Meeting the global challenge of adaptation by addressing transboundary climate risk

CC&E Webinar, 14:00 – 15:00, 19th June 2018

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Adaptation is a global challenge

1

Impacts in one country may spillover into others

2

Adaptation in one country may redistribute or increase vulnerability in others

3

Adaptation in one country may provide benefits to others

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POLICY BRIEF

National Adaptation Plans and the indirect impacts of climate change

Introduction

Climate change poses substantial challenges to development around the world, particularly for poorer countries, which means effective adaptation is essential. Many governments are currently drafting variations of National Adaptation Plans (NAP) under the United Nations Framework Convention on Climate Change (UNFCCC), which creates an opportunity to raise the ambition and coherence of adaptation planning to new levels.

Adaptation planning to date has tended to focus locally, reflecting the local jurisdiction of most decision-makers, and the direct nature of many climate impacts. Yet societies and economies do not exist in isolation; through global trade, financial ties and migration, we are highly interconnected. In the context of adaptation, this means that both the climate risks we face, and measures to address them, extend well past territorial boundaries.

This policy brief aims to help countries to take stock of what we call the "indirect impacts" of climate change – impacts that require adaptation in one place as the result of climate change somewhere else – and to address them in their NAP. This approach is in line with the UNFCCC's NAP guidance, which urges countries to "develop strong working **linkages between global, regional and national levels** to ensure synergy and coherence of actions".[1]

Few countries have to date taken deliberate account of indirect climate impacts, focusing instead on direct impacts from climate change within their territories. Our focus here is on practical steps that planners can take to identify key indirect impacts and begin incorporating measures to address them in their NAPs.

A simple framework for identifying indirect impacts

Some indirect impacts are fairly straightforward to identify: those that occur just across the border, upstream in a shared river basin, or within the same region. We call these transboundary indirect impacts. Many other indirect impacts, however, occur across larger distances, through trade and other, complex links; we call these teleconnected indirect impacts. The basic concept of indirect impacts is simple: direct impacts (a drought or a flood, for example) affect what we call a "receptor system" (for example, a shared river basin, or an international supply chain), and via one of four main pathways – people, bio-physical, trade and finance – climate risk is transmitted. Figure 1 shows an example of how indirect impacts could affect a country.

The sections below describe each of the four pathways and provide starter questions that can be used to identify specific indirect impacts at the country level. Useful sources of data and further information are provided for each pathway to help NAP coordinators begin to explore these issues.

Countries that are able to answer some or all of these questions, for example in a dedicated chapter of their NAP, will have produced a base upon which to engage relevant government departments and stakeholders in a discussion about the potential significance of specific indirect impacts and the priorities for national and even regional and international adaptation.

Key points

- Climate change impacts can extend beyond the places where they occur, indirectly affecting other countries through shared natural resources, global supply chains and trade, and the flow of people and finance around the world.
- In crafting their countries' National Adaptation Plans (NAPs), decision-makers should thus consider not only direct impacts, but also indirect ones. A simple framework described in this policy brief can help them identify and explore key indirect impacts, which can be incorporated into NAPs using existing frameworks.
- Identifying and addressing indirect impacts will help countries to improve the effectiveness of their adaptation plans, uncover specific opportunities for synthesis with other countries, improve regional cooperation, and highlight how adaptation at the national level can improve overall regional and global resilience.

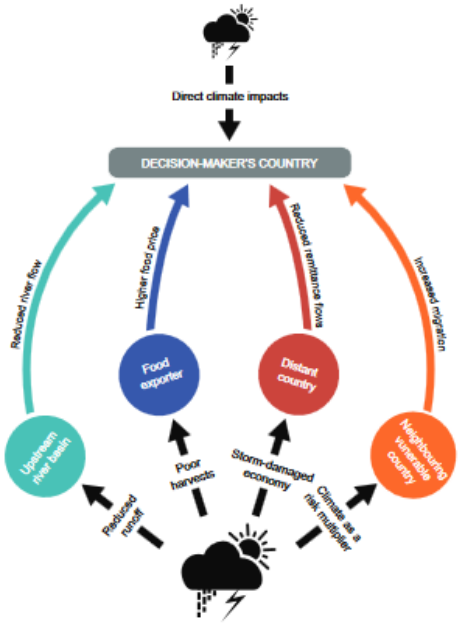


Figure 1: Indirect impacts in practical terms: via four main risk pathways, climate change impacts outside a country – even far away – can come to affect that country.

Indirect impacts and small island developing states

Small island developing states (SIDS) are widely recognized as vulnerable to direct impacts of climate change, particularly sea-level rise. But they are also particularly exposed to indirect impacts. Most SIDS depend on imports for food, fuel and materials – some more than others – and their options are limited by their geographic isolation. This poses a substantial challenge for adaptation.

Nauru has taken an innovative approach to recognizing indirect impacts in its forthcoming national framework for climate change adaptation and disaster risk reduction. It identifies high import dependence as well as the concentration of foreign earnings in a few primary sectors (including fishing) as important sources of vulnerability to climate change. As such, the need to address indirect impacts is recognized as one of the guiding principles in the national framework.

However, the Nauru case also highlights the potential difficulties in addressing indirect climate risks. Recognizing indirect impacts is one thing, but planning strategic responses is not straightforward, and requires a high degree of intra-government coordination. The question of which departments can and should hold responsibility for managing strategies to address indirect impacts – in the context of existing challenges without climate change – remains open and requires further examination.

Many of the questions require a preliminary overview of climate vulnerability in other countries. Such an overview is provided by various climate vulnerability indices, such as the Notre Dame Global Adaptation Index (http://index.gain.org). It is important to remain aware of the limits of such indices as decision support tools,[2] but they may be useful to screen and compare countries on a general level.

For many questions it will be useful to consult other countries' existing adaptation plans for an overview of their key climate vulnerabilities and adaptation priorities – for example, National Adaptation Programmes of Action,[3] or even draft NAPs.

The questions help to identify the current exposure of a country to indirect impacts. It is of course important to recognize that links and flows between countries – and hence the risks associated with indirect impacts – will change over time.

People pathway

This includes potential climate-related changes in the pattern of cross-border migration, including forced and voluntary migration, and other changes involving people directly, such as public health impacts and changes in tourism travel. Recognizing that the influence of climate change on migration is highly uncertain, the goal here is to identify potential impacts if there were changes in migration flows linked to climate change.

