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ANTHROPOGENIC IMPACTS IN THE RUHR DISTRICT (GERMANY): A CONTRIBUTION TO ANTHROPOGEOMORPHOLOGY IN A FORMER MINING REGION

ABSTRACT: HARNISCHMACHER S., *Anthropogenic impacts in the Ruhr District (Germany): A contribution to Anthropogeomorphology in a former mining region.* (IT ISSN 1724-4757, 2007).

The Ruhr District, formerly the major industrial region in the western part of Germany, extending over parts of the northern lowlands (Westphalian Bight) and the southern highlands (Süderbergland), was dominated by coal mines and steel mills from the second half of the 19th century to the end of the 20th century. Different landforms have emerged from man's direct and indirect impact. The most important are waste heaps with a total mass of 35.9 million tons in 1989. A widespread geomorphological feature from man's indirect impact is mining subsidence with a total volume between 4 and 7.2 km³ as estimated by Bell & alii (2000), resulting in a calculated annual lowering rate of 4.7 mm and 8.5 mm, resp.

This rates exceed the denudation rate caused by suspended load discharge in a river catchment of a hill country by two magnitudes.

Furthermore, channelization of the whole Emscher river catchment represents an early measure against flooding and to conduct wastewater in open channels. Earth materials were moved to excavate a deep incised channel bed as well as to build dikes in mining subsidence areas. Coal mining waste heaps and lakes caused by mining subsidence are often landscaped and turned into nature reserves with recreation areas.

KEY WORDS: Hard coal mining, Man-made landforms, Earth removal, Ruhr District (Germany).

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