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Interactive comment on "Evaluation of social vulnerability to floods in Huaihe River basin: a methodology based on catastrophe theory" *by* W. J. You and Y. L. Zhang

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The Authors present an interesting piece of research on the intricate question of "measuring" the social dimension of flood impacts. This work relates closely to another attempt presented by Ernst et al. (2010). In their Section 4.3.1 "Social vulnerability and appreciation of social impact", they detail an index-based approach which relies on: (i) the inundation characteristics provided by hydraulic modelling (FI), (ii) a composed index reflecting the vulnerability of the people (V, see Eq. (3) in Ernst et al. 2010) and (iii) an adaptive capacity score of the community (AC). Eventually, a social flood impact index is derived by combining FI, V and AC. This approach was applied

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to a micro-scale study in the Meuse basin, Belgium. It may be worth discussing this study by Ernst et al. (2010) with respect to the new contributions by the Authors.

Ernst, J., Dewals, B.J., Detrembleur, S., Archambeau, P., Erpicum, S., Pirotton, M. (2010). Micro-scale flood risk analysis based on detailed 2D hydraulic modelling and high resolution geographic data. Natural Hazards, 55 (2), 181-209.

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