Key questions:

- Does your country currently receive significant flows of voluntary or forced migrants, either as a transit or destination country?
- Which are the main countries of origin for these migration flows?
- How will climate change affect these "source" countries? Is there are a risk of significant changes to migration flows as a result of climate change (where climate change may be one among a number of drivers – or barriers – to migration)?
- How would your country be affected (positively or negatively) by a changing flow of cross-border migrants?
- What current policies or strategies are in place to monitor and respond to significant changes in migration flows into your country?
- To what extent is your country currently affected by public health impacts from the movement of people from other countries? How might climate change in those countries create new public health risks in your country?
- How reliant is your national economy on tourism? How might significant changes in the timing or flow of tourists from other countries affect opportunities for the tourism-based economy?

A shipment of food and fuel arrives in the Maldives, which imports almost all its supplies.

Helpful resources:

- National migration office statistics
- International Organization for Migration http://www.iom.int
- UN statistics on international migration: http://unstats.un.org/unsd/Demographic/sconcerns/migration/default.htm
- World Bank Global Bilateral Migration Database: http://data.worldbank.org/data-catalog/global-bilateral-migration-database
- World Health Organization – Atlas of Health and Climate
- Change: http://www.who.int/globalchange/publications/atlas
- World Tourism Organization: http://www2.unwto.org

