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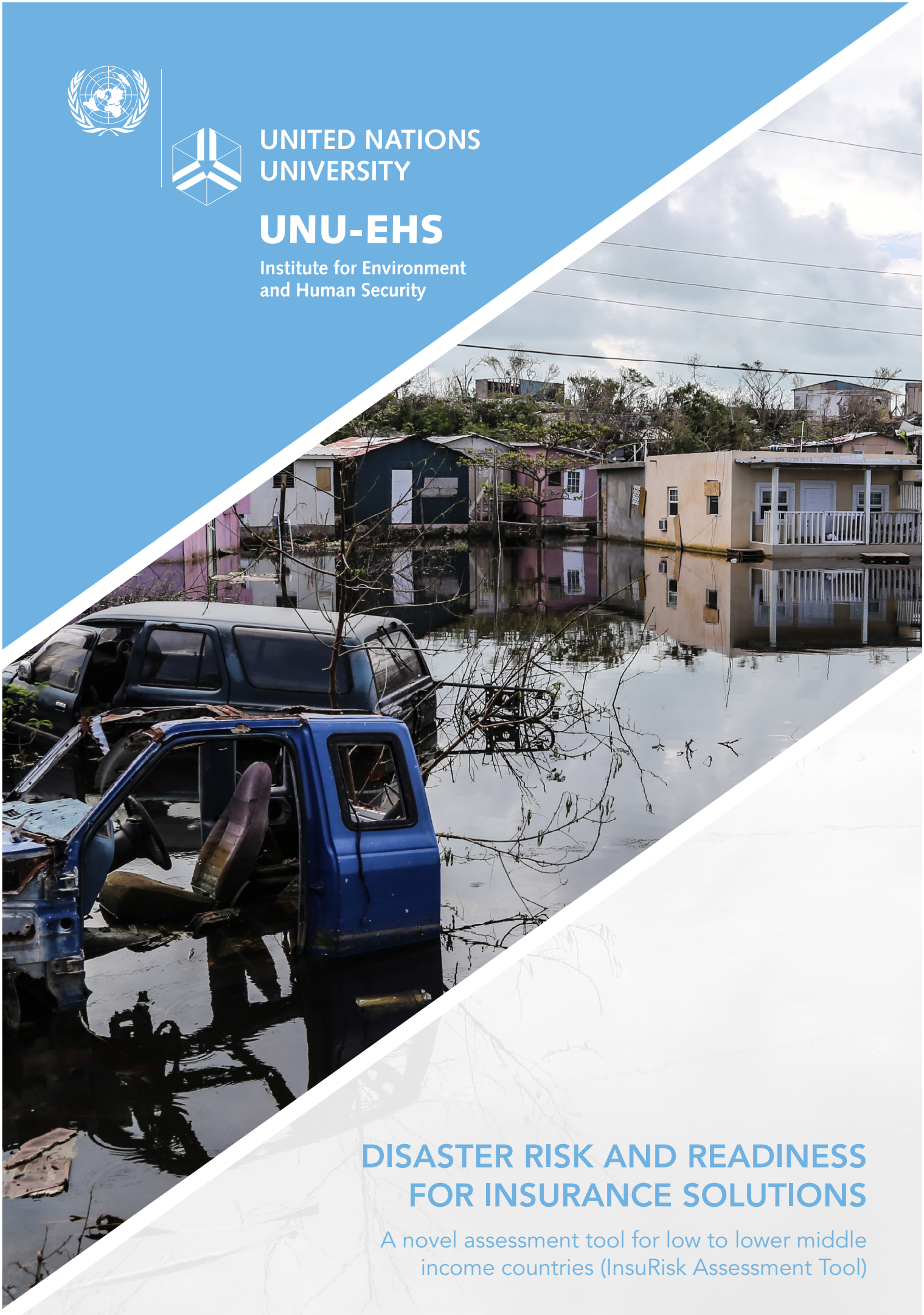

DISASTER RISK AND READINESS FOR INSURANCE SOLUTIONS

A novel assessment tool for low to lower middle income countries (InsuRisk Assessment Tool)

CONTEXT

The InsuResilience Secretariat commissioned the United Nations University's Institute for Environment and Human Security (UNU-EHS) and Social Impact Partners, a new joint venture between Munich Re and The Hollard Insurance Group, to develop a comprehensive and objective concept and methodology that provides transparent and comparable information on countries' vulnerability towards climate and disaster risks and their readiness for insurance solutions. The tool is a first prototype, giving orientation for prioritizing action and tailoring support for potential InsuResilience partner countries. It was designed with a view to the InsuResilience goal and target group, i.e. to enable access to climate risk insurance for an additional 400 million poor and vulnerable people by 2020. For further information on the InsuResilience initiative please have a look at www.insuresilience.org.

