

The central challenge of climate change adaptation for Alpine natural hazard management: Incorporation of future change into planning and management decisions

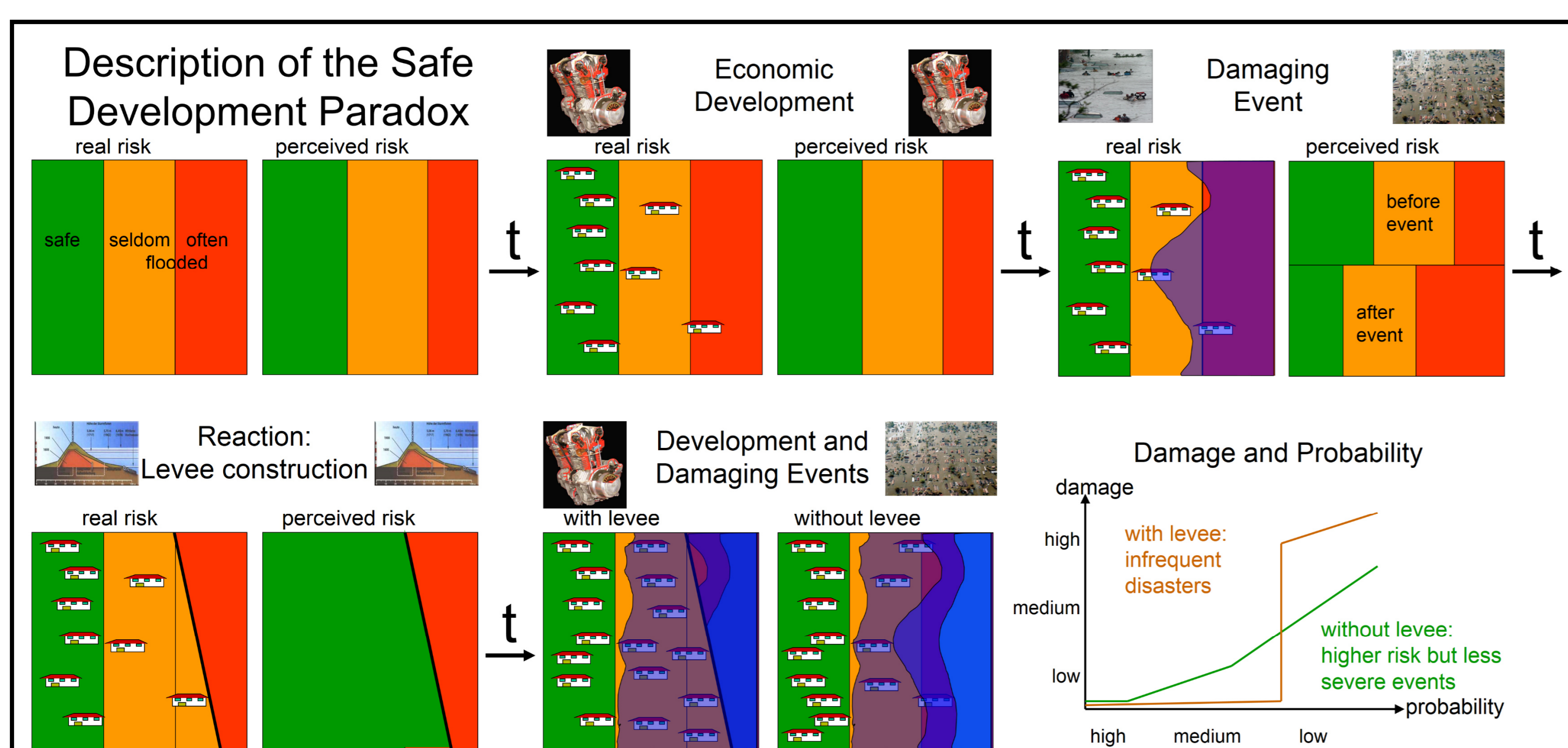


INTERPRAEVENT
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Living with natural risks

Climate Change Adaptation = Adaptation to future societal change + future climate conditions

- Necessity for land-use scenarios with a time frame of 10-50 years



- Understanding of feedback loops between natural hazard management and settlement or infrastructure development: The Safe Development Paradox (Burby 2006)



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Example Galtür: Sharp increase of the damage potential at the border of the red zone after implementation of the danger zone maps (Keiler 2004)

Elements of a future oriented natural hazard management (Pukall 2014, Pukall/Kruse 2014)