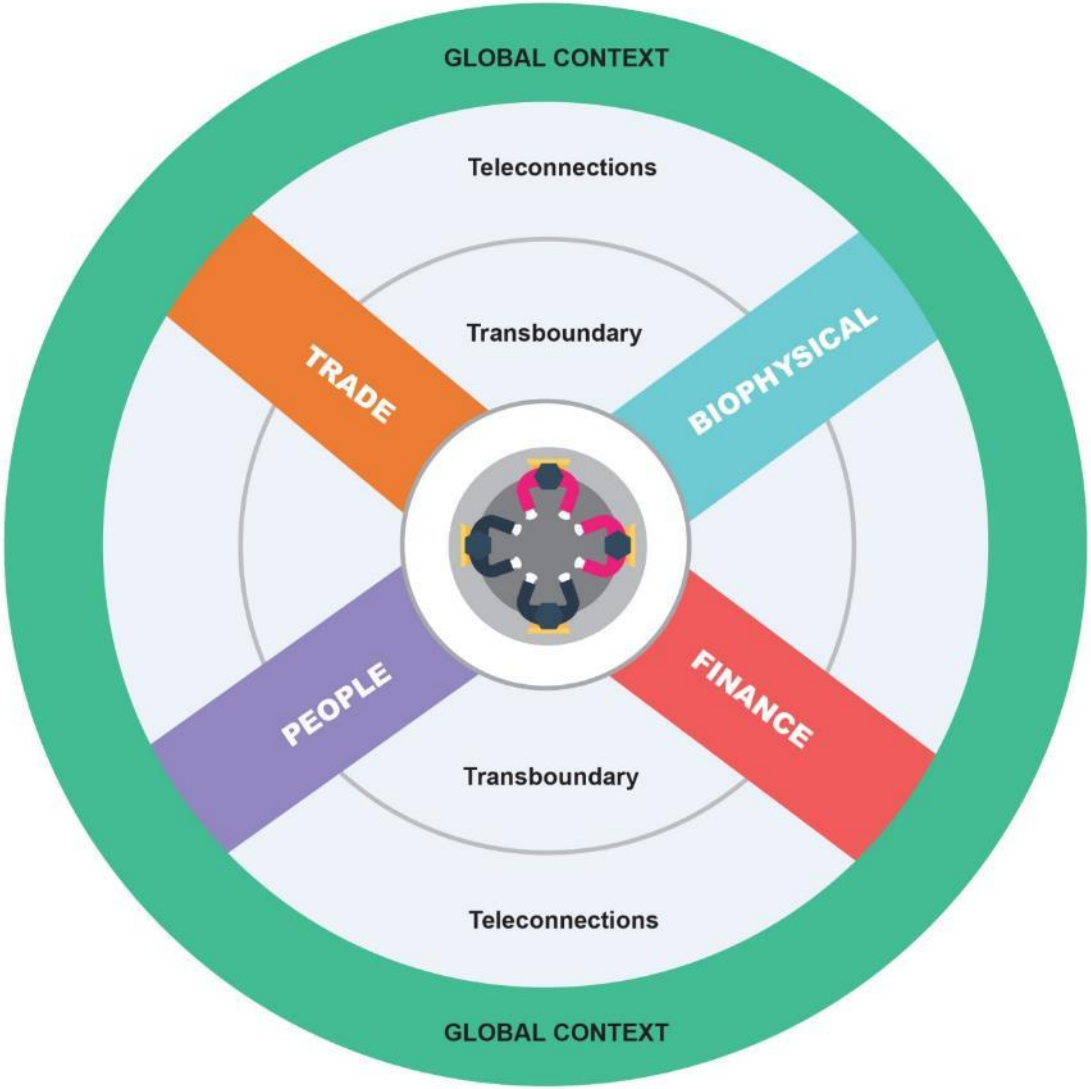
Bio-physical pathway

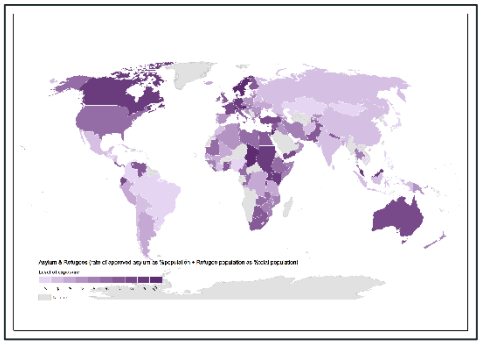
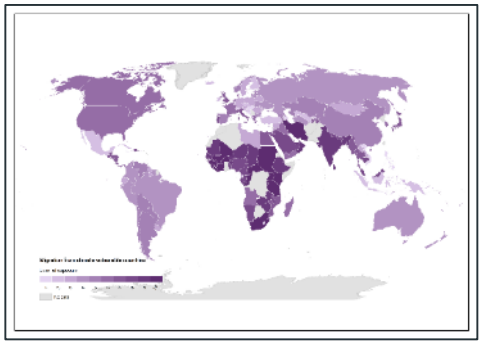
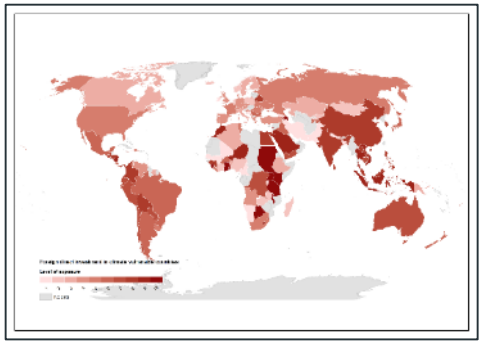
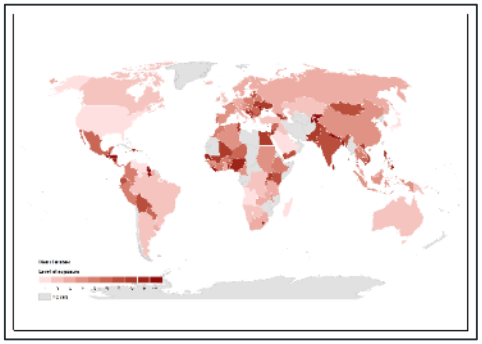
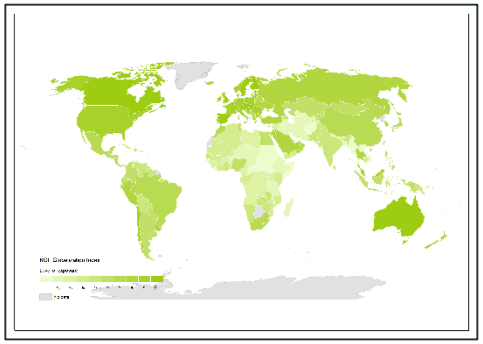
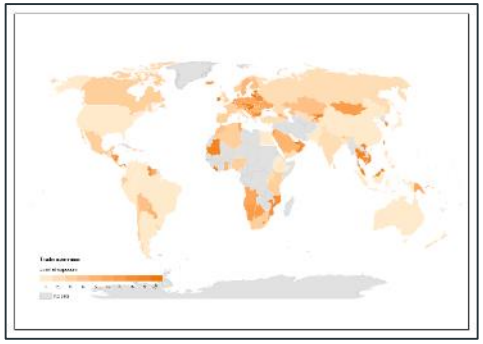
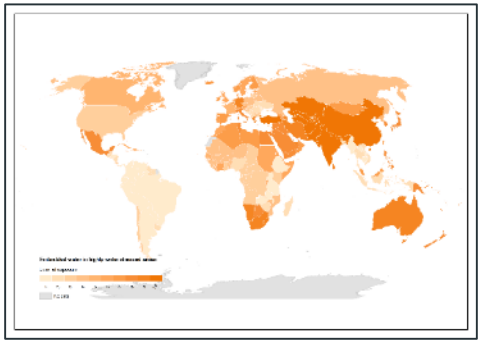
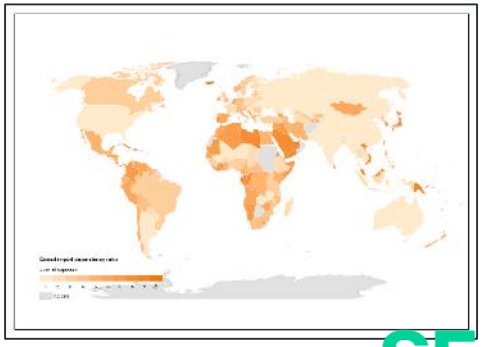
This includes climate-driven changes in the flow of ecosystem services and species via transboundary ecosystems, or in the flow of water or other resources from transboundary systems.

Key questions:

- Does your country rely on transboundary rivers for water supply, and if so, with which countries do you share key river basins? How might climate change affect water flows, upstream and downstream (e.g. in case of droughts or floods)?
- How would changes in those water flows affect people and sectors in your country?
- What existing governance arrangements are in place to manage transboundary water resources?
- How might air quality in your country be affected by climate-related impacts on neighbouring ecosystems, such as increased forest fires, or desertification and dust storms? How vulnerable are neighbouring countries to these impacts?
- Is fishing from open oceans or shared seas an important source

