

Ecologic Institute

Science and Policy
for a Sustainable World

A photograph of a coastal town with buildings and a railway track along the shore, with the sea in the background. The title text is overlaid on the left side of the image.

Coastal risk perception and migration in Europe

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Photo: Roos van Uyl



RISC-KIT

RESILIENCE-INCREASING
STRATEGIES FOR COASTS - TOOLKIT
WWW.RISCKIT.EU

- Low-frequency, high impact hydro-meteorological coastal events (storm surges)
- Reduce risk and increase resilience through improved forecasting, early warning, risk assessment tools
- Optimise mix of prevention, mitigation and preparedness measures



Coastal migration in the EU

For the most part in Europe, coastal flood risks are not the cause of large scale migrations

Generally* speaking...

- **good infrastructure**
- **high levels of economic/government capacity to prepare for, prevent and mitigate coastal risk**
- **if affected, return of population to status quo tends to be relatively swift**

***with regional variations!**

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However...

1/3 EU population lives within 50 km of coast with 30% of the total EU GDP generated here.

>70 million people live within 500m of coast and economic value of these areas est. at €500 - 1000 billion (EC 2014).

Vulnerable populations (old age, poverty)

Under extreme scenario of 2m sea-level rise, large parts of Europe inundated.

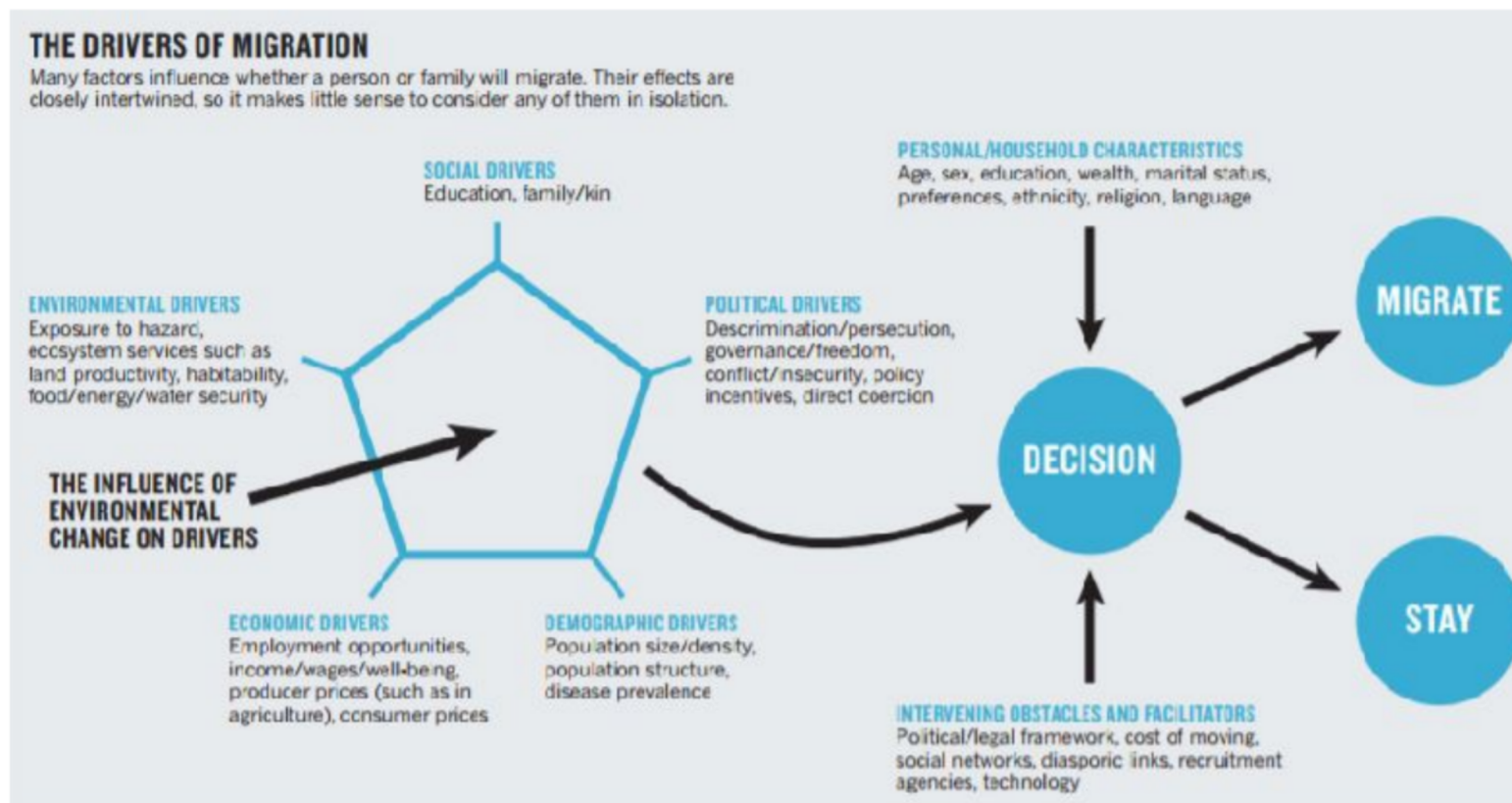
Increasing extreme events...

