International Institute for Applied Systems Analysis
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Resilience service technologies for identifying climate change adaptation gaps:

The flood resilience dashboard

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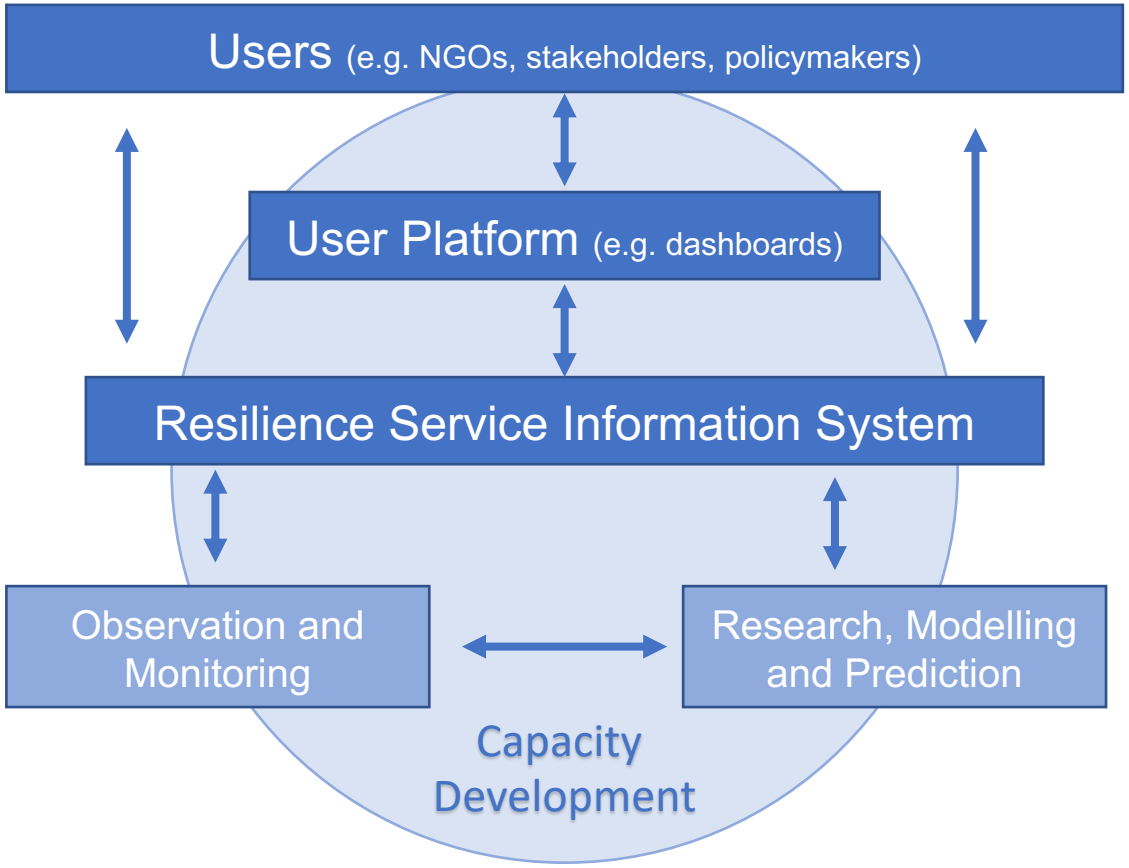
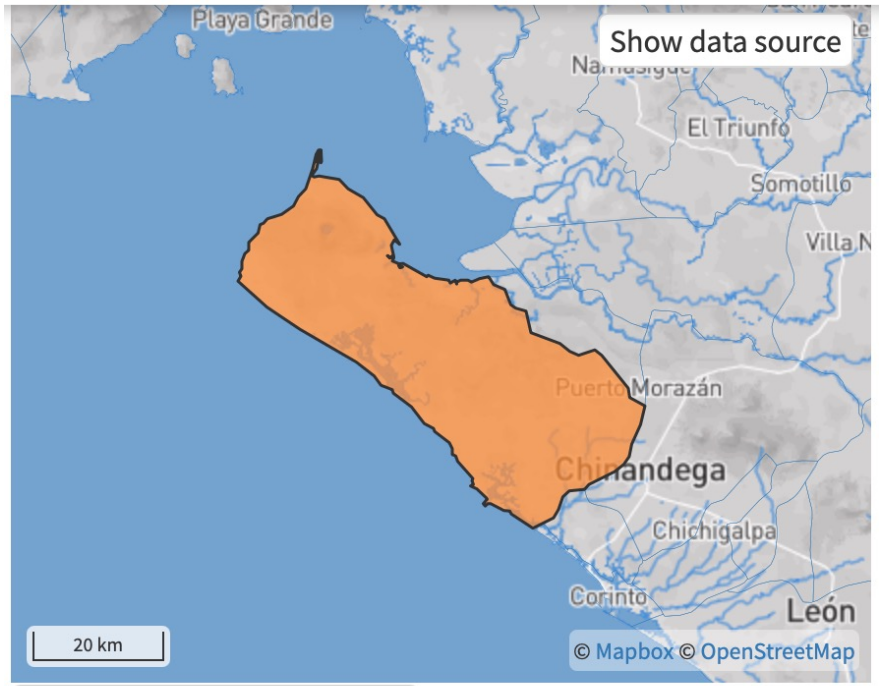
Resilience service