Climate risk pathways



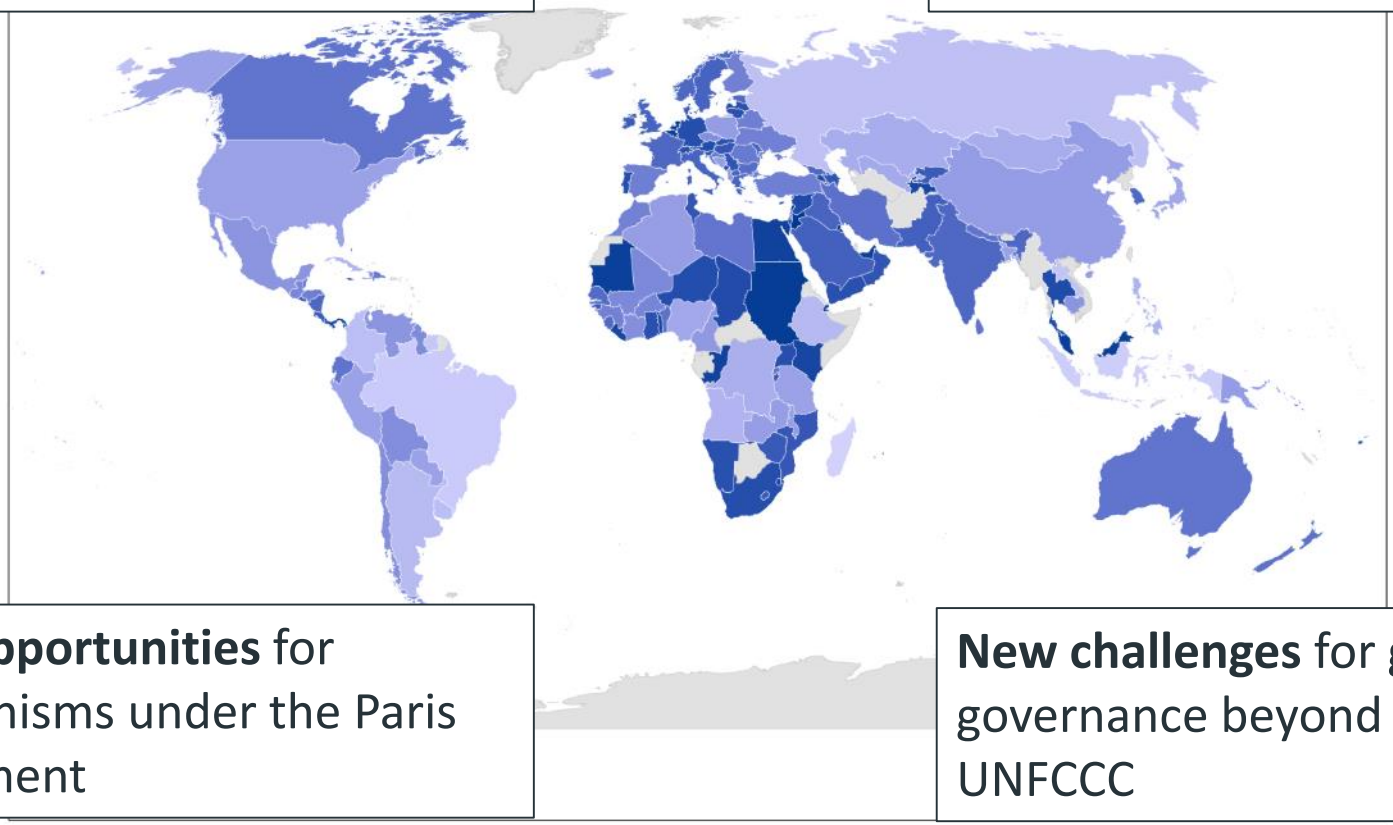










Transnational Climate Impacts Index

So what?

New adaptation needs at the national level

New motivation to invest in adaptation globally



New opportunities for mechanisms under the Paris Agreement

New challenges for global governance beyond the UNFCCC

TCI Index

Source: Benzie et al (2016)

Meeting the global challenge of adaptation

Fiji

Indicator exposure

Kenya

Indicator exposure

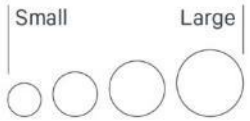
Kenya

Climate-sensitive migration

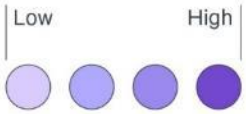
5
Number of countries linked with Kenya

818k
Overall number of migrants into Kenya

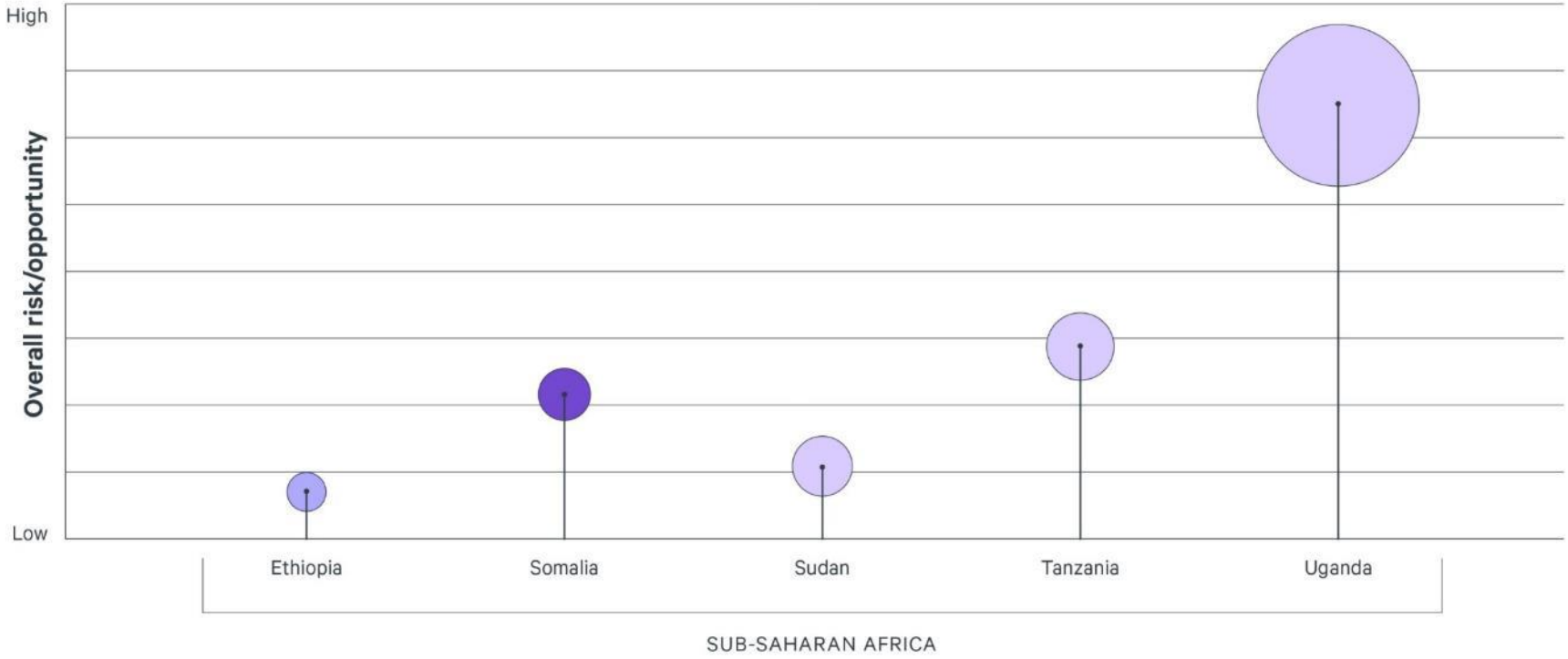
8th/187
Global indicator ranking for Kenya



Size of FDI migration flow to Kenya



Climate vulnerability of link country



Source: World Bank 2010 (data for China from UN Global Bilateral Migration) & GaIN 2012. Method: See Benzie et al (2016).

