

Transnationella klimateffekter

Klimatanpassning för säkrad livsmedelsproduktion – globalt och nationellt

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Cause and effect of climate change

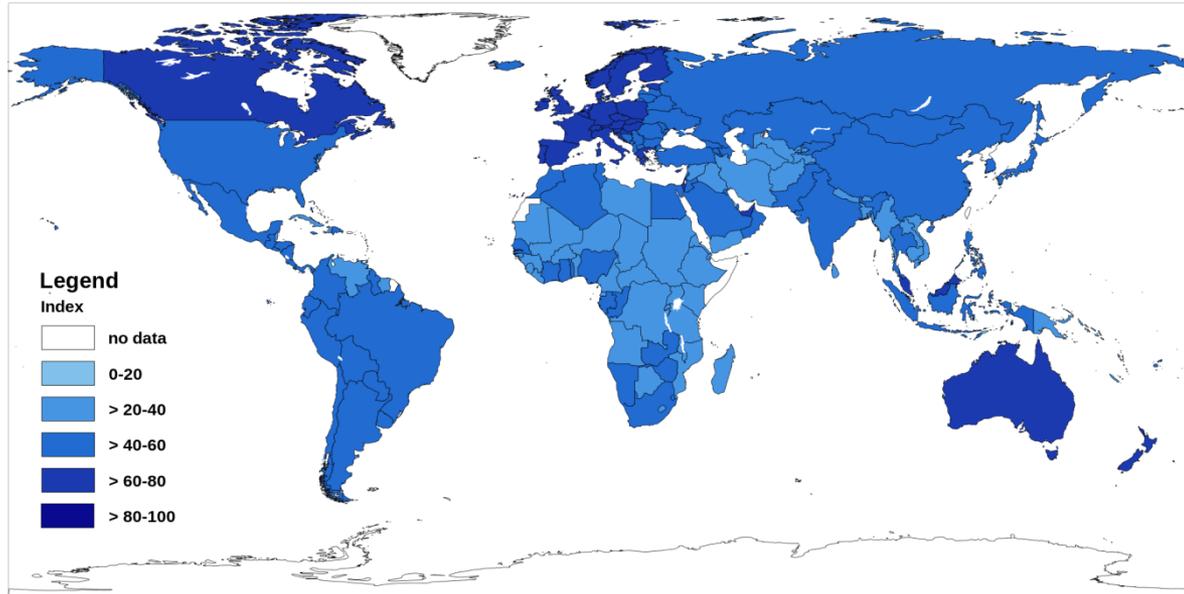
The causes of climate change: A **global** problem

The effects of climate change: A **local** problem

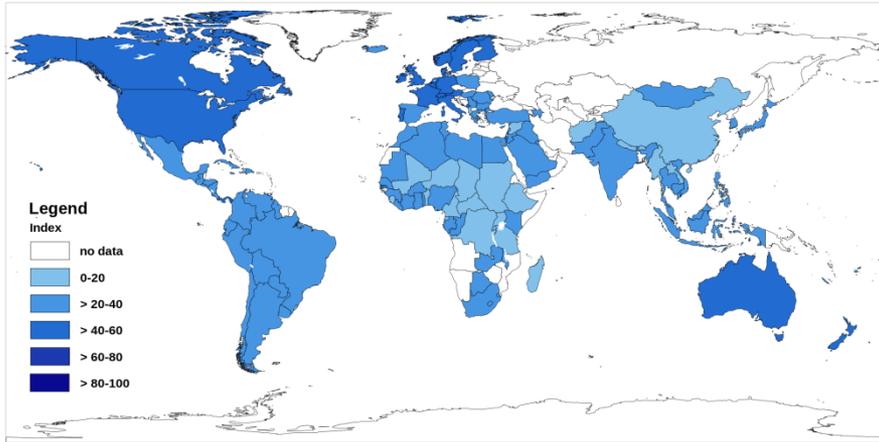
Or?

Globalization!