Based on the most recent high-quality data, the "Risk and Readiness for Insurance Solutions Assessment Tool" (InsuRisk Assessment Tool) assesses the climate and disaster risk of partner countries as well as their needs for climate risk solutions or other forms of support according to the maturity of the local insurance market. In line with the pro-poor focus of InsuResilience, the analysis was restricted to low and lower middle income countries (n = 84). The tool is a first prototype for consultation. Its modular design will allow governments, insurers and researchers to select required information based on their respective interests.

CONCEPT & METHODOLOGY

The InsuRisk Assessment Tool is designed to provide answers to the following key questions:

- What is the level of vulnerability and climate and disaster risk of a country?
- What is the short-term capacity of a country to cope with hazardous events?
- How high is the remaining residual risk?
- Which long-term preventive strategies exist in these countries to tackle future disaster risk?
- What is a country's readiness to accommodate insurance solutions?

In order to provide answers to these questions, the InsuRisk Assessment Tool comprises five key components, displayed in Figure 1: (1) climate and disaster risk, (2) short-term coping capacity, (3) residual risk, (4) long-term prevention strategies, and (5) readiness for insurance solutions. Following the latest definition of the Intergovernmental Panel on Climate Change (IPCC 2014[1]), disaster risk results from the interaction of hazardous events (here: climate-related and other natural hazards) with the vulnerability of exposed elements (here: people, agricultural land/ economic production, and infrastructure). Coping capacity refers to the capacity of individuals and governments to cope with hazardous events, and hence reflects the short-term capacity to reduce disaster risk to a certain level of residual risk. In contrast, the availability (or lack) of preventive strategies, such as disaster risk reduction (DRR) strategies, preparedness plans or National Adaptation Plans (NAPs), does not directly influence climate and disaster risk or residual risk today, but rather reflects a country's strategic will to manage potential risk in the long-term.

One key innovation of the concept presented here is the systematic consideration of a country's readiness to accommodate insurance solutions. The overall readiness of a country consists of three modules: (i) individual readiness, (ii) the enabling political environment to attract the insurance industry, and (iii) the current developement status of a country's insurance market.

