

IS MANAGED RETREAT IN FLOOD RISK MANAGEMENT AN EFFECTIVE OPTION? EXAMPLE FROM AUSTRIA

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Introduction

Austrian municipalities face **increasing risk** from flood hazards due to a number of developments:

- Extreme weather events are expected to rise due to climate change (APCC 2014, IPCC 2013)
- Settlements are expanding in flood-prone areas (ICPDR 2009); and
- The monetary value of assets and property at risk is increasing (OECD 2013)

Austrian governments and administrations are **struggling to maintain the current level of protection** despite stretched public budgets

Idea: moving away

- Most effective **long-term measures**
- Some initiatives exist
 - in Australia (Handmer 1987)
 - England (Johnson et al. 2008), or
 - the USA (Esnard et al. 2011).....
- **Less-developed countries**, compulsory resettlement and unplanned, climate-induced migration have become a common response to natural disasters

- Relocation of flood-prone residents is a **passive instrument** aiming at a permanent reduction of potential flood damages
- Despite its effectiveness, relocation is **highly contested** (legally, social and economically).
- **Emotional attachment** to the home left behind and adapting to a new residency, as well as coping with **financial burden and re-building a neighbourly** network
- **Primarily due to negative social and economic impacts**, many hesitate over proposing relocation measures

June 2013 flood in the Danube catchment



© Gemeinde Alkoven/Goldwörth/Walding, wikipedia

All over Austria:

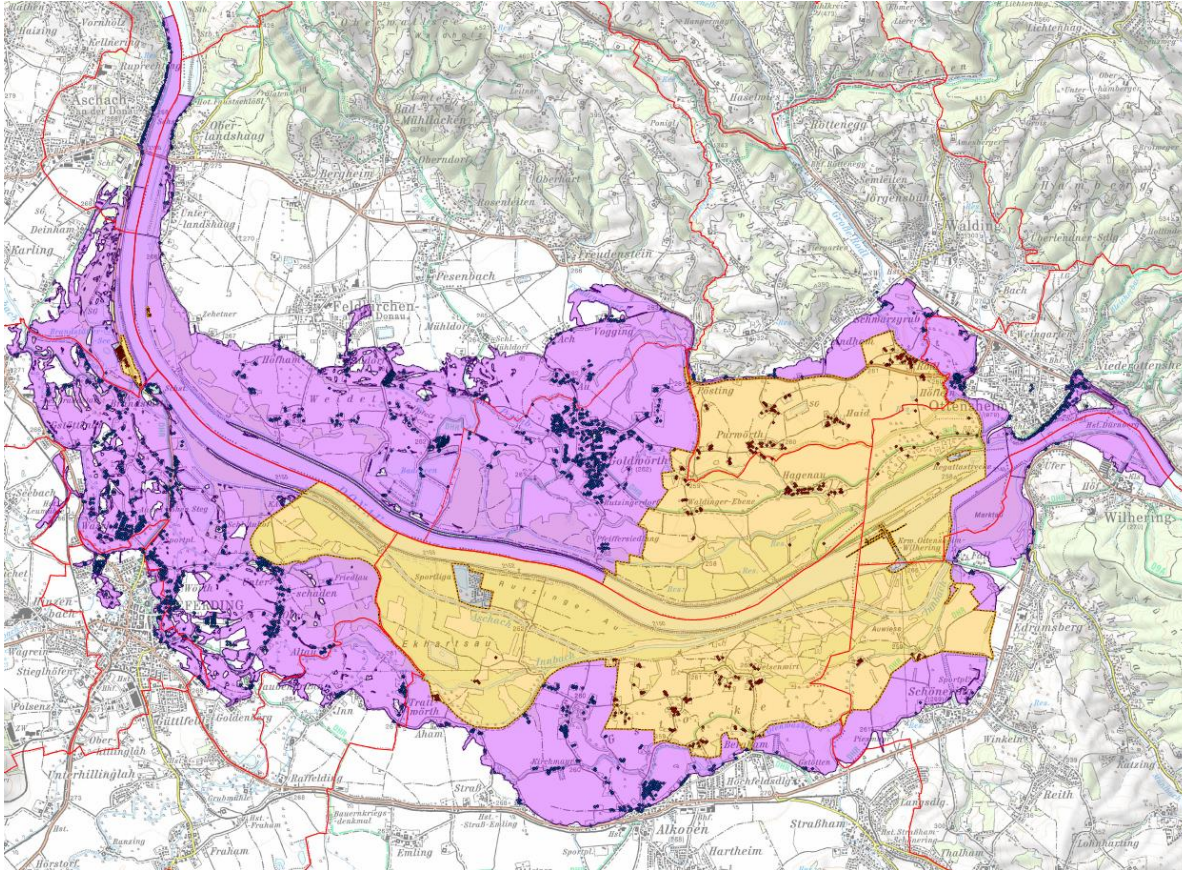
- Damages of 866 mio. Euro

Eferding Basin:

- Damages of 41 mio. Euro
- 706 households affected



Relocation zone Eferding Basin



- Announced in October 2013
- Deadline to accept the offer until the end of 2015
- Comprises 146 buildings in three municipalities
- Top-down policy decision by the provincial government
- Good reasons from a planning, economic, climate perspective



- Voluntary scheme
- Complete removal of built structures
- Compensation of 80% of current building value and removal costs
- Building plot is redesignated as agricultural crop land and placed under a construction ban

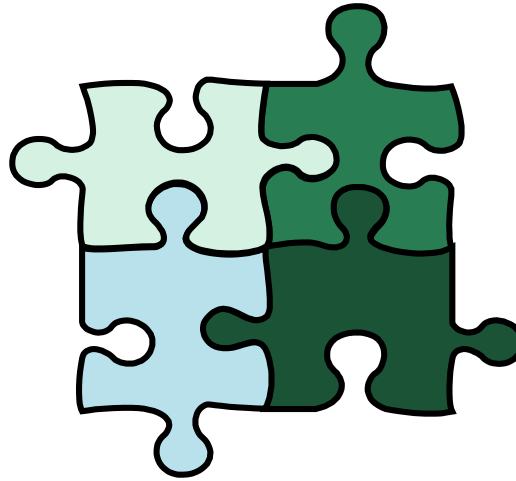
Challenges



Longitudinal multi-methods approach

Semi-structured
qualitative
interviews

Standardised
questionnaire

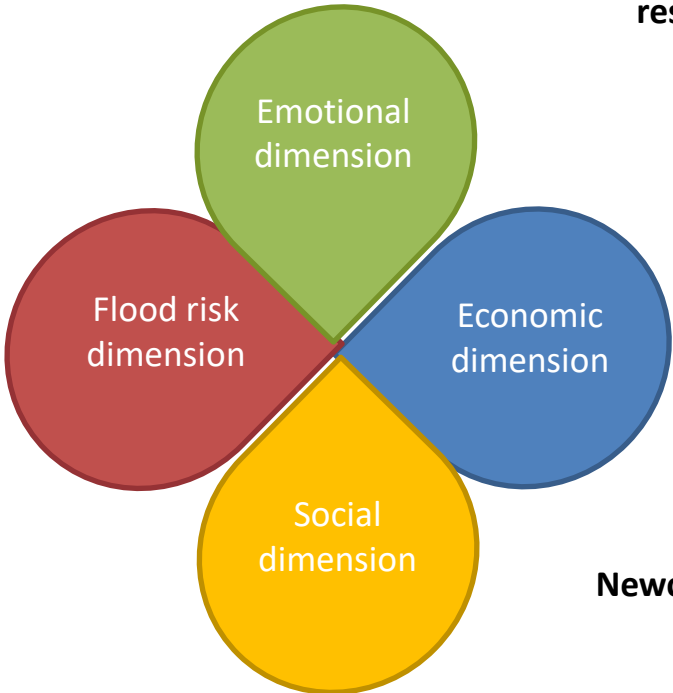


Socio-economic
status, family
structure, building
data

Social network
map

Decision criteria to stay or leave

- Governmental actors addressed just a fraction of all decision criteria
- Critical role of emotional assessment
- Expert vs. lay risk perception
- Temporal dimension
- Reference points