KOF Index of Globalization 2010



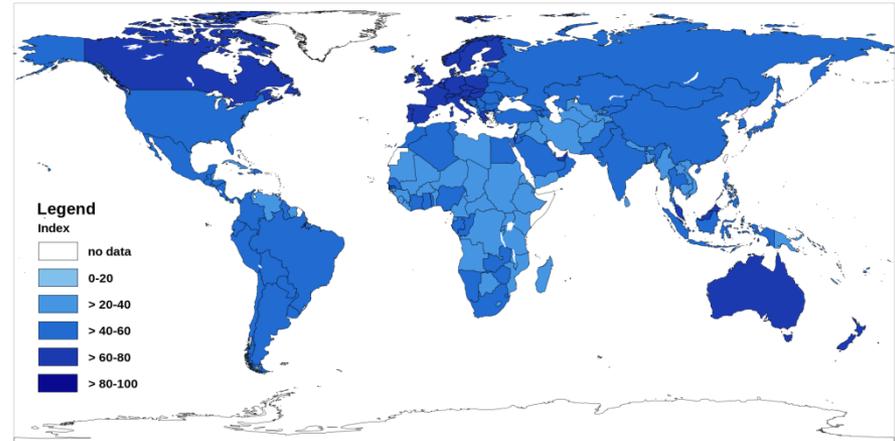
KOF Index of Globalization 1970



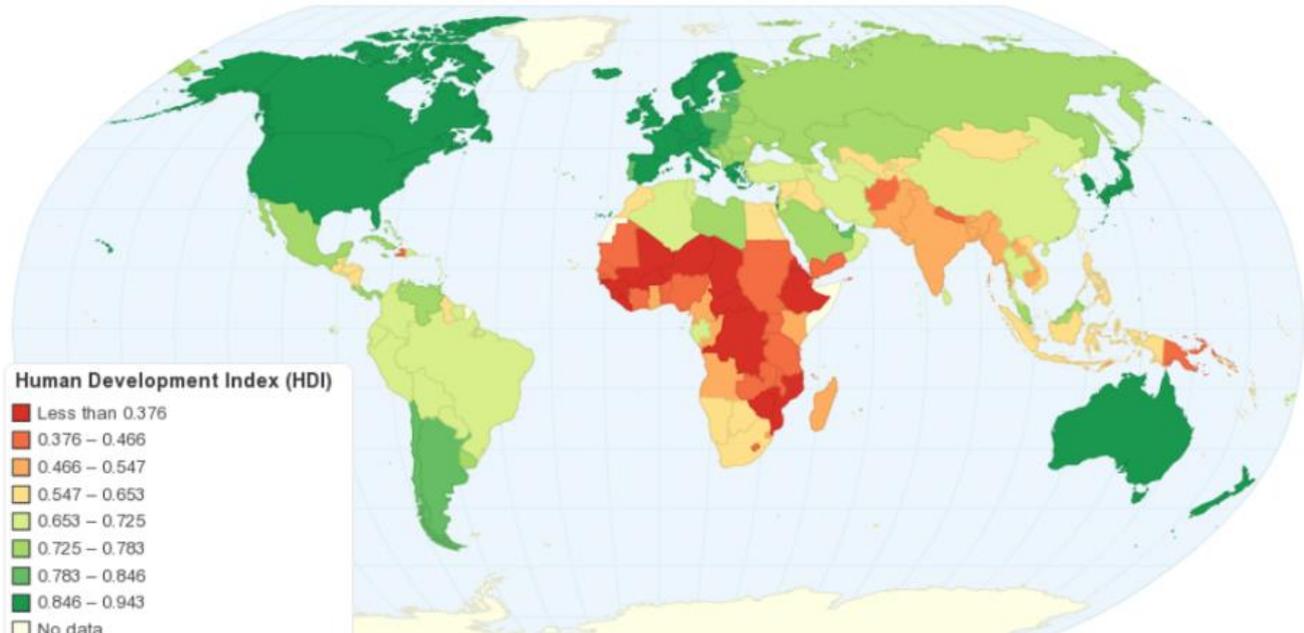
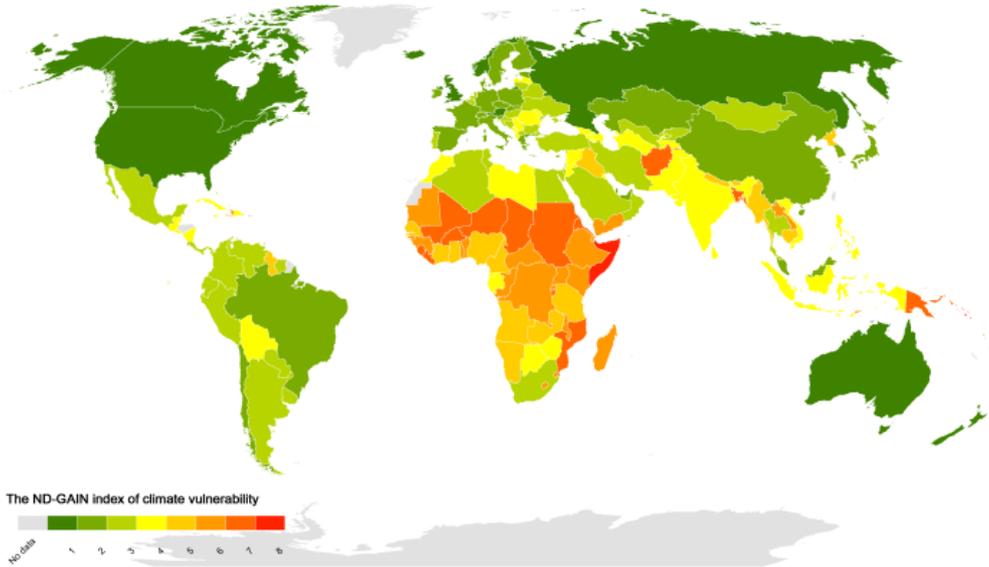
This world is affected in one way

This world is affected in another way!

