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## THE ENVIRONMENTAL IMPACT ASSESSMENT CAUSED BY THE DYKES FAILURE

**Codruța Bădăluță-Minda\*, Gheorghe Crețu**

*"Politehnica" University Timisoara, Faculty of Hydrotechnics, 1A G. Enescu Street, 300022, Timisoara, Romania*

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### **Abstract**

The paper presents a risk analysis and assessment of the defence linear systems failure (dykes) in case of accidental flood. Also, breach scenarios and hydrographs computation for the corresponding accidental high waters are provided. The impact assessment is highlighted through a global matrix model for costs quantification.

It is also presented the flooding computation model for different versions of the linear defence systems and in a correspondent way the Inundation Accidental Dike (I.A.D.) computation in Java language.

The results of the theoretical computations were verified and confirmed on a large number of actual cases of dykes failures in our country in the period 2005 - 2007. The model and the computation program, the real time simulation of the linear defence system failure allow for the possibility to make some favourable decisions in order to mitigate the negative effects during all phases of floods (before, during and after failure).

*Key words:* flood risk, linear systems, longitudinal works

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\* Author to whom all correspondence should be addressed: e-mail: badaluta\_minda@yahoo.com