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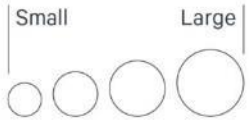
Kenya

Climate-sensitive FDI outflows

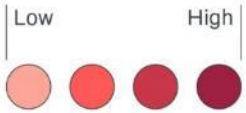
14
Number of countries linked with Kenya

$212m
Size of FDI outflow from Kenya

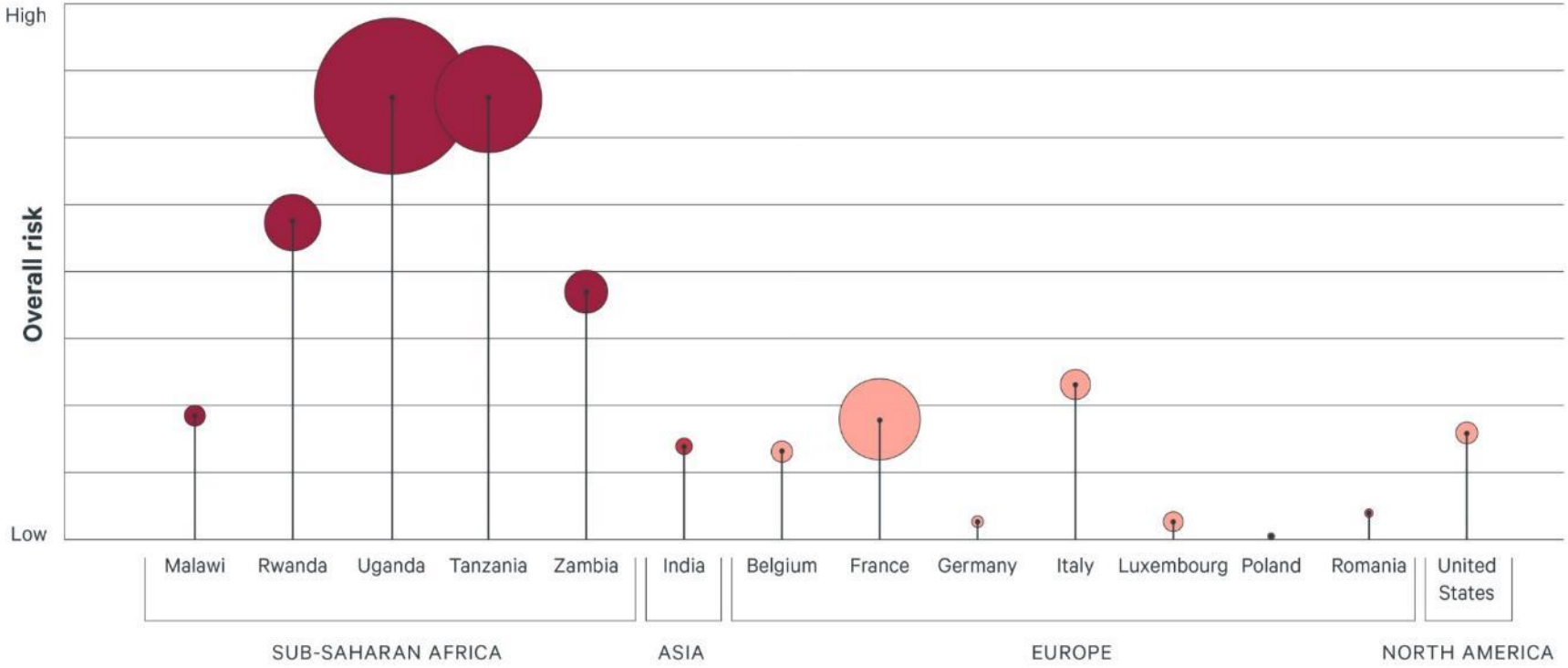
5th/130
Global indicator ranking for Kenya



Size of FDI outflow from Kenya



Climate vulnerability of link country



Source: UNCTAD FDI/TNC database (2008–2012) average. Method: See Benzie et al (2016). Note: Data are based on information reported by the economies listed above.

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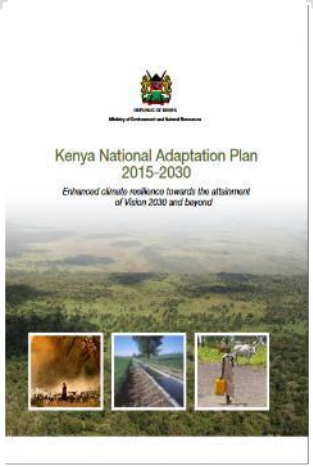
Kenya
Regional resilience?