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Photo: www.lemoniteur.fr

Multicausal and complex!



(Black et al. 2011)

Hypothesis:


- If **migration = response** to climate change risk

Then **perception** of those **risks** and impacts is at the core of **understanding** the **drivers** of migration

- **Cultural attitudes** towards risk – and governance - determine the acceptance and potential effectiveness of strategies to reduce coastal risks

Research:

- Examine **perceptions** of coastal flood risks, risk culture, coastal risk reduction measures and governance in Europe

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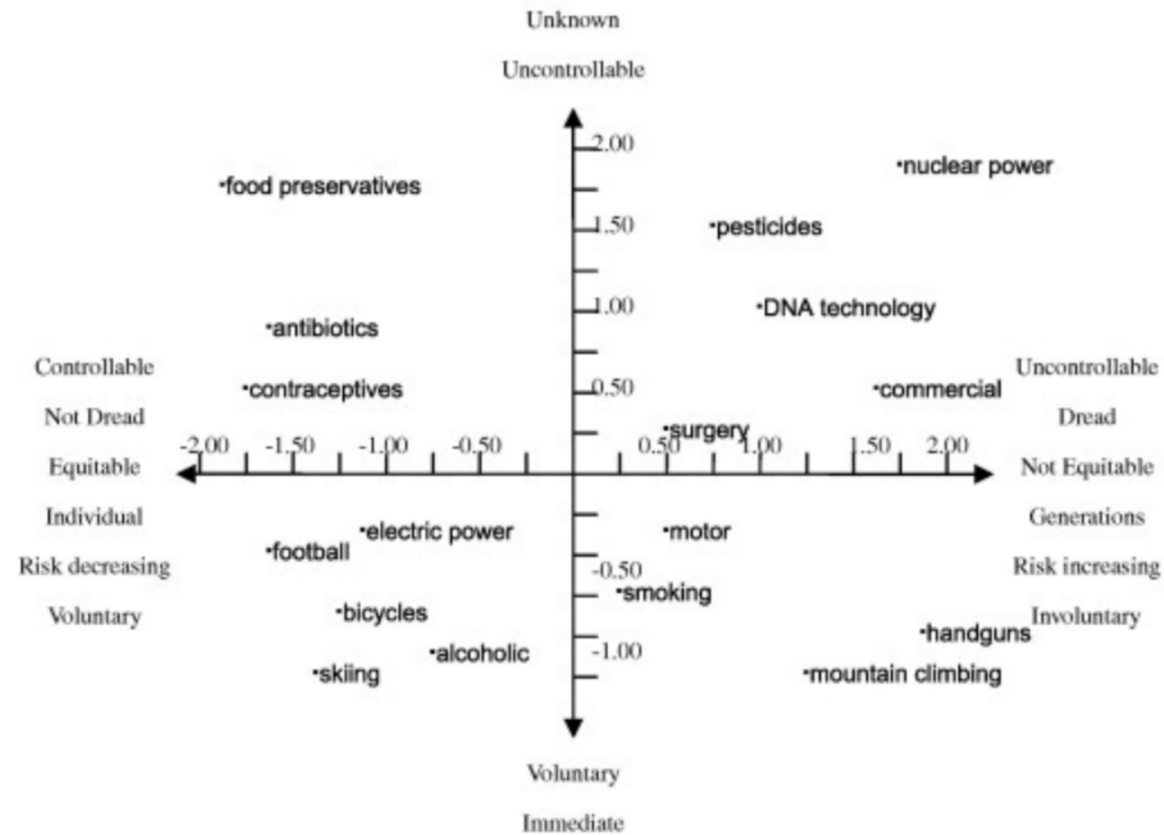
Risk perception theory