Resilience "[Climate] services, which provide timely, tailored information and knowledge to decision makers (generally in the form of tools, products, websites, or bulletins), are seen as an important part of improving our capacity to manage climate-related risk." (Vaughan and Desai, 2014)



Adapted from WMO, 2011;
See global climate service framework

Knowledge or capacity needs?



Thinkhazard.org

Standard risk maps mostly fail communicating needs for local action…

Launching the flood resilience dashboard – a resilience service platform

Method

- Indicator-based resilience data (based on the FRMC)
- Citizens science and crowdsourcing approaches
- Spatio-temporal data about exposure & vulnerability

- Exploring useful and reliable data and methods
- Identify resilience, risk and vulnerability data across scale
- Building on hazard and exposure data from models (Glofris) and emprical datasets (EM-DAT)

Abel from Practical Action interviewing Consuelo, a community member in San Miguel de Viso, Peru as part of FRMC data collection ©Giorgio Madueño –

Preparation using spatio-temporal data technologies

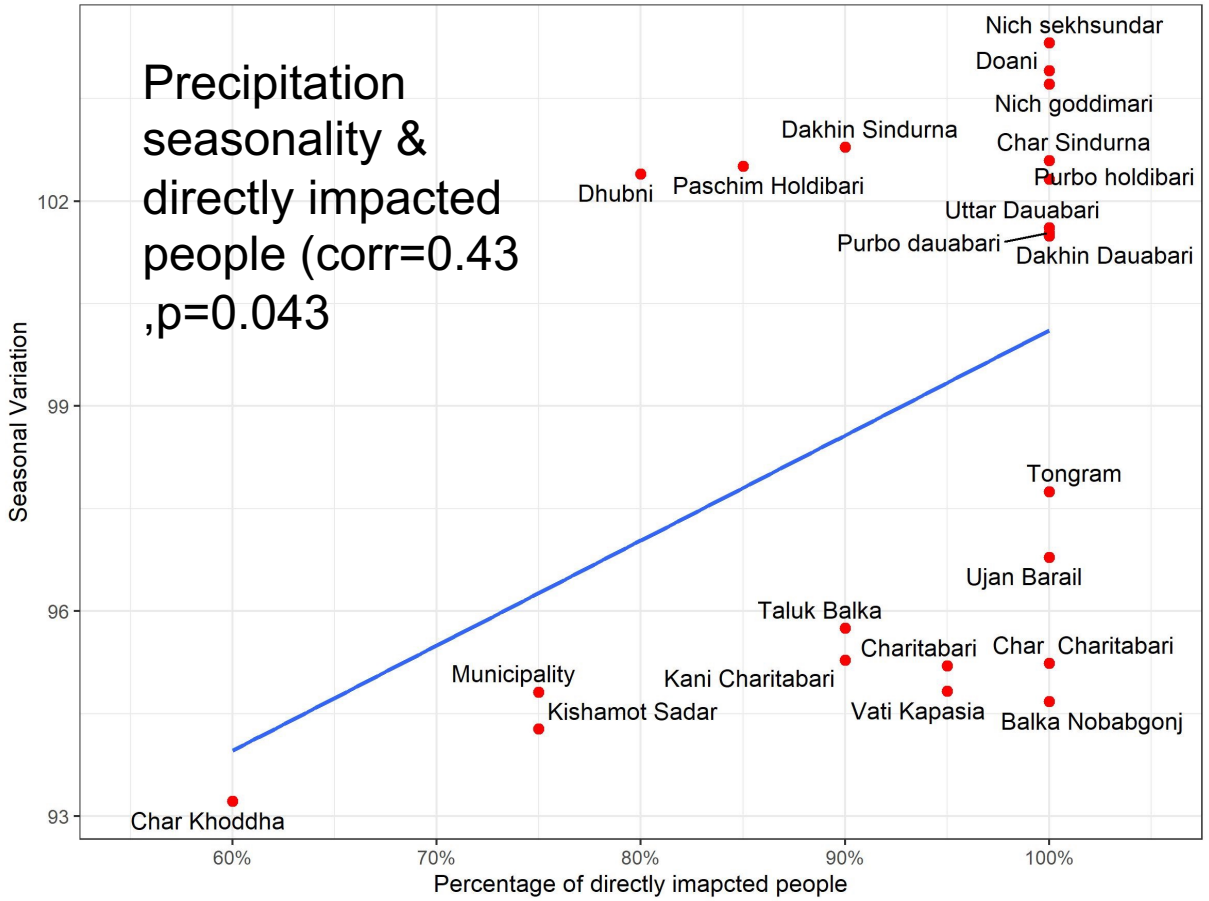
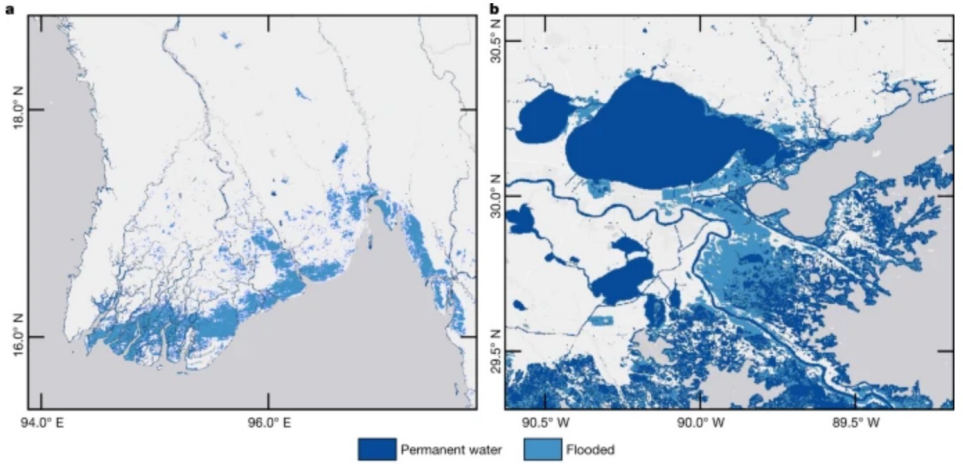
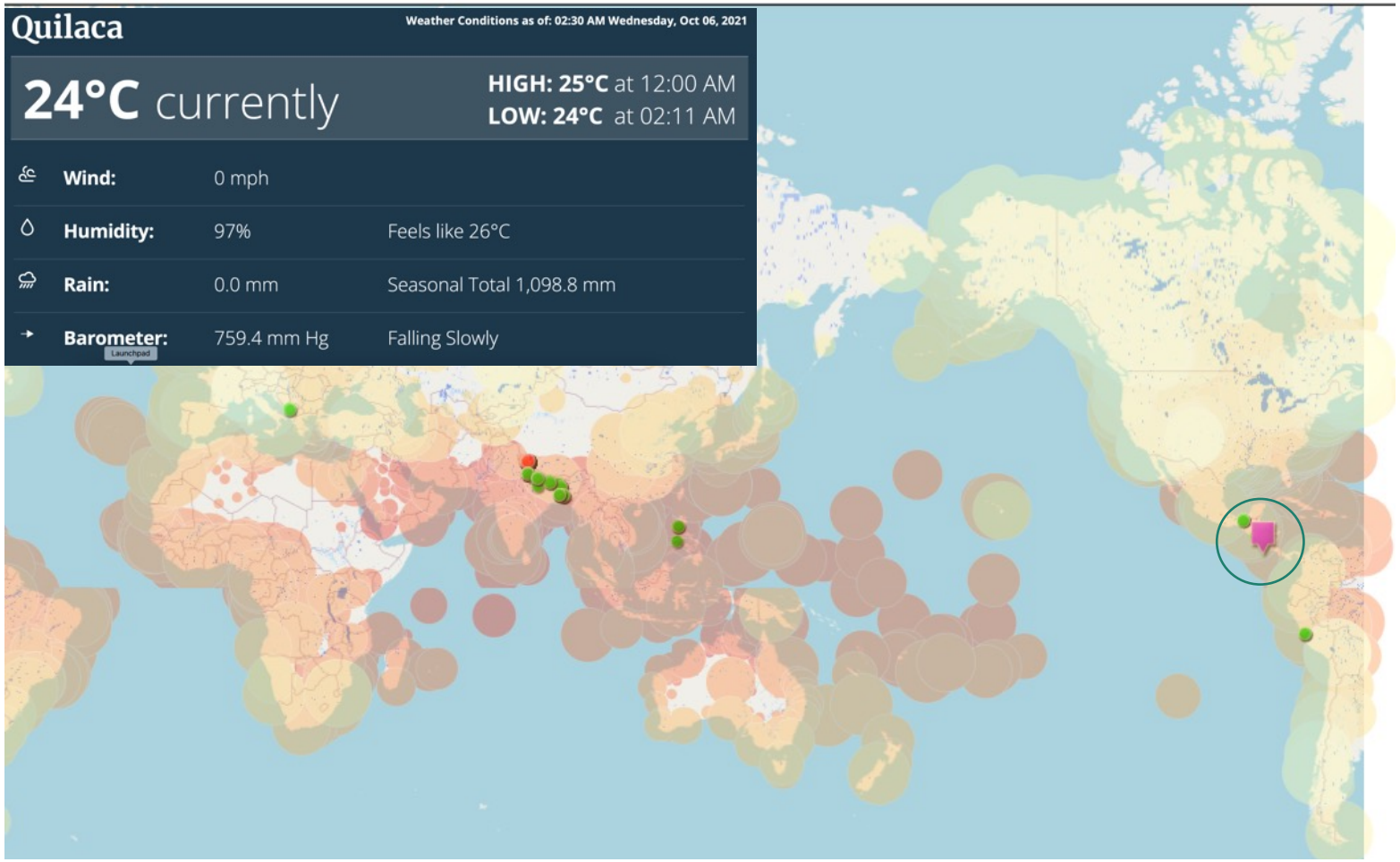


