The link between crime and disasters: case studies from an ongoing study of open global crime statistics and disaster modelling

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A subnational level crime database has been collected for each country globally where possible, in order to create a layer to explore the correlation of disaster losses and crime globally. This was collected from police agencies, open data websites, Ministry websites (such as the Ministry of Justice or the Ministry of Interior), CATDAT and statistical agencies. Using the latest census data and population estimations, we generated standardized crime statistics rates per 10,000 inhabitants to make worldwide cross-national comparisons possible. The layer includes homicide statistics rates, petty crime statistics, as well as spatial information as to the distribution. Due to the different reporting mechanisms globally for this data, the combination of this data is very time-consuming. In a last step, the data was geocoded and visualised within GIS.

Using disaster loss information presented from the CATDAT loss database (Daniell et al., 2016), as well as the global subnational HDI data (Daniell et al., 2012); correlations and trends are able to be examined for the first time globally where the crime layer has been completed (110 countries at present).

Three parts of the study are presented using the global crime layer:
1) a preliminary view of the correlation between crime, disaster losses and global subnational HDI in some developing countries.
2) the correlation of flood hazard maps and earthquake hazard maps vs. crime statistics where applicable on high resolution in selected countries.
3) historical loss events where crime played a major role pre- or post-disaster.