Long-term residents

Newcomers

Leave	Stay
Prospect of one's children	Place identity
Uncertainty about flood risk	Prospect of one's children
Willingness to take over farm	Amount of compensation payment
Fear of future floods	Amount of compensation payment
Uncertainty about flood risk	Prospect of one's children
Prospect of one's children	Place attachment

	Relocation	Social capital	Fatalism	Networks out	Networks in
Place identification	1	,284*	,268*	,176	-,005
Social capital	,284*	1	-,039	,177	-,063
Fatalism	,268*	-,039	1	,066	-,163
Networks out	,176	,177	,066	1	,289*
Networks in	-,005	-,063	-,163	,289*	1

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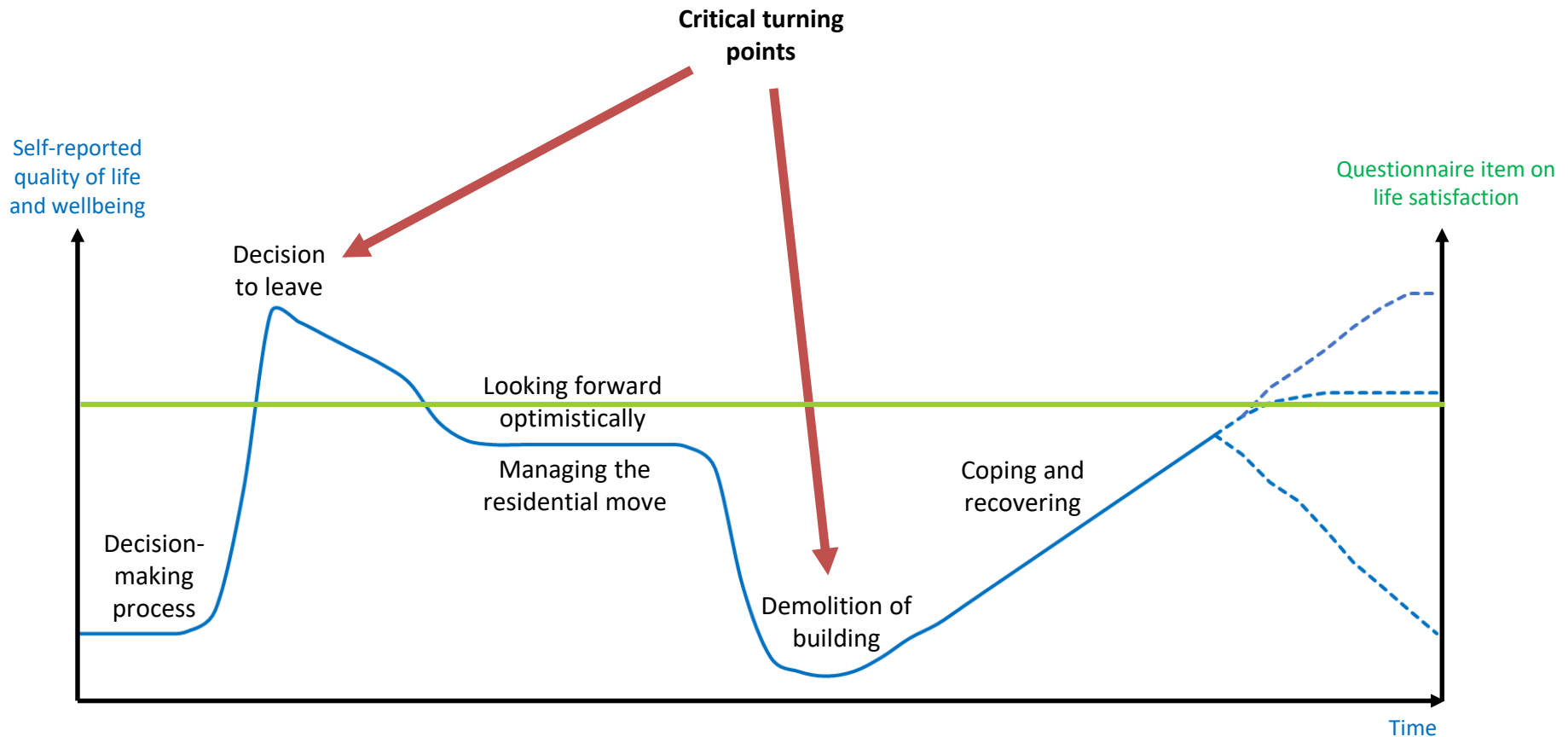
When to talk