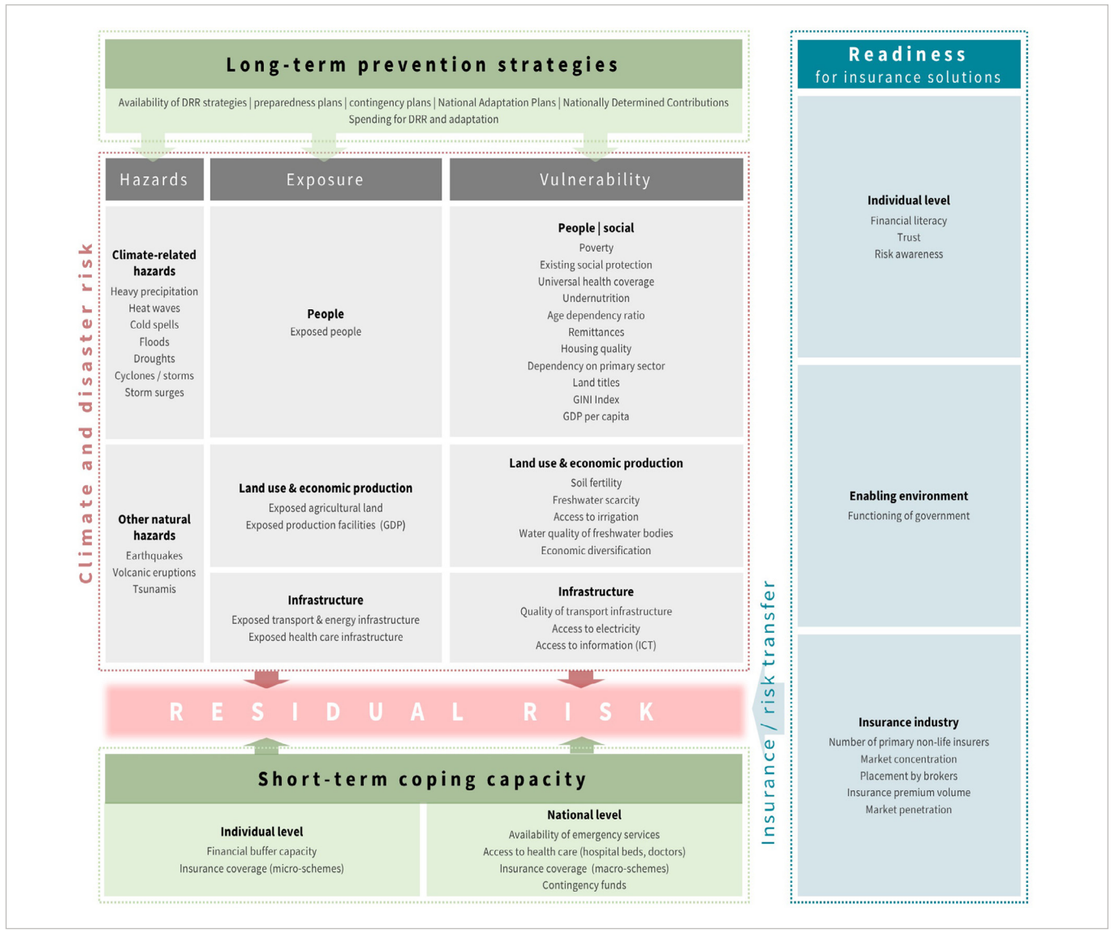

Fig. 1: Conceptual framework of the InsuRisk Assessment Tool. The tool consists of five key components: (1) climate and disaster risk, (2) short-term coping capacity, (3) residual risk, (4) long-term prevention strategies, and (5) readiness for insurance solutions.

As indicated in the conceptual framework (Fig. 1), each of the five components is represented by key factors (e.g. poverty, social protection, universal health coverage, etc. for social vulnerability) for which a set of underlying indicators and datasets is considered in the assessment.

The InsuRisk Assessment Tool builds on a modular design, where the different indicators are aggregated into their respective modules (e.g. social vulnerability) and components (e.g. disaster risk, readiness) using an index-based approach based on data that is available for the 84 target countries. The results of this assessment are index scores for each module (e.g. social vulnerability, infrastructure vulnerability, etc.) and component (e.g. overall vulnerability) in relative terms, i.e. they range between zero (low) and one (very high). A detailed description of the indicators, data sources and key methodological steps can be found online (see Imprint).

[1] *IPCC (2014). Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, pp. 1132.*

RESULTS

Figure 2 contrasts the residual risk of a country (Fig. 2, upper panel) against its readiness to accommodate insurance solutions (Fig. 2, lower panel). The index scores of these two components of the InsuRisk Assessment Tool are divided into five groups of countries of equal size (quantile method). Brighter colours represent lower index scores, while darker colours indicate higher index scores for both components, respectively. The figure shows that countries with a particularly high level of residual risk include, for example: Madagascar, Afghanistan, Myanmar, Haiti, Ethiopia and Papua New Guinea.