Dadaad camp, Kenya. Credit: Andy Hall/Oxfam

IGAD IDDRSI



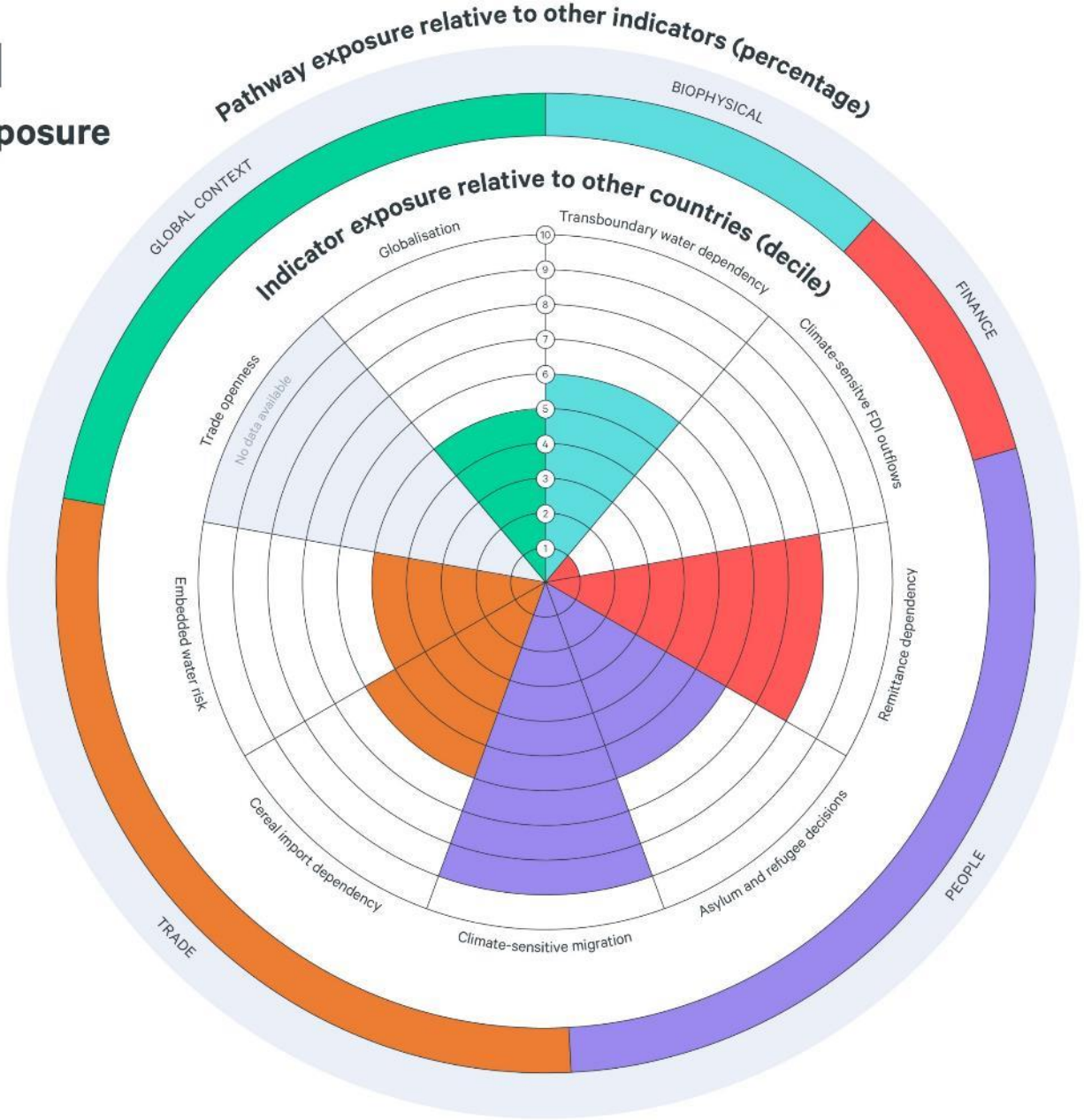
NAP

Kenya
Regional resilience?

SEI

Senegal

Indicator exposure



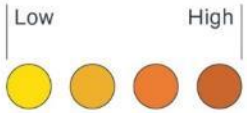
Senegal

Rice trade flows

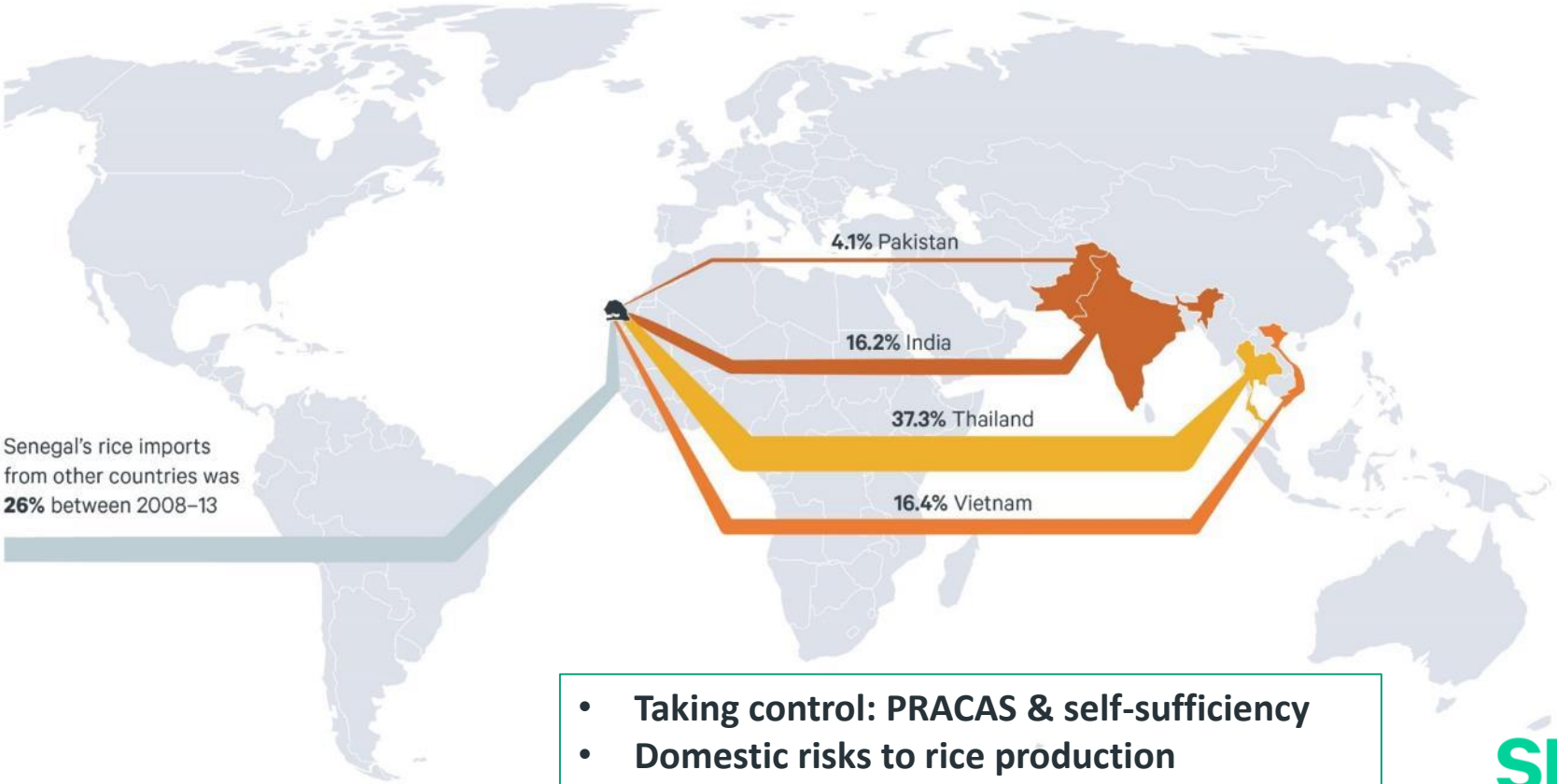
85%
Senegal's rice imports before 2008 crisis

>200%
Rice price increase in Senegal 2008–2009

Size of trade link



Climate vulnerability of link country



Source: UN comtrade & Schletz (2014).