Fig. 2: Observed inundation and flood duration for selected extreme events.



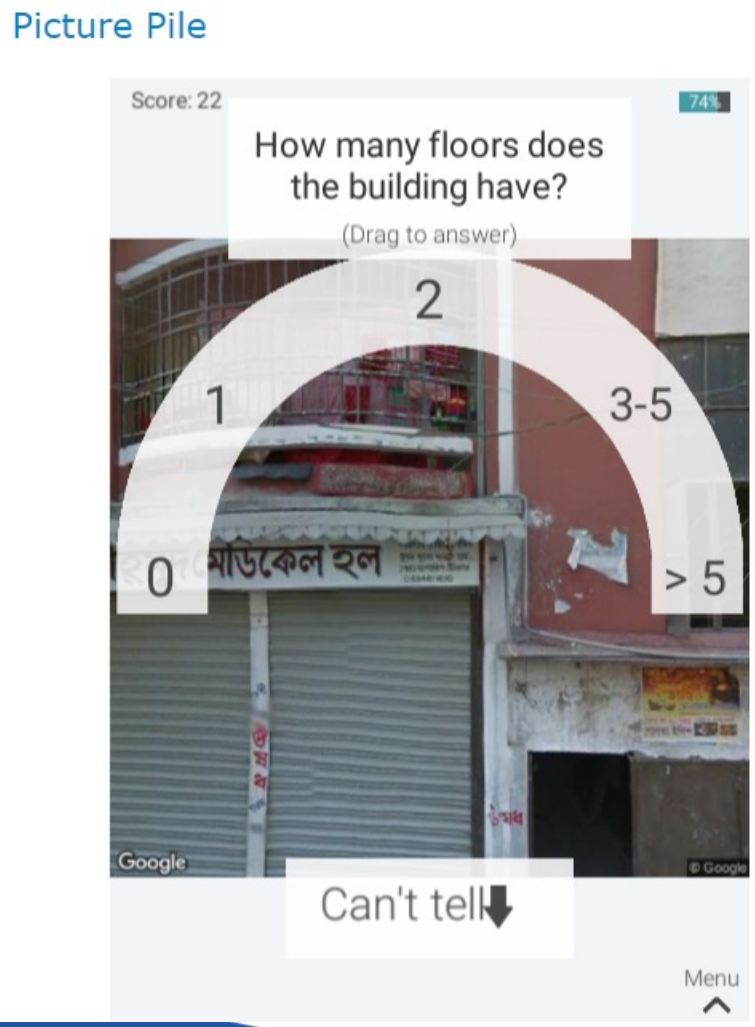
Based on data from FRMC & Tellman et al. 2021, Nature: Satellite imaging reveals increased proportion of population exposed to floods

Response during an event using real-time data technologies



- Temperature;
- rain;
- wind;

Assessing ex-post impacts using citizens science technologies – Picture Pile App



- Building materials? Brick, tin, wood, tarps
- Building height? Floors, 1,2,3,…
- Building safety? – robustness?
- Flood resilience infrastructure? Dams, walls, canals, bridges – probably harder to find.
- Overall resilience? Low, med, high – could we train people to qualify resilience?