- evolution of stakeholder interests during this process
- managed retreat is more successful if the relocation scheme is **initiated after a recent flood event**; however, this policy window is only open for a **short time**
- this window is leveraged best in communities with an **ongoing discourse** on risk management preceding the flood event

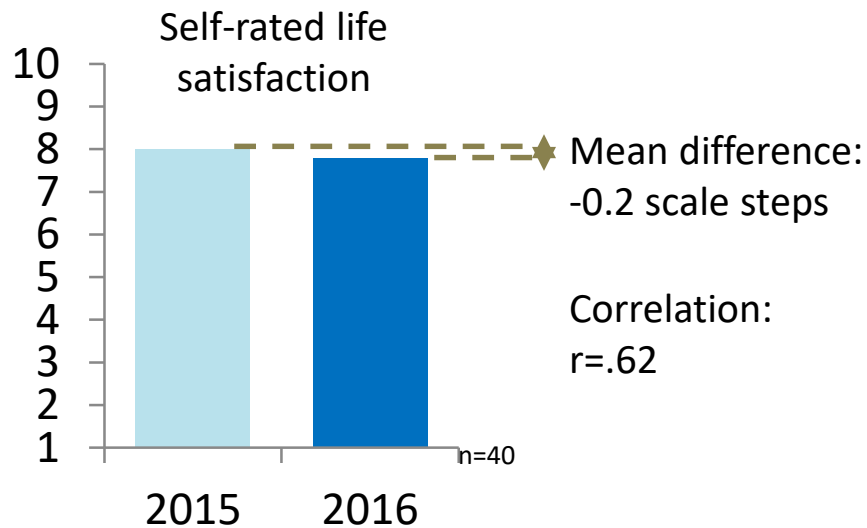
Potential impacts

- **physical, mental and emotional** stress
- erasing **social networks**
- financial resources - **compensation**
- responsibility and **property rights**
- leading to **weak coping capacities**