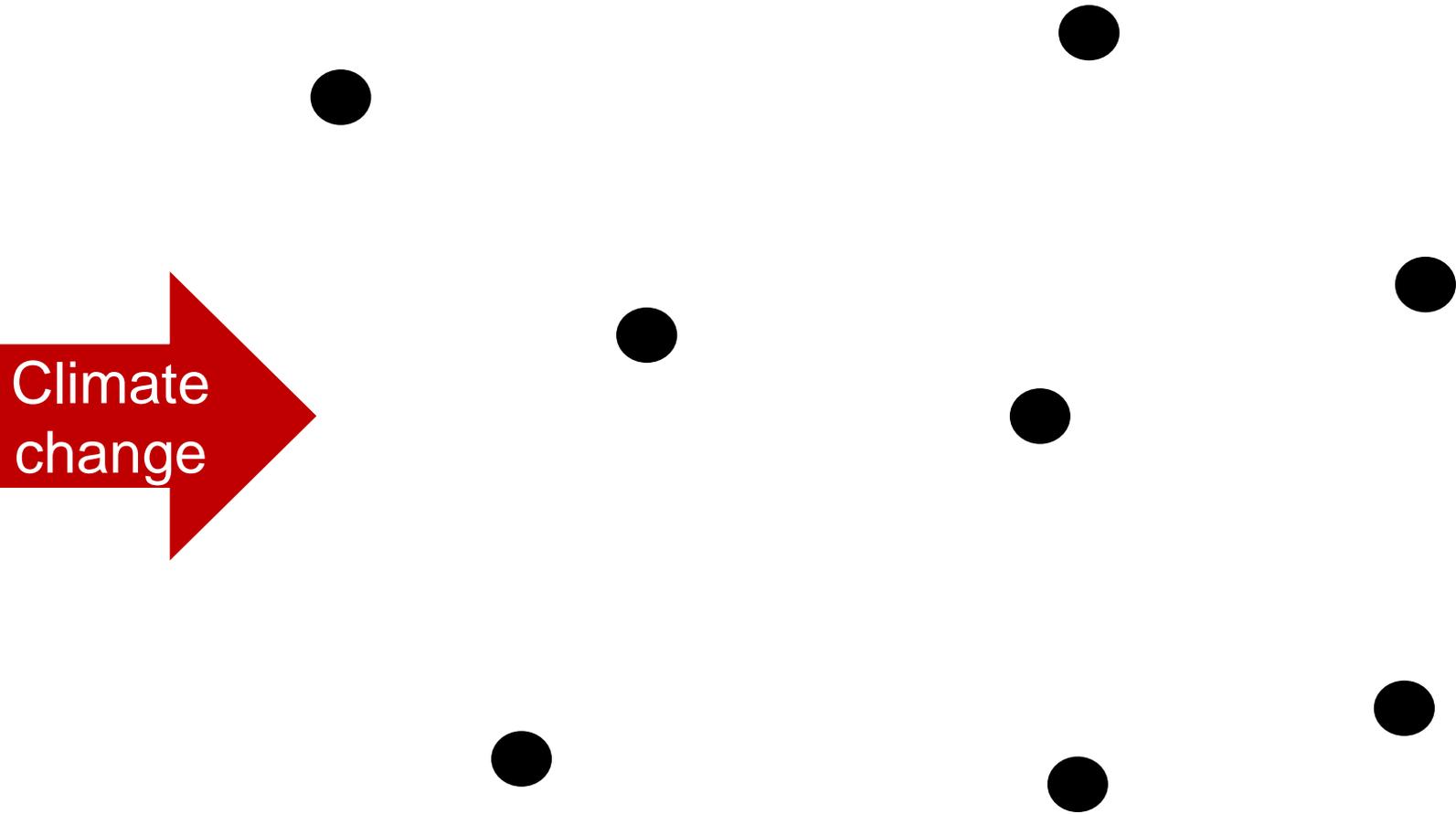
KOF Index of Globalization 2010



Men vi tänker fortfarande väldigt
lokalt (territoriellt) kring
klimat effekter – och anpassning

