



Landslide Economics: Concepts and Case Studies

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Landslide economics is vital for fundamental understanding of landslide risk as dealing with two important topics: (i) impact assessment, either as damage statistics or cost modeling, and (ii) vulnerability assessment, i.e. the study of exposure, sensitivity, and resilience to landslide damage, ideally from both sociotechnical and financial perspective (e.g., Crovelli and Coe, 2009; Wills et al., 2014).

Many aspects addressed in landslide economics have direct influence on landslide risk, including: (i) human activity is often a major causative factor of landslides, not only by predisposing or triggering them, but also as a result of inadequate (low-cost) landslide mitigation; (ii) the level of tolerable or acceptable risk, a measure driving a large part of landslide costs in industrialized countries, is highly variable, differing between individuals, public or private organizations, and societies, with its nature being to change over time; and (iii) decision makers are faced with finding the right balance in landslide mitigation, thus need to weight diverse geological and socioeconomic factors that control its effectiveness in both technical and financial terms (e.g., Klose et al., 2014a).

A large part of the complexity in assessing landslide risk as measured by economic costs is due to unique problems in understanding of (i) what types of landslide damage affect human activity and infrastructure in which way, (ii) how society contributes and responds to various kinds of damage, and (iii) how landslide damage is valued in monetary terms. Landslide economics shows the potential to take account of these sociocultural factors to the benefit of risk analysis (e.g., Klose et al., 2014b).

The present contribution introduces local and regional case studies in which different economic issues of landslide risk are highlighted using the example of public infrastructures in NW Germany. A special focus is on the following topics: (i) risk culture and created risk, (ii) disaster financing and budgetary burdens, and (iii) economic risk balancing in urban planning. The results of the conducted case studies are discussed with regard to method development for integrated assessment of landslide risk.

References

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