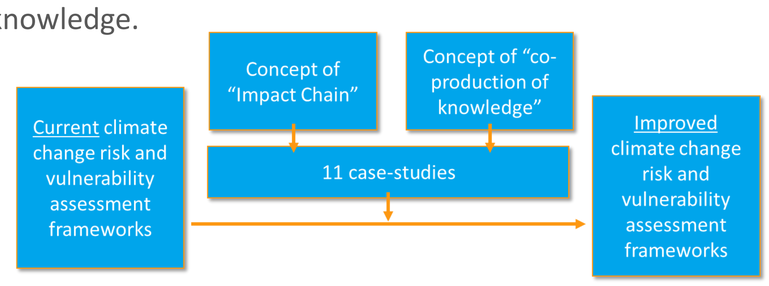
UNCHAIN

UNPACKING CLIMATE IMPACT CHAINS

CONTEXT

The UNCHAIN project in brief

The project "Unpacking climate Impact Chains - a new generation of climate change risk assessments" (UNCHAIN) overall objective is to improve climate change risk assessment frameworks aimed at informed decision-making and climate change adaptation action. The research approach is based on the recent concepts of Impact Chain and co-production of knowledge.



The concept of the UNCHAIN project

Climate Vulnerability Assessment challenges

Standardized and generic framework for Climate Vulnerability or Risk Assessments exist (e.g Impact chain models), but numerous difficulties emerged in the recent exercise of CVA implementation:

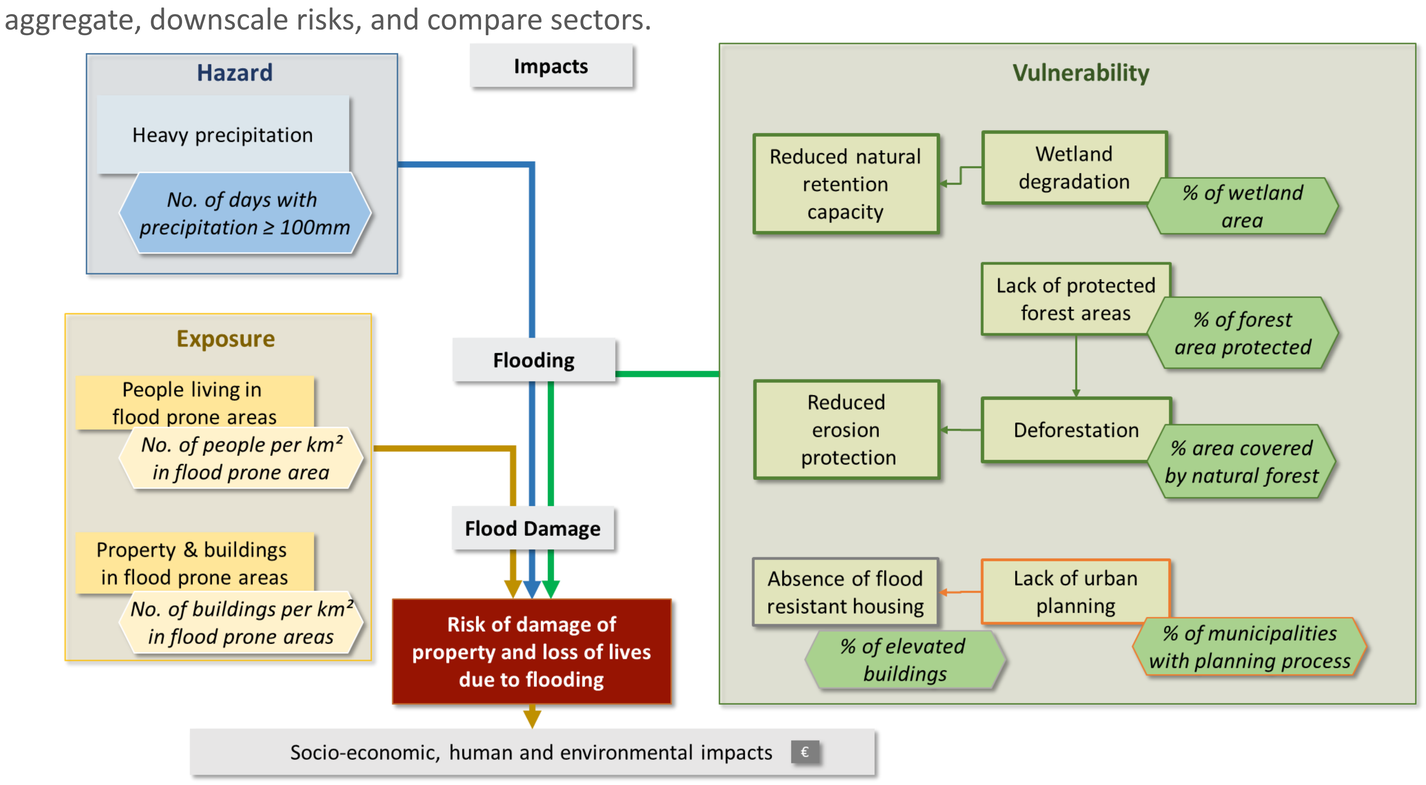
- The complexity of cause-effect relationships in climate change impacts and risks is difficult to assess
- The scientific robustness is challenging : uncertainties, normalization, weighting and aggregation methods to deploy
- Co-production and-co-exploration through participatory approaches is still lacking (promoting stakeholder engagement, ownership, joint learning, awareness, and utlimately adaptation action).