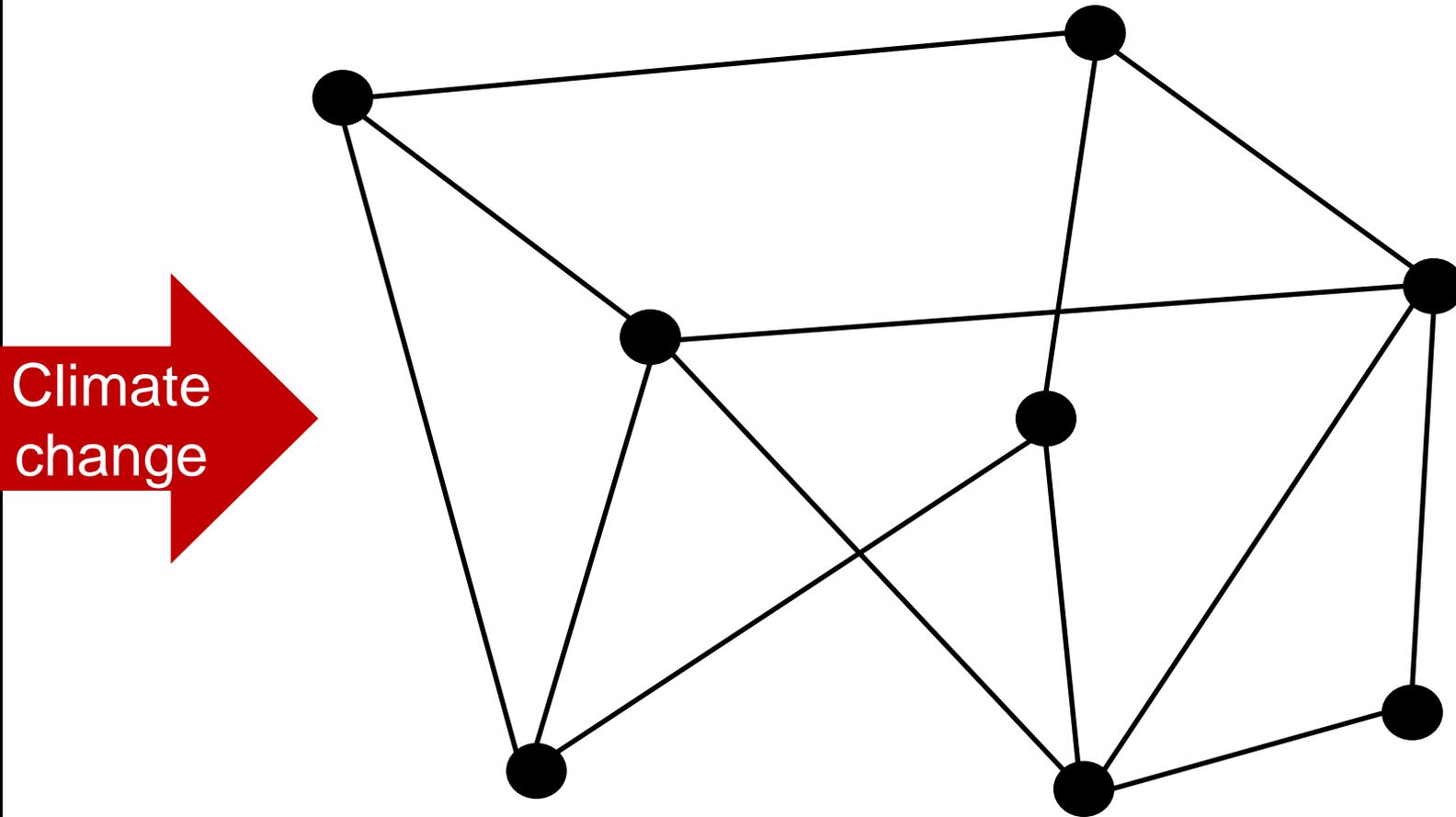


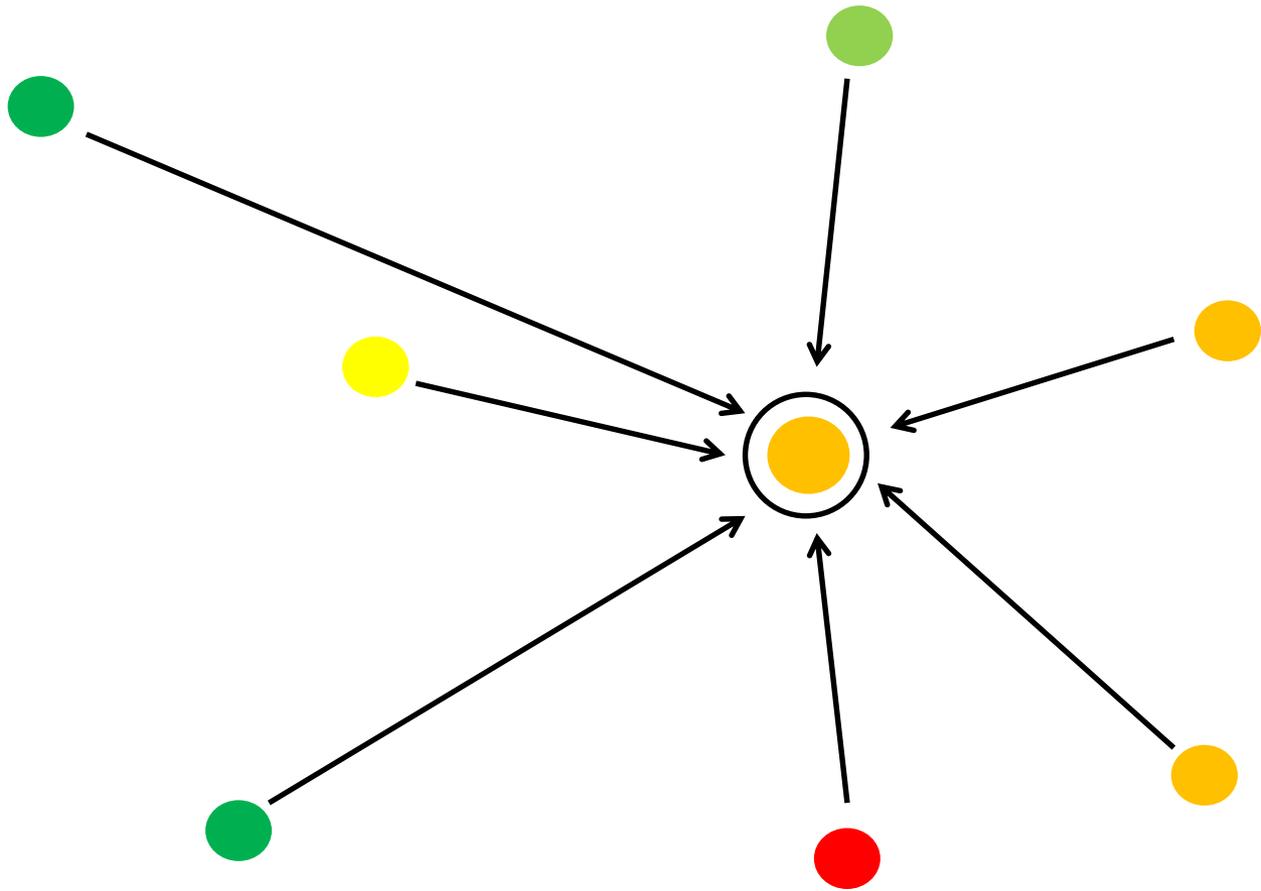
Countries as non-interacting entities



