

FIG Working Week 2012

Knowing to manage the territory, protect the environment, evaluate the cultural heritage

# THE INFLUENCE OF FLOODING ON THE VALUE OF REAL ESTATE

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Source: dpa

# Australia

Source: dapd



Thailand

Source: REUTERS

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Source: APA

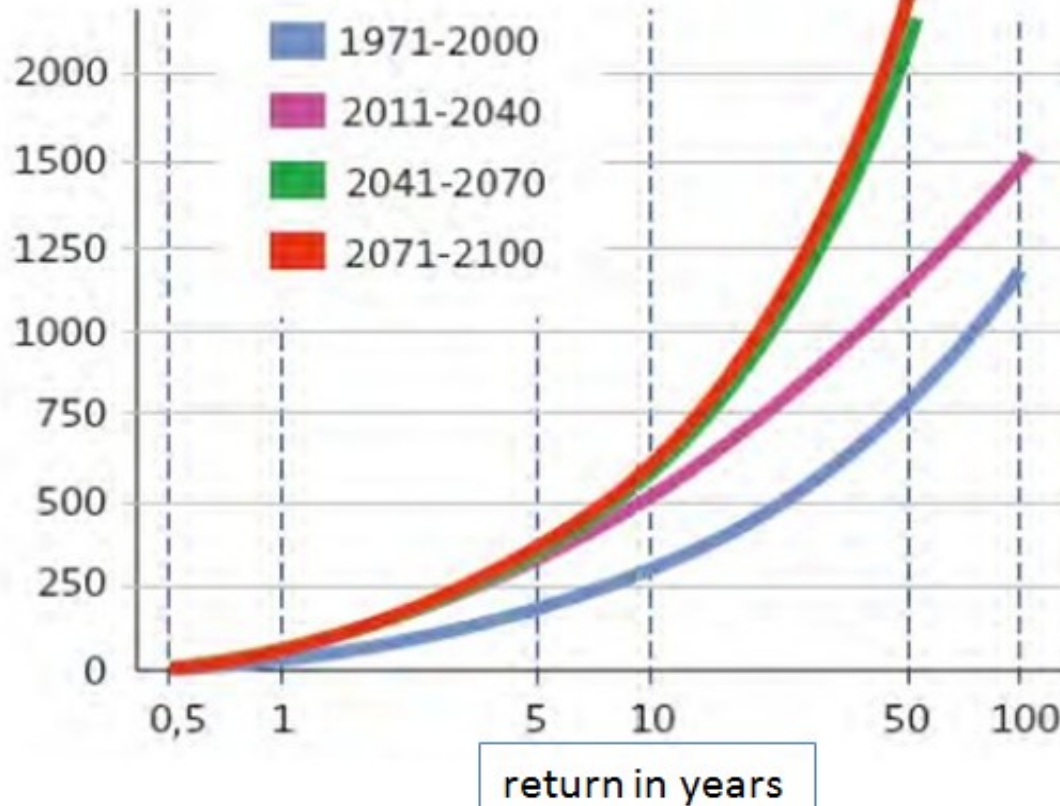


Peru



Pakistan

medium damage  
[in million €]



Source: GDV

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recurrence interval gets smaller → flood events will occur more often in the future

