Good practices for resilient, legitimate and efficient flood risk governance

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Overview

- Introduction to the STARFLOOD Project, aims, mode of analysis and what it can tell us;

- Key Findings – insights into resilience, efficiency and legitimacy across multiple levels of governance, with examples across Europe;

- Good practice examples for different elements of flood risk governance and Flood Risk Management (FRM);

- Key ‘take home’ messages and design principles for flood risk governance.
Introduction to STAR-FLOOD (2012-16)

STrengthening And Redesigning European FLOOD risk practices

- **Aim:** To **inform** and make recommendations for strengthening and redesigning Flood Risk Governance Arrangements (FRGAs) to enhance societal resilience to flooding in vulnerable urban areas;

- **Objectives** - **identify and analyse** the national FRGA; **explain** governance dynamics (i.e. change and stability); and **evaluate** the current arrangement (*resilience, legitimacy and efficiency*);

- **Desired outcomes of flood risk governance:**
  a) Enhance **societal resilience** to flooding;
  b) Make use of resources in an **efficient** way;
  c) Should be considered to be **legitimate**.

<table>
<thead>
<tr>
<th>Desired outcomes of governance</th>
<th>Evaluation criteria</th>
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<tbody>
<tr>
<td>Societal resilience</td>
<td>Resistance</td>
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<td></td>
<td>Ability to absorb and recover</td>
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<td>Efficiency</td>
<td>Economic efficiency</td>
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<td>Resource efficiency</td>
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<td>Legitimacy</td>
<td>Social equity</td>
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<td>Access to information</td>
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<td>Procedural justice</td>
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<td>Acceptability</td>
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Flood Risk Management Strategies (FRMSs)

- STAR-FLOOD starting assumption – Diversification of FRMSs is required for societal resilience to flooding

- 5 flood risk management strategies

**Prevention**
- Minimise exposure (e.g. spatial planning)

**Defence**
- Reduce the likelihood and/or magnitude of flooding by *resisting* water (e.g. dykes, embankments) or *accommodating* and making space for water (e.g. flood storage areas)

**Mitigation**
- (e.g. flood warning, emergency management)

**Preparation and Response**
- (e.g. insurance, compensation)

**Recovery**
Key findings for resilience
The aim and role of diversification varies: as a ‘back up’ or a key approach to managing risk;

Many different drivers of diversification (local actors, resource requirements, resilience discourse, technical advances);

Practical realisation that diversification is lagging behind policy intentions;

Recognised as critical to enhancing societal resilience – but diversification on its own does not guarantee resilience;

Need to ensure the effectiveness of each strategy and ensure that they are aligned and connected – look for mechanisms to bridge.
Broadening roles and responsibilities across different types actors in FRM

- Increasing effort to **broaden** the scope of FRM and include a range of different actors (private parties, NGOs citizens etc) – in all countries – for normative and substantive reasons;

- **Shifting responsibilities** - negotiating appropriate roles and objectives;

- **Involving citizens** - Critical to manage social expectations and empower communities to be able to act themselves;

- Comprehensive multi-actor **co-production**;

- **Barriers to success** - a lack of clarity of responsibilities; risk awareness and understanding; resources, power-sharing.
Effective and efficient mobilisation of resources

Consideration of societal costs vis-a-vis societal benefits needs due concern (e.g. through well-developed CBA practices);

**Multi-functionality** – FRM measures can serve multiple societal goals (e.g. Delta Dikes); or measures not intended for to be FRM measures can serve FRM goals (e.g. hydropower dams);

Consideration of the wider (co) benefits of measures (e.g. Recreation, well-being, regeneration);

Unlocking additional funding sources;

Longer term mobilisation and planning of resources for FRM including maintenance.
National taxation approach (The Netherlands)

- Secure financing
- FRM funded through:
  - General state taxation;
  - Water management taxes to Regional Water Authorities;
- Primary measures funded via Delta fund – legislated;
- Division of funding for specific projects; national (50%), all Regional Water Authorities (40%) and specific Water Authority (10%)

Consistent and long-term funding, enabling planning

But approaches and funds related to risk conditions, overarching view of FRM and acceptability of residual risk

Partnership Funding (England, 2012)

- Diversifying funding by seeking % of funding from the local level;
- More schemes realise, private investment and unlocking of funding;
- Aligned to a 6-year investment plan aims to reduce current flood risk by 5% by 2021.
Some other good practice examples: Prevention and spatial planning
The ‘Water Test’ - Flanders

- Instrument to determine effect of plan, programme or permit on the water system;
- Competent authority should ask (non-binding) advice from water manager (30 days);
- **Scope** - Partly or fully situated in potential or effective flood prone area, proximity to a type of watercourse.

## Water Paragraph
- Explanation of the coherence of the activity with the water system
- Any necessary compensation measures
  - E.g. how will any construction mitigate any accelerated drainage?
  - Is any space for water compromised – how to tackle this?
- Conformity with the wider goals of FRM policy
English spatial planning

- Local, discursive approach;

- **Sequential Test** - direct new development to areas with the lowest probability of flooding;

- Local Planning Authorities – Strategic Flood Risk Assessments;

- Developers – Flood Risk Assessments;

- Statutory Requirement on LPAs to consult the Environment Agency and justify decisions taken against advice;

- Future flood risk should be considered;

- Promotion of Sustainable Urban Drainage Systems (SUDs) / low impact development

**Concerns**

- Enforcement of planning conditions
- Piecemeal encroachment remains a concern
- Adequacy of future flood risks in SFRAs
Prevention and spatial planning

Effective implementation of policy instruments is key.