Thematic areas of improvement: adaptation pathways, integration of socioeconomic aspects, synergies with mitigation.

Impact Chain conceptual and methodological framework

Impact chain (IC) is an analytical tool that helps to better understand, systemize and prioritize the factors that drive climate impact related risks in a specific system of concern and serve as a backbone for an operational climate risk assessment. IC relies on a conceptual model, composed of risk components according to the IPCC AR5 concept (hazard, exposure, vulnerability) and underlying factors. For an operational risk assessment, impact chains serve as a basis for the selection of appropriate indicators as well as a backbone for the aggregation of indicators to composite risk indicators. Operational assessments based on impact chains can combine data and model driven approaches with expert-based approaches. Participatory methods are advocated at all steps, to validate the results and ensure ownership and sustainability.

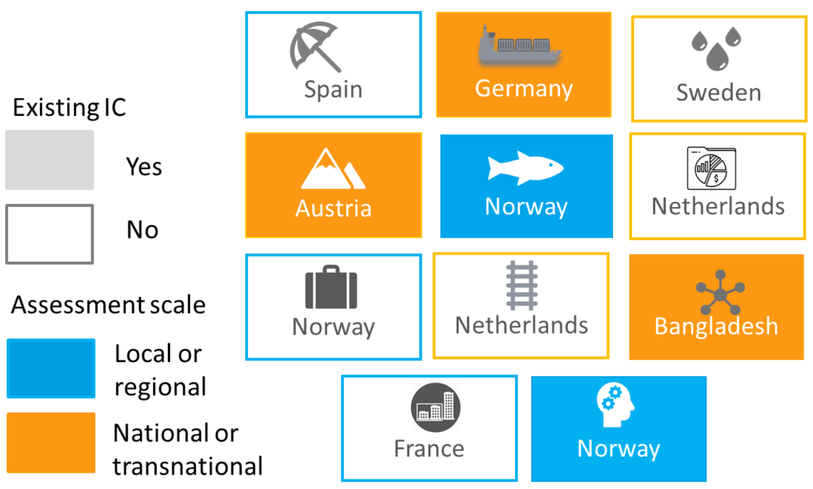
ICs increase the usability of climate projections, climate impact models as well as the integration of social, economic and institutional drivers, articulating their results and formatting them in a more understandable format. ICs have the capacity to be inclusive, open and cross sectoral and cross scale and allow to identify and aggregate, downscale risks, and compare sectors.



Example: Impact Chain with indicators (Source: Eurac/GIZ, Fritzsche et al. 2014)