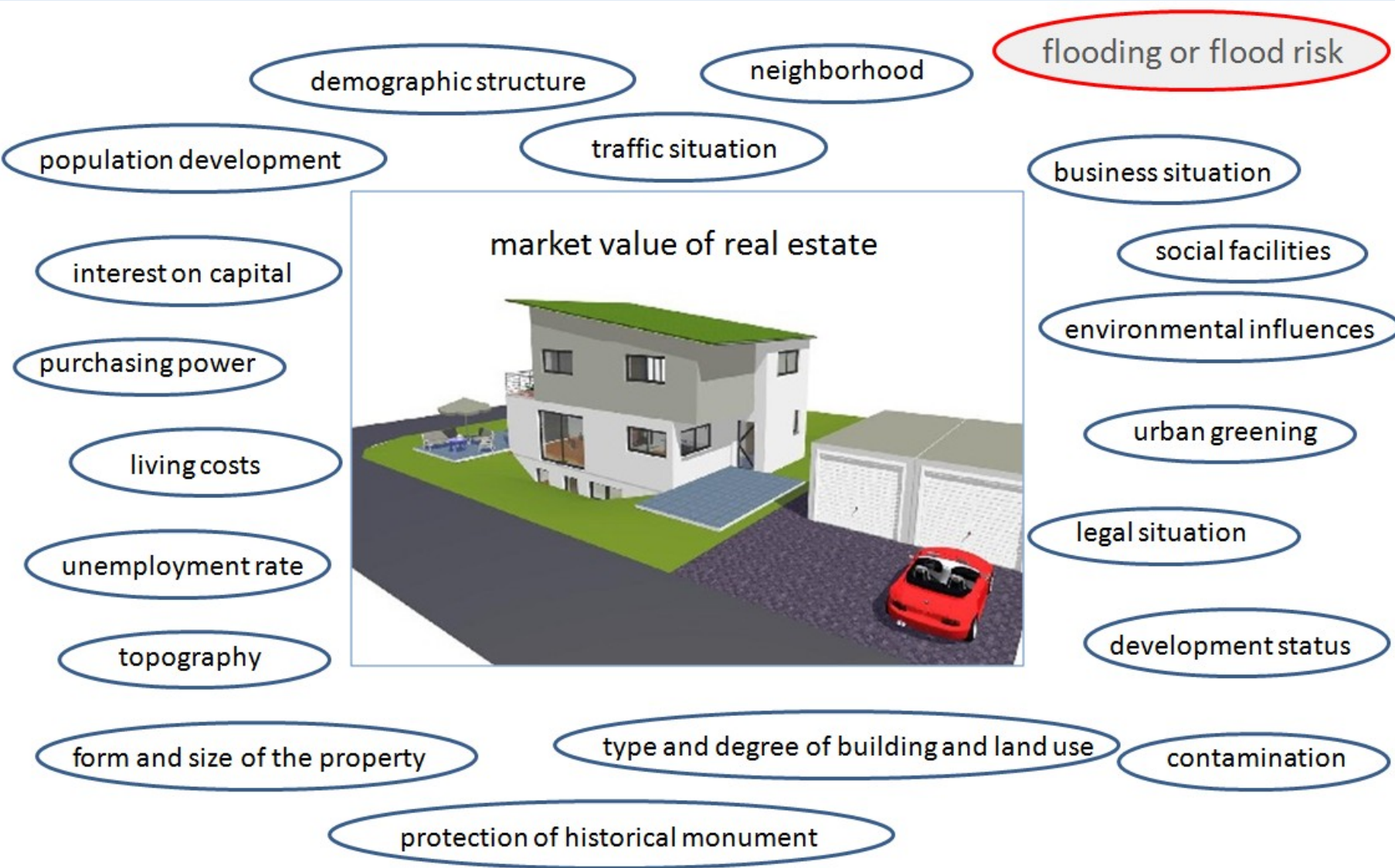
- I. Climate change and flood risk
- II. Market value – the impact of flooding
- III. Best practice approach
- IV. Conclusion

- global warming & climate change
  - intensification of the water cycle
  - increase of frequency and severity of floods
- causes of flooding
  - surface water flooding
  - coastal and river flooding
- sea level raise
  - regions just some centimeters above sea level ???

# Market value – the impact of flooding

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- discount based on experts opinion
  - in general comparable purchase prices are missing
  - very often reference land values are not derived properly
- positive effect of waterfront location (up to a threefold land value) – overlapping???

*e.g. Australia, New Zealand, UK or US:*

- price discount between 3-15%
- no effect at all (or not detectable)
- temporary effect
- positive effect
- no effect on flood designated areas without a flood event
- insufficient data basis

***methods:***

- expert interviews, hedonic pricing, repeat sale

## *comparison method*

- in general comparable purchase prices are missing

## *replacement cost method*

- higher production costs (e.g. water resistant basement, demountable door and window guards)
- a lower remaining operating life period
- factor for adjustment to the local market

## *discounted cash flow method*

- a lower remaining operating (economic) life period
- lower amount of rent (especially for the ground floor)
- higher management cost (e.g. for reconstructions, administrative work)
- property yield