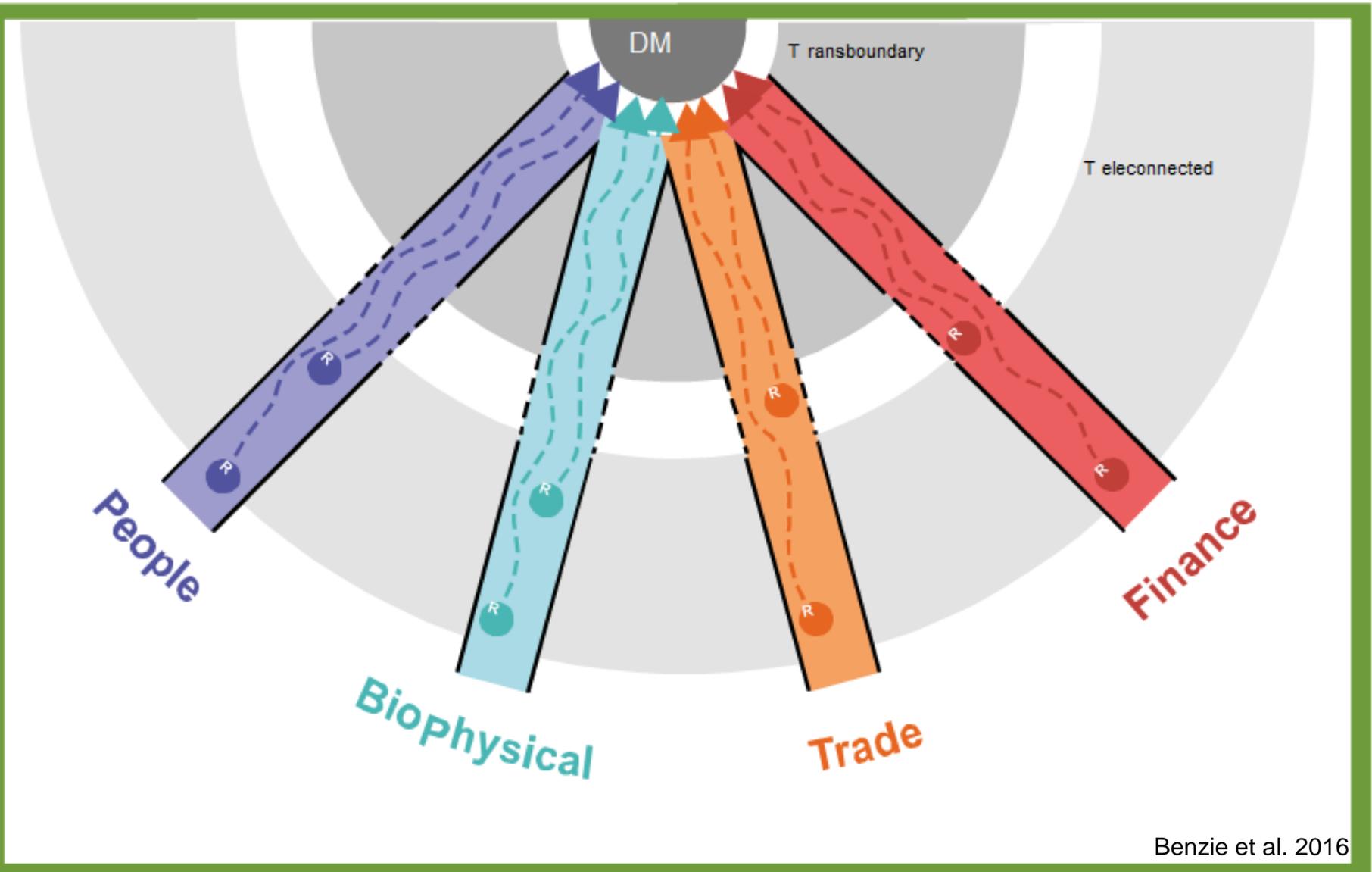
Our suggestion: A networked-
based approach to climate impacts

