



Flood damage data gathering: procedures and use

D. Molinari (1), G.T. Aronica (2), F. Ballio (1), N. Berni (3), and C. Pandolfo (3)

(1) Politecnico di Milano, Department of Hydraulic Engineering, Milano, Italy (daniela.molinari@polimi.it, 0039 02 2399 6298), (2) Università di Messina, Department of Civil Engineering, Messina, Italy, (3) Regione Umbria, CFD, Foligno, Italy

Damage data represents the basis on which flood risk models, re-founding schemes and mitigation activities are grounded on. Nevertheless damage data have been collected so far mainly at the national-regional scale; few databases exist at the local scale and, even if present, no standard exist for their development. On the contrary, risk analyses and mitigation strategies are usually carried out at local scale.

This contribution describes the ongoing activity to collect and analyze local damage data coming from past events with recently hit Umbria and Sicily regions (central and south part of Italy respectively). Data from past events will be discussed from two different perspectives. In Italy, procedures to gather damage data after a flood are defined by law. According to this, authors will first question whether or not collected data are suitable to give an exhaustive representation of the total impact the events had on the affected territories. As regards, suggestions are provided about how gathering procedures can improve.

On the other hand, collected data will be discussed with respect to their implementation in the definition of depth-damage curves for the Italian context; literature review highlights indeed that no curves are available for Italy. Starting from the knowledge of observed hazard intensity and damage data, available curves from other countries are validated, the objective being to reduce the uncertainty which currently characterise damage estimation. Indeed, a variety of curves can be found in literature and the choice of one curve in place of another can change damage assessment results of one order of magnitude.

The validation procedure will allow, in its turn, to face a secondary but key question for the contribution, being the identification of those hazard and vulnerability features that should be recorded and kept updated in a local GIS database to support risk modelling, funding and management.

The two areas under investigation are prone to different types of hazard: flash floods with high debris concentration are typical of the Sicilian area whilst riverine floods are common in the Umbria region. This way, reasoning can be made with respect to different hazard and vulnerability aspects.