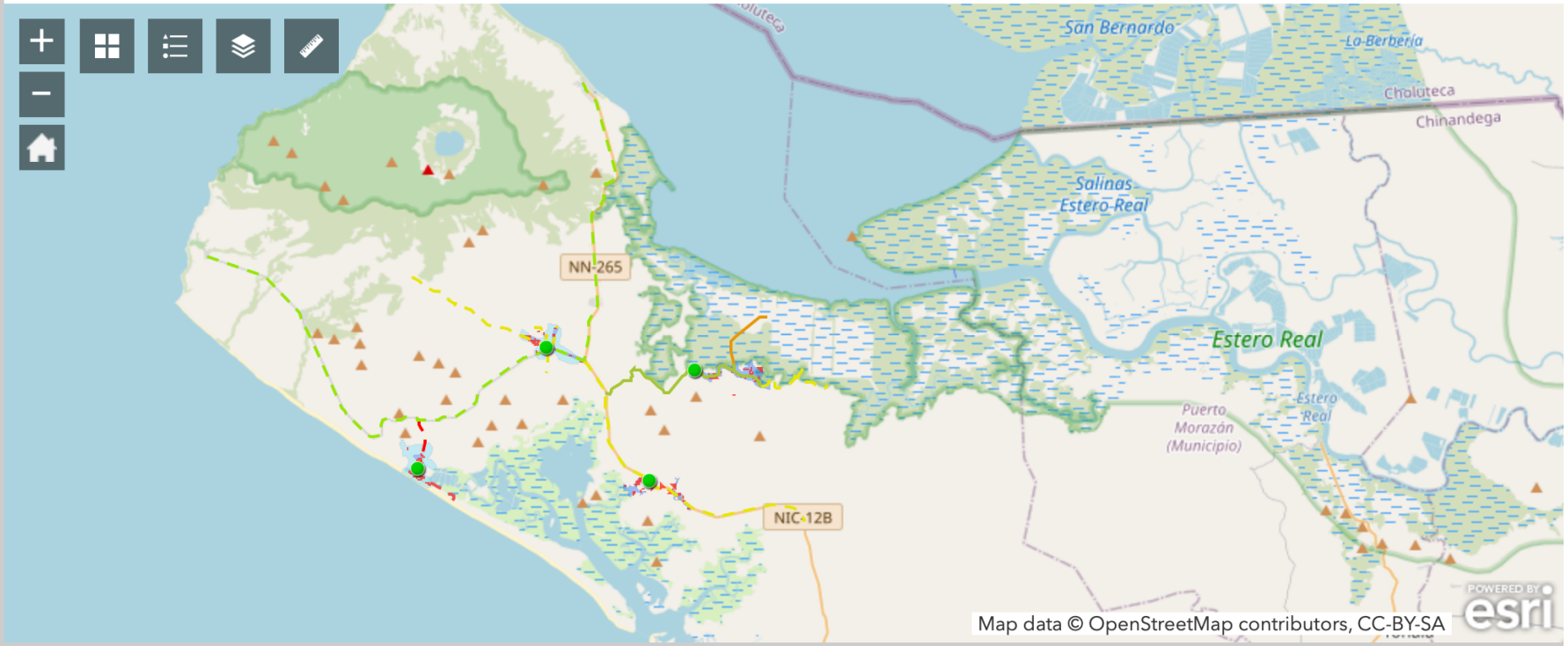
Flood Resilience Dashboard

About Print Analysis

Providing open, peer-reviewed flood resilience related spatial data with data from the Flood Resilience Alliance, which in turn can be used to inform community-level decisions to increase resilience around the globe. More

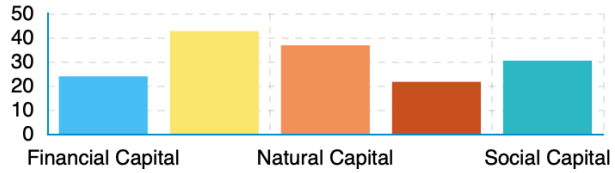
If you like you can leave a short feed back Here.

If you want more in depth information please



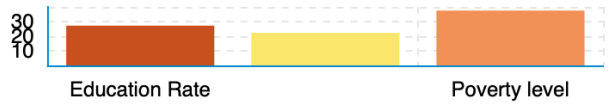
Phase 2 Capitals Themes Phase 2

FIVE CAPITALS PHASE 2



Socio-Economic Development Education EWS

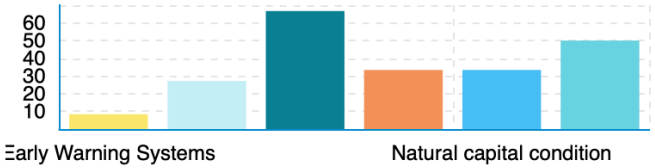
SOCIO-ECONOMIC DEVELOPMENT



Percentage of people with completed High-school education, Percentage of Female Headed Households,

Source Level High Sources Low Sources

SOURCES



Buildings at risk Infrastructure at Risk

HOUSES AT RISK

651

Buildings Total Infrastructure

NUMBER OF BUILDINGS

931

Example of WASH measures in Nicaragua to communicate adaptation action to society and stakeholders

Further applications

C) Nepal:

Expected in Sept 22

- Continuity of IIASA-PA collaborations
- Demand for regional resilience assessments; early warning systems; advocacy and evalutating intervention

B) Bangladesh:

Expected in Sept 22

- Intensifying discourse on L&D
- Demand for disaggregated data assessment; citizen mapping