A Network Perspective on Impacts and Adaptation: Countries as Nodes and Flows as Links





Conceptual framework of TCI

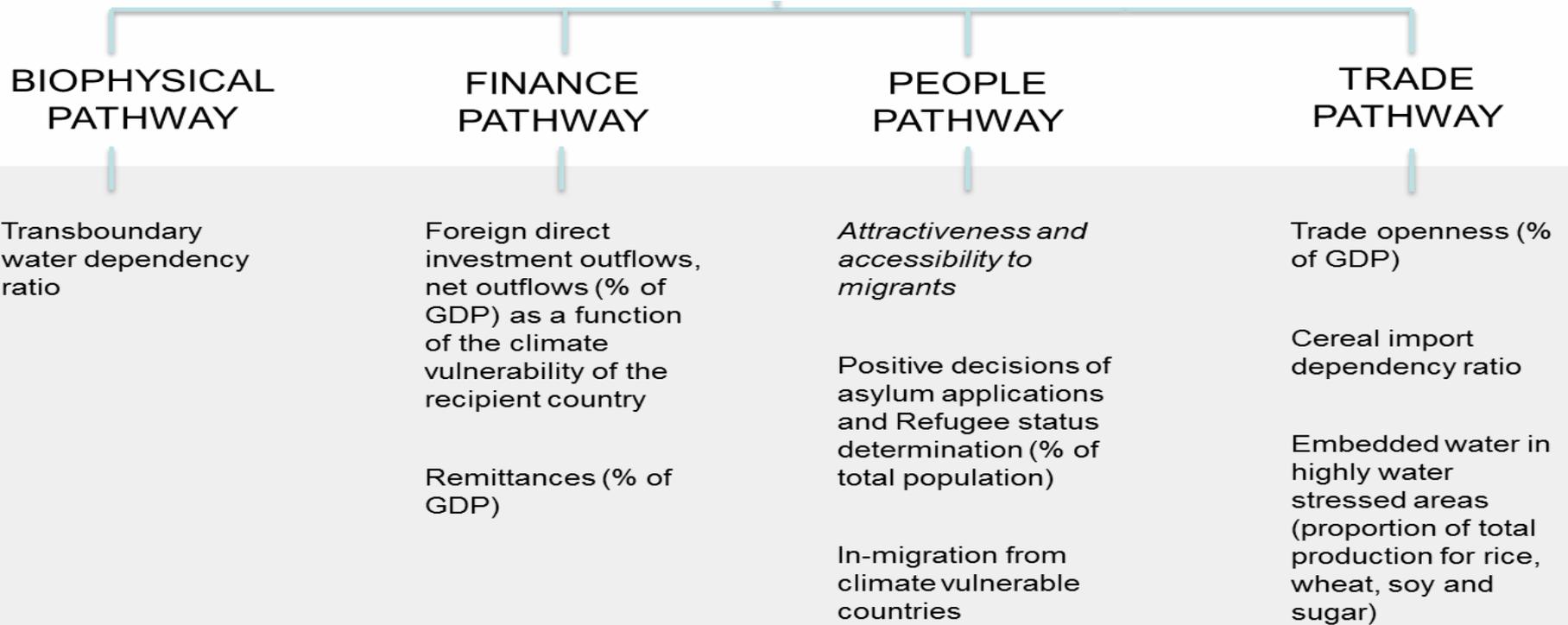


CONTEXT

GLOBAL

How can we develop an index taking into account the fact that countries are *not* isolated?