- **Taking control: PRACAS & self-sufficiency**
- **Domestic risks to rice production**
- **Question of balance**
  - **Political vs. economic vs. climate risks**

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Reducing vulnerability to food price shocks in a changing climate

SEI Discussion Brief

- Diversify risk: balance imports with local production, where sustainable
- Avoid “lock-in” to single commodities: diversify diets, boost competitiveness of local staples
- Domestic supply chains: production, harvesting, processing, marketing
- Donors can help: e.g. invest in storage, crop research, supply chains AND as political actors in global governance (e.g. WTO)
- Trade issues should be addressed within UNFCCC

https://www.sei.org/publications/reducing-vulnerability-to-food-price-shocks-in-a-changing-climate/

Sweden

Indicator exposure

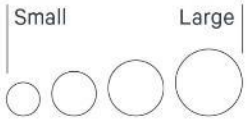
Sweden

Climate-sensitive FDI outflows

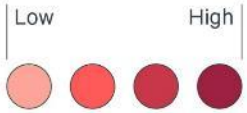
98
Number of countries linked with Sweden

$32.6bn
Size of FDI outflow from Sweden

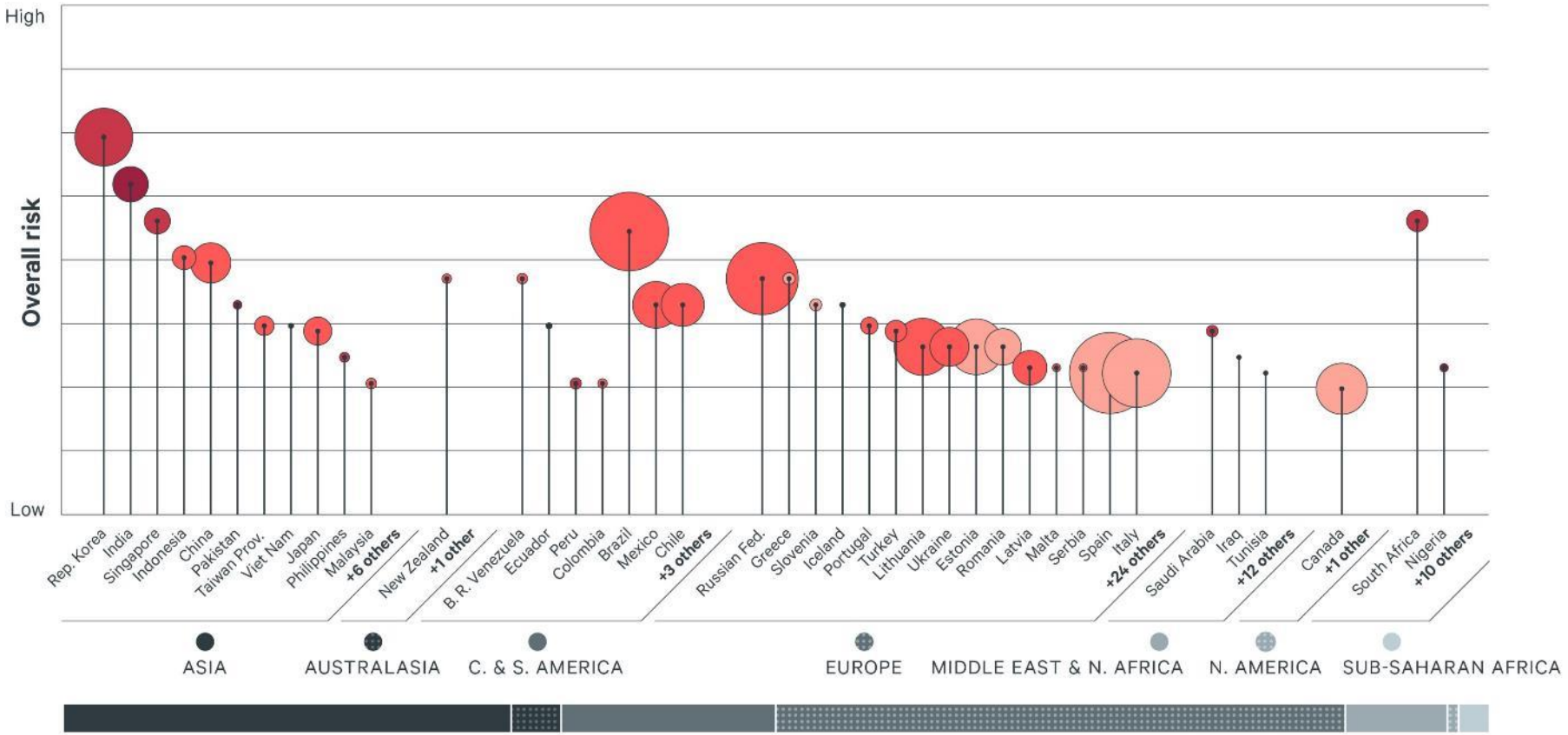
102nd/130
Global indicator ranking for Sweden



Size of FDI outflow from Sweden



Climate vulnerability of link country



Regional share of total risk

Source: UNCTAD FDI/TNC database (2008–2012) average. Method: See Benzie et al (2016). Note: Data are based on information reported by the economies listed above.

Reflections

Transboundary climate risks;

- Enhance regional approaches to adaptation.

Distant, more complex (teleconnected) networks;

- Build systemic resilience globally.

If the success of national adaptation in one place...

...determines the level of risk exposure in another;

Parties should be **doing more**:

- to identify and **assess** those risks
- and to **cooperate** in managing them.

Cooperation

SEI Stockholm Environment Institute

Meeting the global challenge of adaptation by addressing transboundary climate risk

A joint collaboration between SEI, IDDRI, and ODI

Discussion Brief - April 2018

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ODI

When negotiating the Paris Agreement, many countries called for a stronger focus on adaptation. This call became more powerful after the Intergovernmental Panel on Climate Change (IPCC) outlined the high likelihood of unavoidable climate change impacts in its Fifth Assessment Report. The result was Article 21. of the Paris Agreement, which established a new – and unprecedented – global goal on adaptation.[1]

At the time, the 21st session of the Conference of the Parties (COP21) to the United Nations Framework Convention on Climate Change (UNFCCC) agreed to treat adaptation "in balance" with mitigation. However, mitigation remains the main focus in international debates and analysis on climate change governance.