**Knowledge gap
(‘deficit model’)**

**‘Dread’ and
‘unknown’**

‘Availability bias’

(See e.g. Touili et al.,
2014; Pidgeon, 1998;
Renn & Rohrman, 2000)



Meng et al. (2013)

Risk perception and risk culture differs...

...from **country to country**...

Climate change awareness and risk perception are unevenly distributed around the world (e.g. Gallup survey 2007-8)


Within Europe, over half (55%) feel aware of disaster risks in their region. 40% said they did not feel aware (Eurobarometer 2015)

“We as latinos do not prevent” (PT Interviewee)

...from **village to village**...

e.g. Engel et al. (2014) neighbouring villages with manifest and latent disaster subculture

...from **door to door**... e.g. ,natives‘ vs. ,newbies‘

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„Natives“ ...

...often adapt (often autonomously)

“In general, people do not leave. They tried to stay to do in a different way because they usually could not move away.” (Long-time resident, France)

“Our houses do not fall...they do not have cements, we have only put a bed of tiles that when there is any movement of the earth the tiles move, but the houses do not fall down” (Beach house owner, Portugal)

“We already put all the electric plugs at high level. And we are going to make a mezzanine in our bed room” (Long-time resident, France)

“To adapt to the situation I had to retreat significantly and, to protect the area by myself ...by intuition and learning-by-doing.” (Campsite owner, Spain)

„Natives‘...

Tend to be risk aware (likely due to availability bias)

„Local fishermen know that they can lose their houses at any moment, any winter. I think that the fishermen **know the kind of risk they face**, and they have the experience“
(Interviewee, Portugal)

“I think that it is a question of accepting the risk, they feel it and they rebuild” (Interviewee, Portugal)

But may underestimate real level of risk as well as their capacity to adapt

“We never thought that there could be a disaster of this magnitude. If you had asked me before I would have said that was not possible.” (Long-time resident, France)

“We still can just make small houses on stilts like that exists elsewhere...it is another culture, that's all. We must adapt.” (Long-time resident, France)

,Newbies‘

Often lower perception of risk and lack of risk culture (vs ‘natives’)


“There are a lot of people from outside, buying houses in the barrier islands, and those, do not have any climatic memory at all” (Interviewee, Portugal)

“Today we are in a culture of tourism and recreation and all these values and knowledge on risk are lost.” (Long-term resident, France)

“people living here in the summer do not actually understand the severity of the risk, or the risk they are exposed to” (Coastal manager, Portugal)

Low risk perception can be affected by availability bias:

“After this (storm surge which destroyed beach houses) there was a big change in perception of risk and danger – better comprehension of the new users of the beach as to why houses should not be there.” (Interviewee, Portugal)

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Integrating perceptions into policy

EU Floods Directive – public risk communication obligatory task – inform citizens of their individual responsibilities (e.g. Wachinger et al., 2013; Walker et al., 2014; Begg et al., 2016)

Essential to also understand individual perceptions of risk to be able to anticipate personal decisions to move or remain.

Will help to:

- prevent maladaptation, uncontrolled and unregulated migration
- identify preemptive strategies for planned relocation

Conclusions

Currently coastal flood risks **not the cause of large scale migrations** in Europe

Highly differing perceptions of risk across and within the European case studies

Relevance of the **individual** (or at least small sub-communities) as a target for interventions to reduce coastal risks

Future research

- Develop conceptual understanding of **how** risk perception fits **alongside other factors** (e.g. economics, social, culture) that affect migration decisions
- **Increase evidence** base on risk perception /perception of coastal risks
- Combine empirical research on differing risk perceptions with climate projections to **identify hotspot areas** e.g. where extreme impacts might meet need for preventive strategies such as planned relocation

Thank you!

PARTNERS



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