Identify *indicators* for the pathways



GLOBAL CONTEXT

Military expenditure

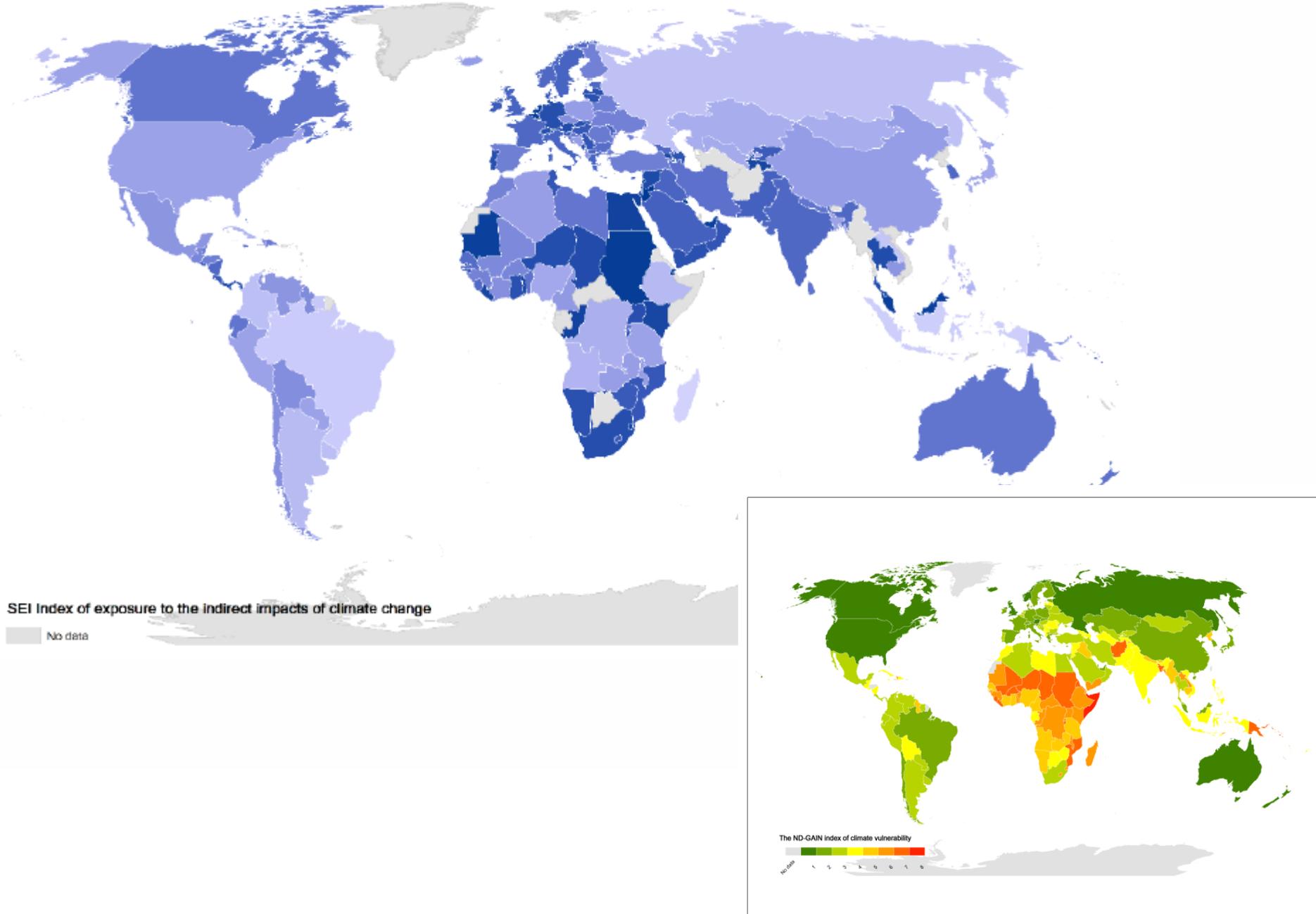
KOF Globalization Index

Physical proximity to climate vulnerable countries

Putting it together and calculating a composite index:

The Transnational Climate Impacts Index

Figure 10: Exposure map for the Transnational Climate Impacts Index



Intresset ökar, dock sakta

- UK: “.... such impacts can be at least as significant or even “an order of magnitude greater than impacts within the countries’ borders (PwC, 2013)
- US: Liverman (2016) discusses knowledge gaps and research priorities in light of the third U.S. National Climate Assessment: “The NCA and many other regional climate impact studies generally do not take account of the global context for *local* climate impacts” (italics added).
- Finland: Scooping study
- Norge: Initiala tankar

Examples for Sweden

People pathway

- Tourism (in and out)
- Migration (mostly in)

Climate refugees?

Well, this is a very complicated phenomenon. The first thing to make clear is that migration is a very natural human response to *any* complex combination of change. Migration is very complex and it is impossible to attribute it to any driver in isolation. Hence I would not talk about 'climate refugees'. This is to oversimplify a very complicated phenomenon.

“Taken together, these studies indicate that climate change will bear significant consequences for migration flows at particular times and places, creating risks as well as benefits for migrants and for sending and receiving regions and states” (AR5 WG2 Chap. 19)

Biophysical pathway



Trade pathway



Swedish companies often high up the value chain:

Swedish export is impossible without Swedish import!