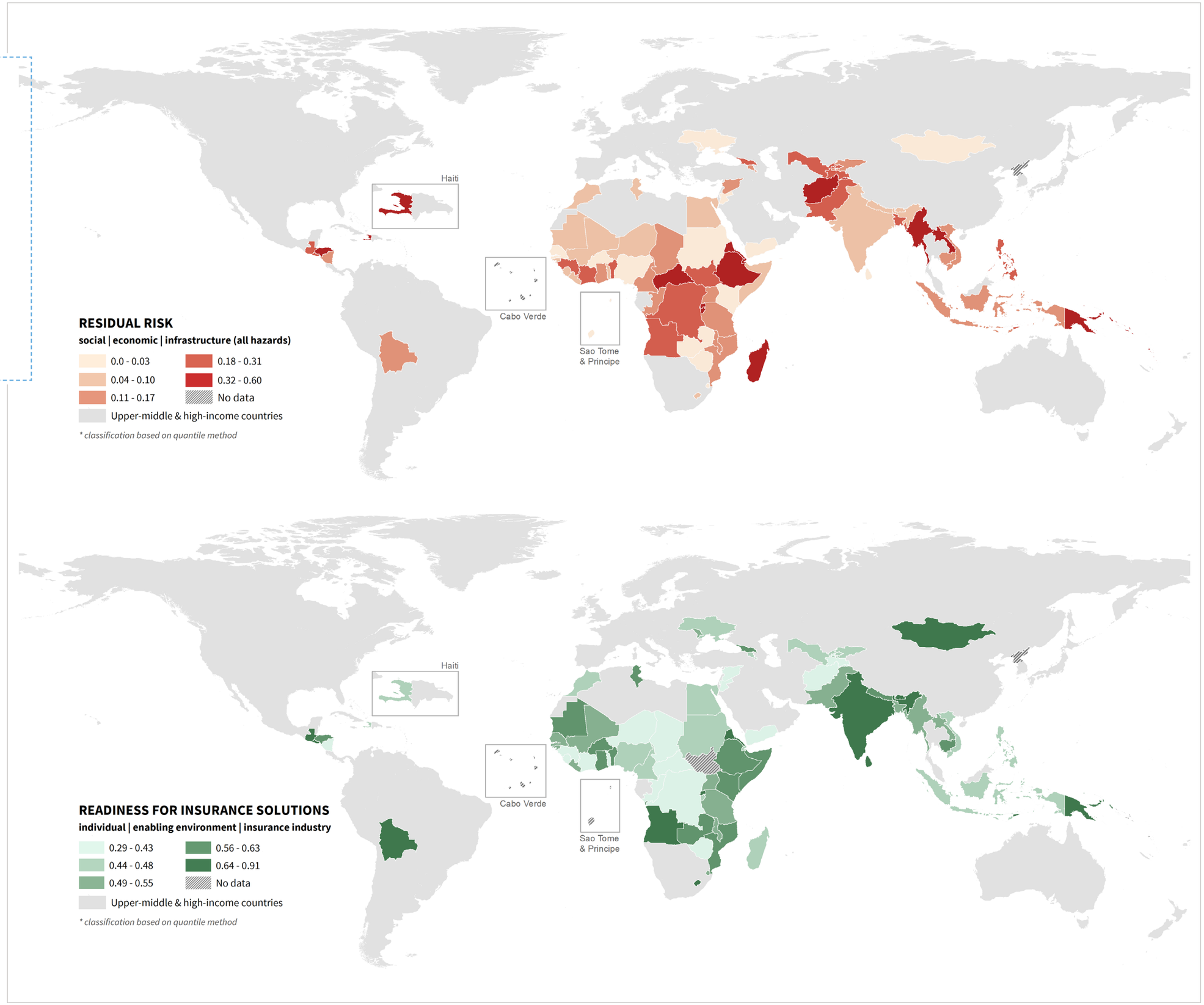

Fig. 2: Residual risk (upper panel) vs. readiness for insurance solutions (lower panel). Residual risk considers all hazards, the vulnerability of people, land use/economic production, and infrastructure combined, as well as a country's coping capacity, while readiness for insurance solutions results from the combination of individual readiness, enabling environment and the current developement status of a country's insurance market.

With regards to InsuResilience's focus on vulnerable countries and insurance solutions, Figure 3 juxtaposes a country's vulnerability level with its readiness for insurance solutions (individual readiness, enabling environment and the current state of insurance).

This figure thus allows for developing country profiles and clusters according to their overall vulnerability and readiness for insurance solutions. This assessment allows tailoring support for insurance solutions according to the specific needs of a country.