Coping sequence of those who leave



Impacts on life satisfaction



High stability

Same sources



Residents still undecided about relocating

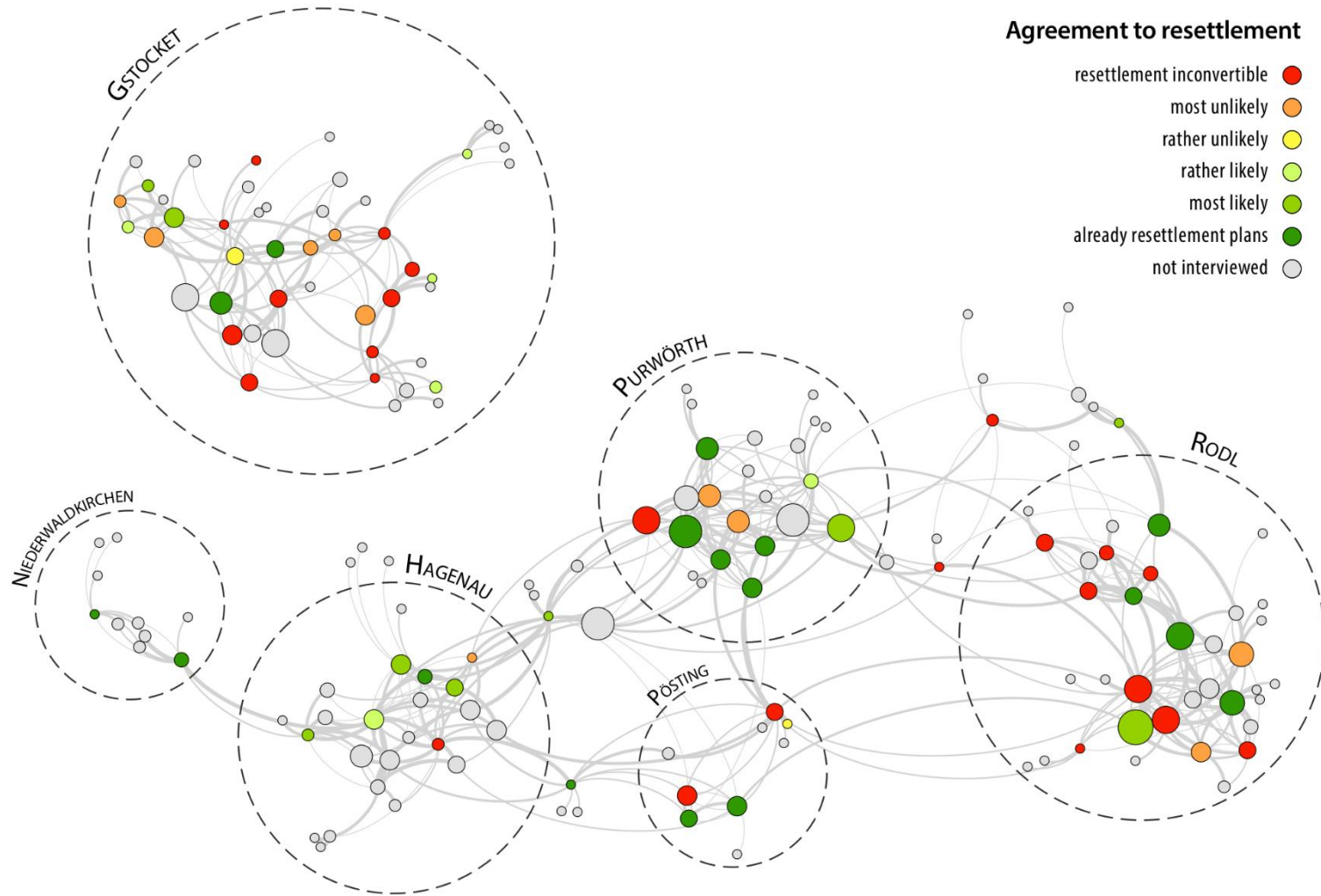
- Deadlock keeps from actively shaping the life course
- Friends and neighbours move on