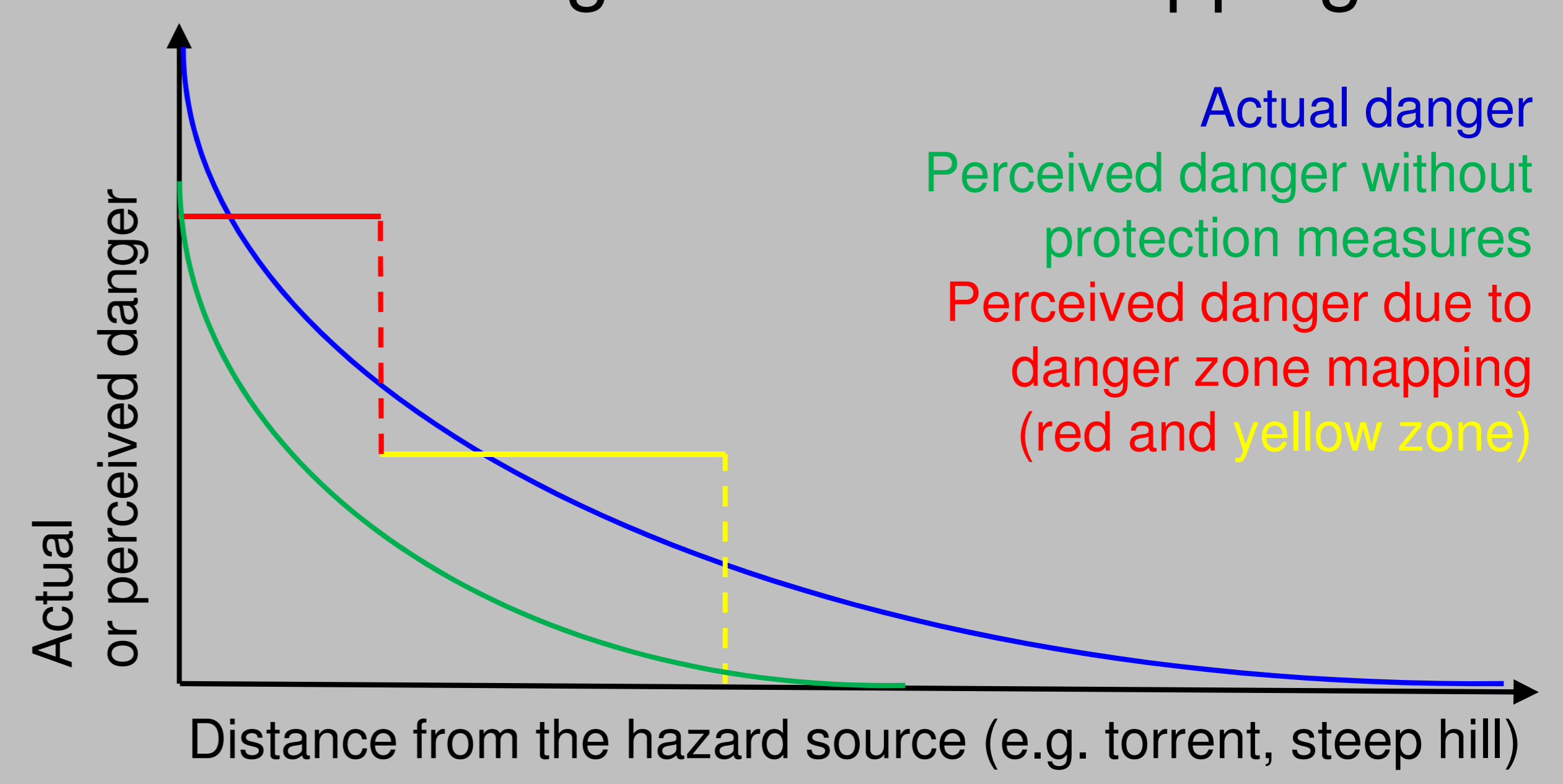
- Consideration of future land use change within planning decisions and cost-benefit analysis in tools like EconoMe
 - For a possible approach see the project RiskAdapt (2015)
- Active influence on land use decisions by central actors of the natural hazard management
 - Importance of early involvement in informal decision making processes of expensive infrastructure projects
 - Synchronizing of hazard zone mapping with revisions of local land use plans
- Consideration of the higher level of uncertainty
 - Precautionary principle more important than procedures of the risk management approach (Etkin et al. 2012)
 - Use of economic instruments to steer settlement development e.g. by a property tax which considers the danger potential or transferable development rights (Filatova 2014)
 - ✓ Flexible reaction to changes of the danger potential possible
 - ✓ Overcomes the discrete logic of hazard mapping



Aqua-Dome in the Ötztal – a mistake!?

- Biggest Spa of Tyrol, opened 2004
- Very high damage potential within the yellow danger zone for torrential hazard and within the range of the 300-years
- Possible cascading effects: blockage of the stream channel of the Ötztaler Ache with debris from the Fischbach torrent.
- Less hazard prone places would be available in the vicinity

The discrete logic of hazard mapping



References:

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<http://alpine-naturgefahren.de>



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