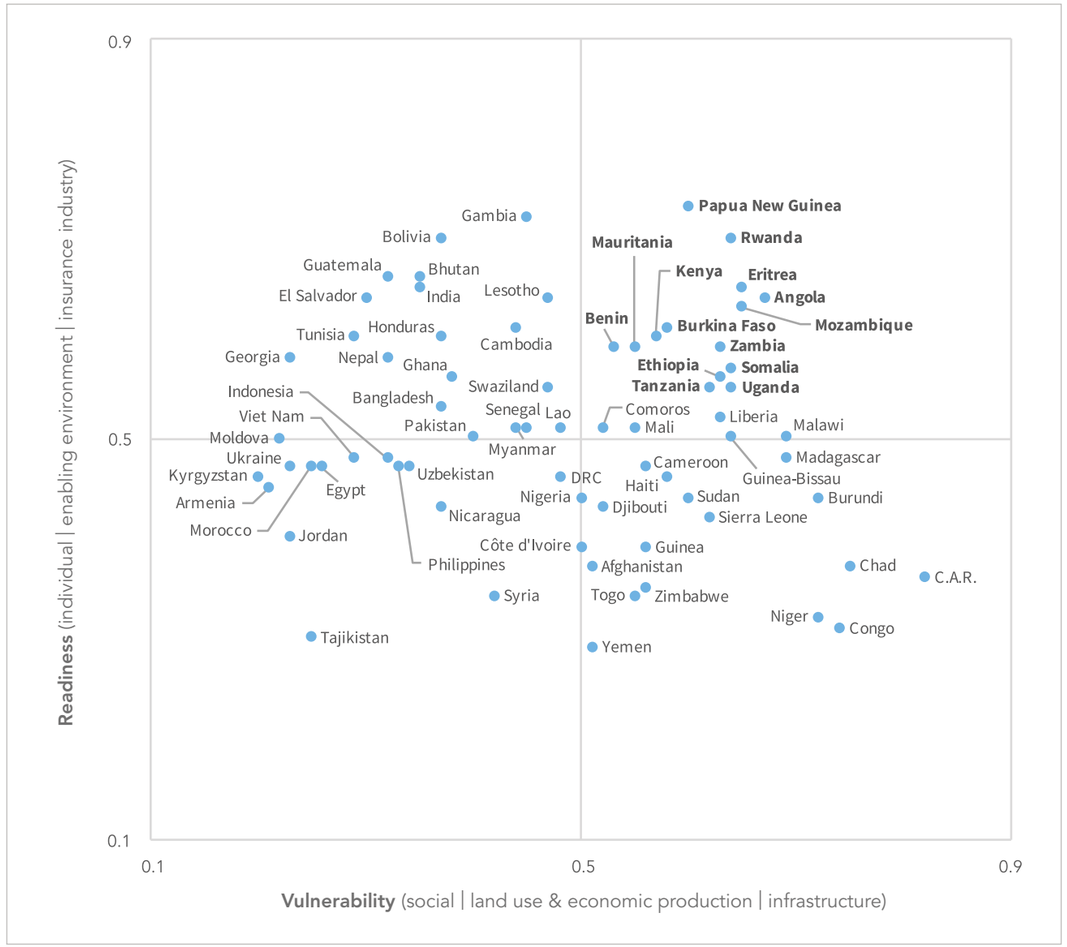

Fig. 3: Country profiles contrasting vulnerability and overall readiness for insurance solutions. Countries in the upper-right corner of the graph can be characterized by both (i) high vulnerability and (ii) high readiness for insurance solutions.

The innovative analysis provides guidance for the selection of potential target countries under the G7+ InsuResilience initiative. Countries characterized by both high vulnerability and high readiness for insurance solutions include, for example: Papua New Guinea, Rwanda, Eritrea, Angola, Mozambique, Burkina Faso and Zambia, etc. In stark contrast, countries with high vulnerability but low readiness include countries such as Congo, Niger, the Central African Republic (CAR) and Chad.

CONCLUSIONS & OUTLOOK

Following consultations on the InsuRisk prototype and its indicative outcomes at COP 23 in Bonn in 2017, an updated version will be developed taking inputs from InsuResilience partners and stakeholders into account. The updated version will allow for an interactive online use. In perspective, there is great potential to extend the tool's scope and forms of use (e.g. by considering new high-quality data sets, by including further indicators on coping capacities or by linking the tool and its underlying indicator set to SDG reporting, etc.). As the InsuResilience Secretariat is currently setting up a Monitoring and Evaluation system, the InsuRisk Assessment Tool can also make a valuable contribution to the monitoring of InsuResilience partner countries' vulnerabilities and insurance market development status at aggregated level. By assessing changes in the tool's five key components and their underlying indicators on a regular basis (e.g. every three years) potential changes in vulnerability or readiness for insurance solutions can be identified in a systematic manner.

Imprint

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Online:
A detailed description of the methodology (including indicators and data sources) is available at http://collections.unu.edu/view/UNU:6316

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