- Import of food have doubled in a decade

Finance pathway

Swedish companies' investments
abroad

Pension funds

State investments

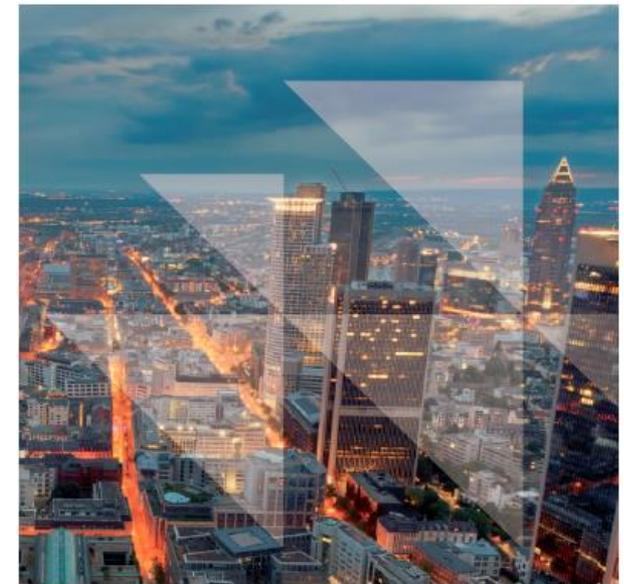
Financial markets



**Integrating climate relevant aspects
into corporate and investment strategies**

CDP DACH 350 Climate Change Report 2013

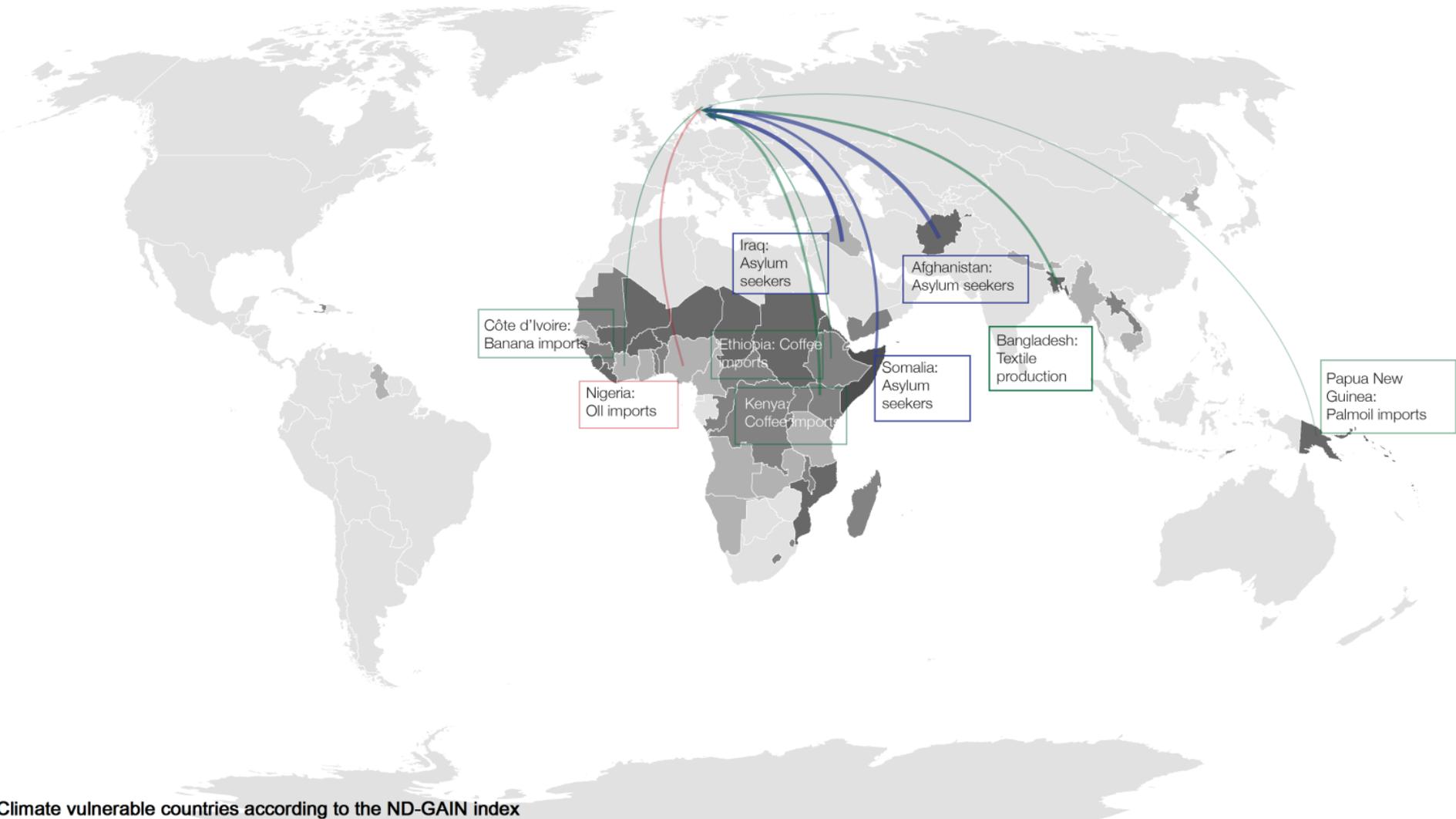
On behalf of 722 institutional investors with assets of US\$ 67,000 billion



Report Writer: Scoring Partner Switzerland: Lead Scoring Partner Germany: Communication Partner:



Sweden's connections to countries with high vulnerability to impacts of climate change



Vi sitter alla i (nästan) samma båt; både vad gäller att hantera orsakerna till att klimatet förändras som att hantera denna förändrings effekter på samhälle och ekosystem.

Se SEIs webb.

Tack!

 **SEI** STOCKHOLM
ENVIRONMENT
INSTITUTE

Stockholm Environment Institute, Working Paper 2016-07



**Introducing the Transnational Climate Impacts Index:
Indicators of country-level exposure – methodology report**

Magnus Benzie, Johanna Hedlund and Henrik Carlsen

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