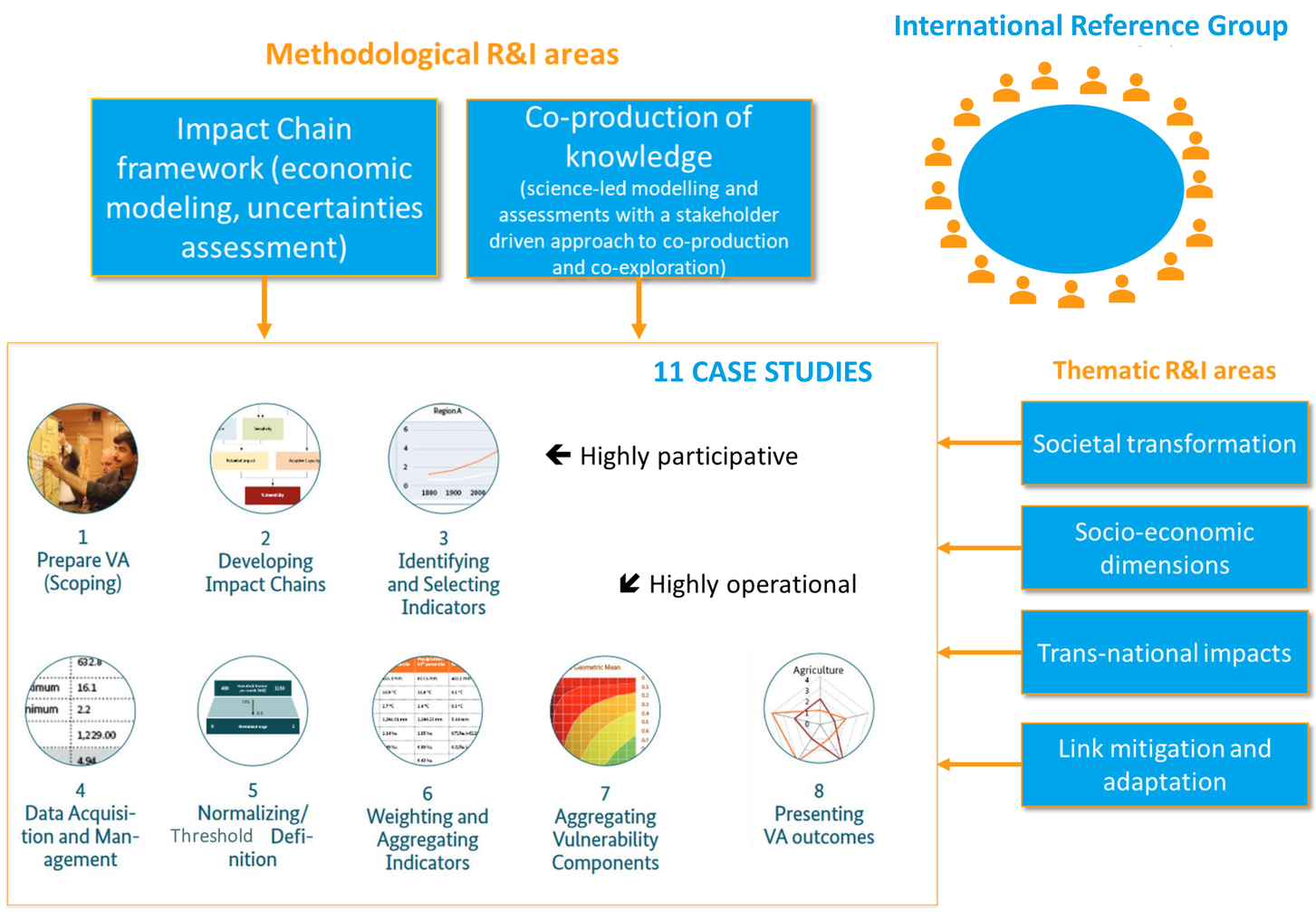
APPROACH

A wide range of case studies challenging the IC framework



Future improvement in Climate Vulnerability Assessment framework

UNCHAIN will use the Impact Chain framework to deepen assessment methods and tools, through co-production, in order to make more comprehensible and robust CVA results, in order to support decision-making and capacity-building processes. The project will introduce six Research and Innovation areas (R&I):



The SourceBook Modules Source: Fritzsche et al. 2014.

Find out more…

The UNCHAIN Project is led by WNRI & RAMBOLL in collaboration with 8 partners across Europe.

Contacts
WNRI, Carlo Aall, caa@vestforsk.no
Ramboll, Ghislain Dubois gdubois@ramboll.com

The project UNCHAIN is part of AXIS, an ERA-NET initiated by JPI Climate, and funded by FORMAS (SE), DLR/BMBF (D), AEI (ES) and ANR (FR) with co-funding by the European Union (Grant No. 776608).

Horizon 2020 European Union Funding for Research & Innovation