Observed barriers included:

- Local understanding of flood risk;
- Adequate knowledge, skill and resources of planning authorities;
- Monitoring/enforcement of any special planning requirements;
- Actually following the approach – local priorities overriding the policy on avoiding flood risk areas;
- Efficacy of solutions to flood problems – e.g. SUDs/ Low impact development.
Some other best practice examples: Individual preparedness and risk awareness
Risk awareness and promoting preparedness

“Duty to inform” – Flemish Region – Belgium (2013)

- Proactive disclosure of information
- Obligation in every real estate transaction
- Inform long-term tenants (leases of more than 9 years) of the risk
- Extends to properties which are fully or partly located in a possible or actual flood-prone area
Individual property-level resilience

- Adaptations have reduced losses/impacts

Barriers:
- Financial;
- Lack of incentives (incl. failure of insurers to routinely recognise risk reduction value);
- Awareness of options and confidence in their ability to reduce impacts;
- Lack of appreciation of the cost-effectiveness;
- Betterment is not cost-effective to insurers;
- Psychological reasons (preserve ontological security);

Household Flood Resilience Grant Scheme (England)
- Smallish grants (£5000) available post flooding
- ‘Top up’ insurance payments to enable resilient reinstatement

Under utilised opportunities to raise awareness:
- Water bill payments
- Insurance premium renewals etc.
Some other good practice examples:
Recovery
Recovery

- Internationally a complex mix of approaches
- Compensation and insurance – impact on effectiveness of adaptation measures


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<tr>
<th>Approaches to Insurance</th>
<th>No state compensation provided</th>
<th>Ad hoc compensation (i.e. only implemented in legislation or provided at the time of event)</th>
<th>Ex-post compensation (i.e. schemes are enshrined in legislation/policy but no fund established prior to event)</th>
<th>Ex-ante compensation (i.e. schemes enshrined in legislation and fund established prior to event permitting a reserve)</th>
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</table>
| No (little) flood insurance available | | | | Netherlands (sea and river)  
Canada (most flooding) |
| Optional individual flood cover (risk-reflective) | Indonesia  
Taiwan | Germany  
Italy  
Australia  
Poland | | |
| Optional composite cover (bundled with other perils) | Portugal  
Sweden  
Brazil  
Ecuador  
China  
Israel  
Japan  
Philippines | | | Austria  
Mexico |
| Compulsory inclusion of cover in a package | Netherlands (rainfall and SWF)  
Switzerland (GUSTAHO)  
United Kingdom (pre-2015)  
New Zealand (dwellings) | | | |
| Pooled flood insurance (with no state guarantee) | Norway  
Romania  
United Kingdom (post 2015) | | | |
| Pooled flood insurance (has a state guarantee) | France  
Denmark (sea flooding)  
Iceland | | | Belgium |
| State-run (and subsidised) flood insurance scheme | Spain  
Switzerland (Cantonal) | | | United States |
Links between different strategies

**Prevention**
- Dis-incentivising (re)development/populations residing in flood prone areas
- Exclusion of high risk properties
- Exclusion of new properties from coverage/compensation
- Risk-reflective premiums

**Individual-level resilience (including Defence)**
- Incentivising individual-level resilience actions
  - Risk-reflective premiums – enabling premium reductions or availability of coverage
  - Conditions placed on coverage or compensation eligibility (such as building regulations or direct adoption of defence/mitigation)

**Recovery**
- Facilitating mitigation actions:
  - Enabling/mandating resilient reinstatement

**Individual-level preparation/response**
- Encouraging personal action saving during events
  - Higher deductibles
  - Exclusion of some contents
  - Capping indemnification/% recovery levels
**Catastrophes Naturelles (CATNAT) (France)**

- Privately-run natural perils insurance for ‘abnormal intensity’
- Largely State-guaranteed
- Bundled with other natural perils
- Compulsory if you have domestic fire cover
- Requires designation of event – no financial recovery outside of this
- High penetration (c. 95%)

**Flood Re (UK)**

- Private market insurance in which premiums are capped
- Bundled household insurance
- Formal cross-subsidisation with a pool for high risk claims
- Transition scheme to maintain affordability
- Capped premiums to gradually increase and more to risk reflective pricing

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**Adaptation potential and limitations**

- Barnier fund – funds mitigation
- Not risk reflective
- Variable deductibles for repeated claims – but generally low
- Refusal of cover if poorly constructed or designated areas
- Exclusion of new build (post-2009)
- Moving toward risk reflective
- No mandated resilient reinstatement
- Affordable cover - for now.
- Will risk reduction be incentivised?
Conclusions
Design principles for resilient, efficient and legitimate flood risk governance

- Are **diverse** – but fit with the existing international, national, regional and local **contexts**;
- Are designed to **align** different FRM strategies and use mechanisms to ensure that they **reinforce** each other;
- Incentvise **adaptation** and consideration of future risks at all scales – taking a long-term perspective;
- Have a clear division of **responsibilities** but involve a **diverse mix** of interested parties;
- Involve **communities** and broader considerations of **legitimacy** when making decisions;
- Ensure that decisions are accompanied with **sufficient investments and other resources**;

...all this should be stimulated and facilitated by **appropriate and effective rules and regulations** at the local/regional, provincial, national and international level.
Any questions

Starflood project partners

A special acknowledgement to Dr Meghan Alexander and Dr Cathy Suykens for their assistance
Key publications


- Gilissen, Herman Kasper and Alexander, Meghan and Beyers, Jean-Christophe and Chmielewski, Piotr and Matczak, Piotr and Schellenberger, Thomas and Suykens, Cathy (2016) Bridges over troubled waters: an interdisciplinary framework for evaluating the interconnectedness within fragmented domestic flood risk management systems. Journal of Water Law, 25 (1). pp. 12-26. ISSN 1478-5277