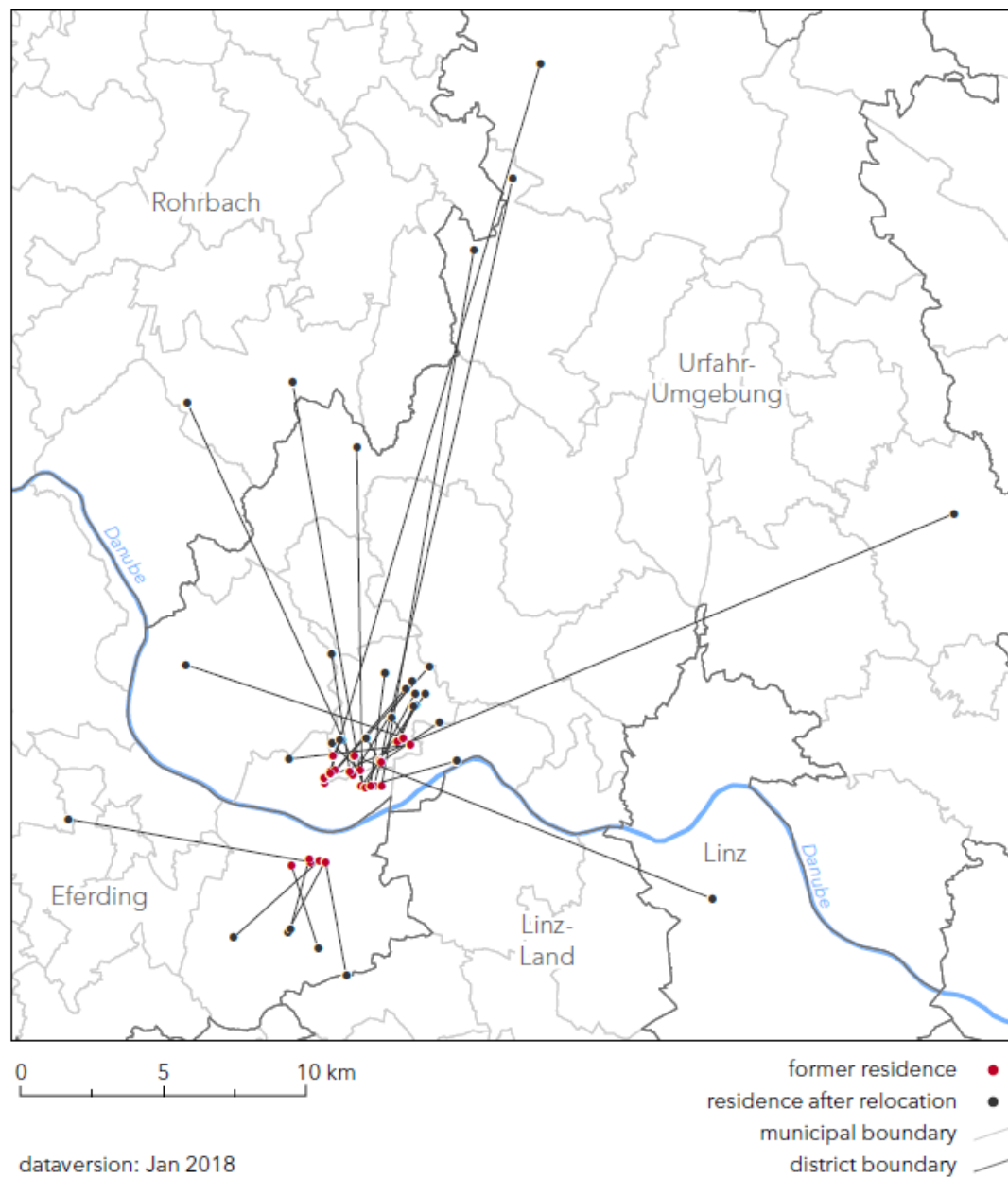


Residents confronted with additional crises

- Older or ill persons, less affluent, single parents
- Overstretched coping capacities

Change of social network





Conclusion

- actors in managed retreat are **not uniform**
- separate governmental entities **rarely act in concert**, because of different formal jurisdictions or political agendas
- residents **differ in their capabilities** to participate in the political discourse
- coping with **financial burdens**; recreating **social structures**, if the scattering of former neighbours disrupts community ties
- relocating residents **struggle with multiple impacts**, such as: overcoming emotional attachment to the previous residence and resolving their traditional or spiritual connection to the land