→ *“mercantile” decrease in the market value ???*

→ ***“NO” double consideration***

→ ***there is no “all-in-one” solution”***

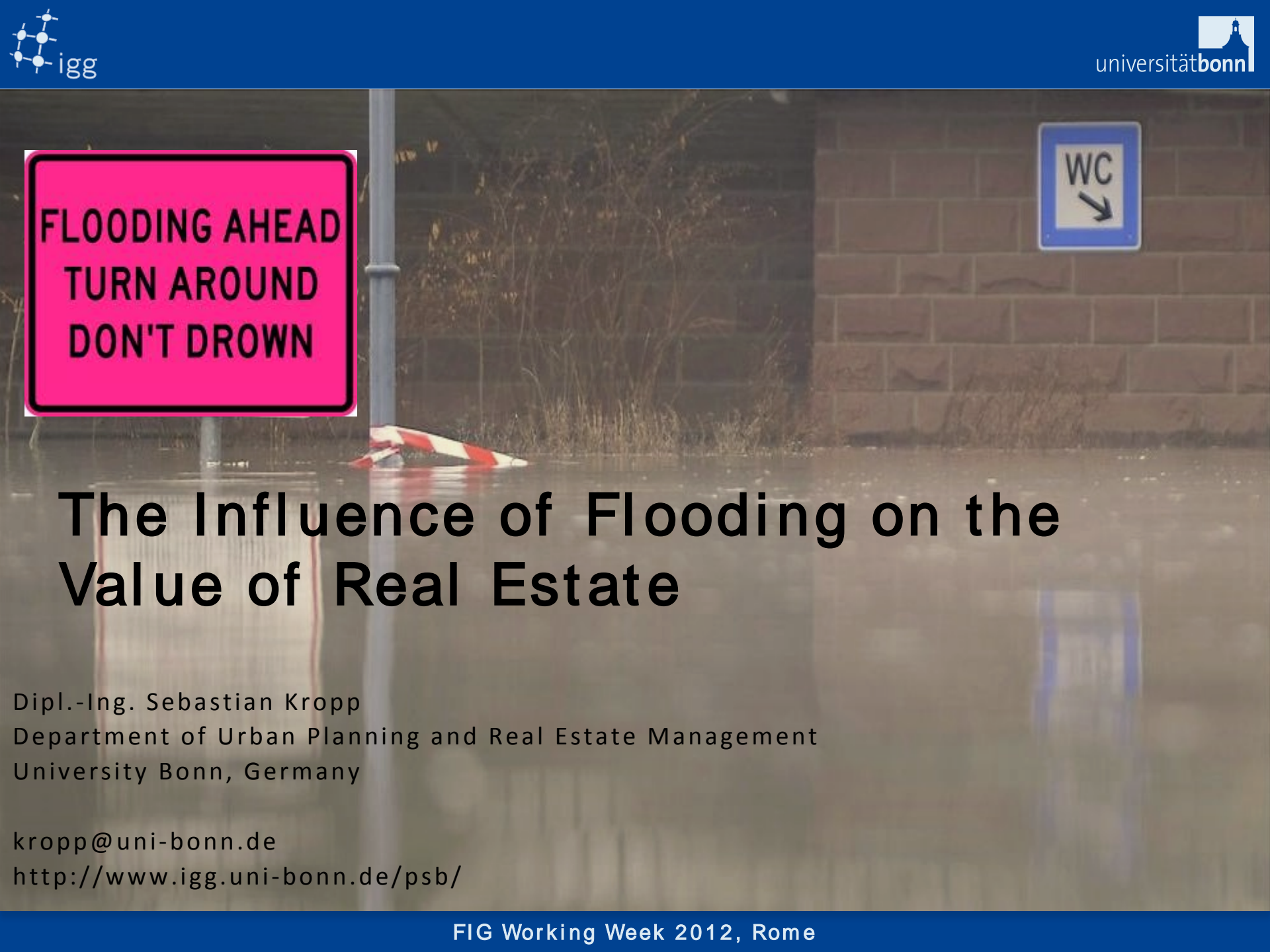
- results from (past) studies give a hint (3-15%)
- facts instead of assumptions

***(personal) favorites:***

- calculation of the additional production costs to manufacture a flood resistant building
- capitalization of the costs for 100% insurance cover

- climate change → higher flood risk in the future
- flooding has an influence on the value of real estate
- many “adjustment screws” to consider flooding in the valuation process
- no “all-in-one” solution → discount based on experts opinion
- further research is needed
- alternative approaches

→ ***the aspect of flooding has to be considered***



FLOODING AHEAD  
TURN AROUND  
DON'T DROWN

# The Influence of Flooding on the Value of Real Estate

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