We argue that the critical importance of adaptation is still under-valued in international negotiations. Specifically, the view that adaptation is a local problem is holding back ambition to pursue a global adaptation agenda that seeks solutions beyond the local-to-national level.

It is important to recognise that, although Parties have agreed to limit warming to "well below" 2°C, the nationally determined contributions (NDCs) that have been submitted would result in warming closer to 3°C.[2,3] Even this may be optimistic, as the 3°C estimate presumes that countries achieve their targets, which few are on track to do. With this reality as a backdrop, it is imperative to increase adaptation action worldwide and, in so doing, to scale up efforts from the local to the global. This is increasingly articulated by both developing and developed countries around the globe; of the 166 NDCs submitted to date, at least 137 include information about adaptation.[4]

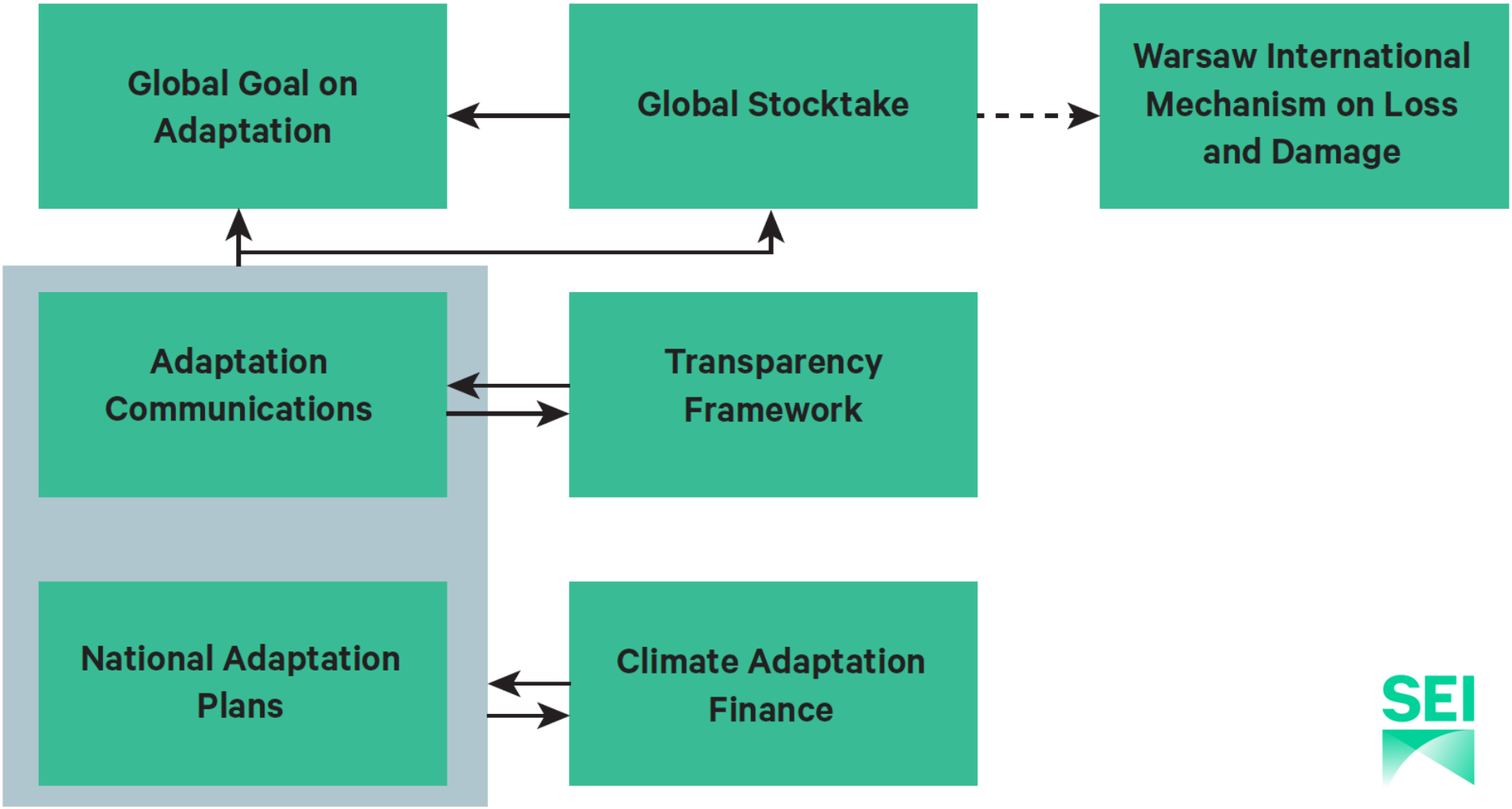
In this brief, we argue that adopting a transboundary view of climate risk, which explicitly recognises the interconnections between people, ecosystems and economies in a globalised world, changes the scope and nature of the adaptation challenge, and creates opportunities to reinvigorate international cooperation on adaptation. Specifically, the UNFCCC remains a critical space for coordinating global action on climate change, including building resilience and adapting to the adverse effects of a warmer world. In this respect, the outcomes of UNFCCC negotiations are important for understanding the progress made to date on adaptation, as well as for highlighting gaps, or framing and steering the conversation in new directions. Global negotiations on climate change therefore have a key role to play in adopting and implementing a transboundary framing of climate risk, though other non-climate conventions and processes can play important roles as well.

We therefore review recent progress in the international climate negotiations in order to set up a discussion in the second half of the brief about how progress in meeting the global challenge of adaptation might be achieved.

IMAGE (ABOVE):
© FLICKR / VICTORIA IMESON

- The opportunity provided by the Paris Agreement to meet the global adaptation challenge is in danger of being missed.
- It is desirable to address transboundary risks within the UNFCCC
- Other conventions and international law have a role to play too
- Recognising the global nature of the adaptation challenge creates space for enhanced international cooperation, which is urgently needed

What could the UNFCCC do?



Questions remain...

Is there demand at the national level to address these risks?

Do we know enough to bring the topic into the political process?

What are the barriers?

If adaptation by A might harm B, what can B do?

Is the regional scale the best place to start?

How can climate finance address systemic risks?

Thank you!

SEI's research on this topic continues, along with our colleagues at IDDRI and ODI. We are looking at ways to support interested national and regional stakeholders.

Please get in touch if you would like to explore this topic further.

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https://www.sei.org/featured/inescapably-intertwined/