (Murge Alte) is a plateau characterized by Cretaceous limestones and by a mature karstic landscape. The soils of the plateau are very thin, often less than 20 cm, and made up of fragments and blocks of limestones rich in clayey matrix.

Historically, in this area, the presence of thin soils and the scarsity of water prevented a massive development of agricultural activities and, typically it was mainly a grazing land. Nevertheless, recently (last 20 years), public financing (mainly UE founds) promoted the introduction of soil improvements, with massive ploughing and crushing of the carbonate bedrock. This actions induced severe changes both in the karstic landscape and in the hydrogeological balance, whose effects may be observed on the plateau and along the coastal zones of Murge. In particular, in a very short span of time (only 20 years), these soil-improvement actions produced:

- breaking up of soil-rocky substratum complex;
- alteration of the granulometric range size of the soil (massive increase in finer particles);
- increase in soil loss;
- alteration of the superficial and deep karstic system;
- increase in flood risk.