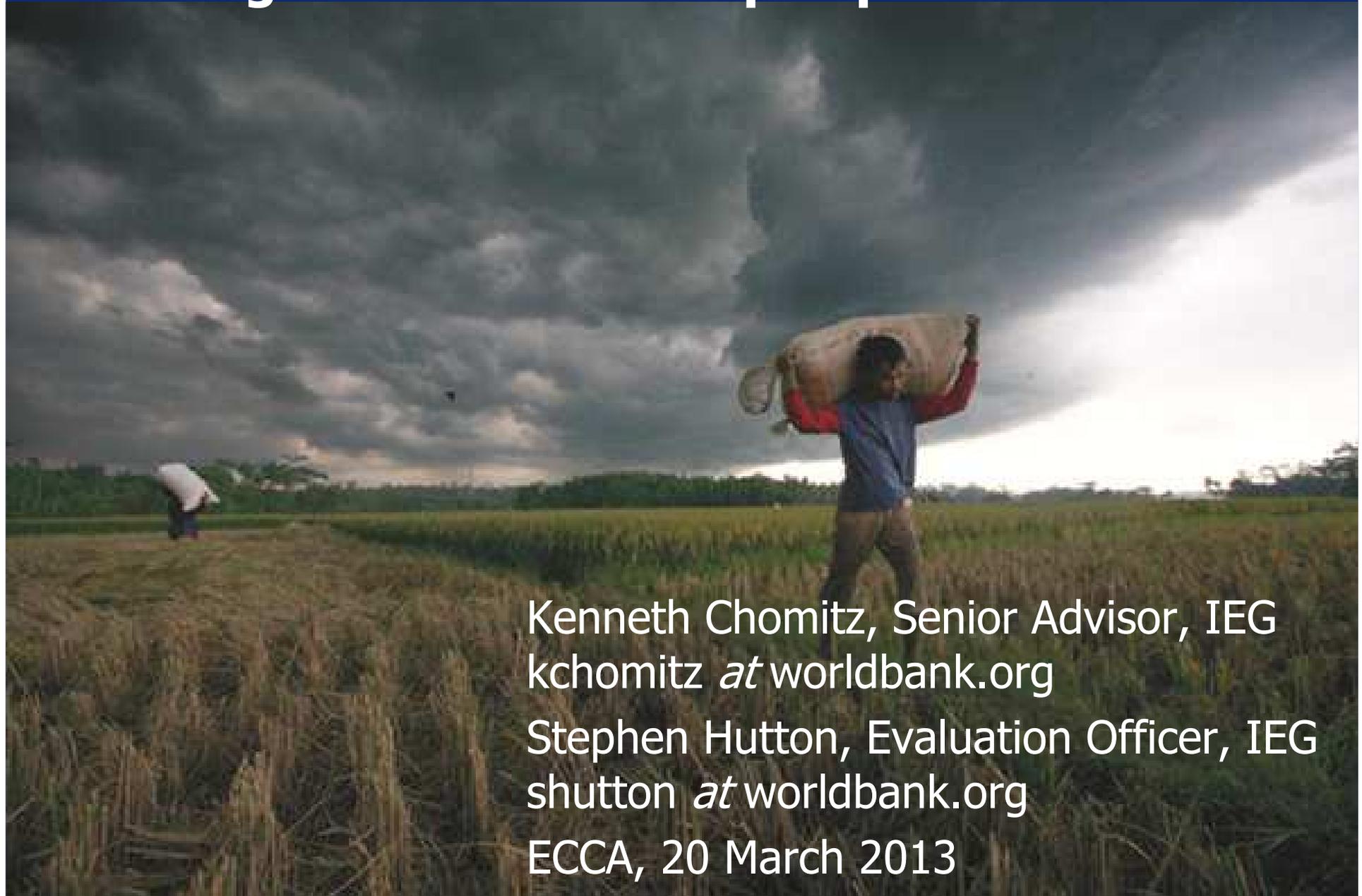


Adapting to Climate Change: Assessing World Bank Group Experience



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Outline



- ▶ Framework for adaptation.
- ▶ Lessons from adapting to climate variability.
- ▶ Maladaptation.
- ▶ Anticipatory adaptation.
- ▶ National level adaptation projects.
- ▶ Recommendations:
 - Develop guidelines for climate risk management.
 - Promote anticipatory adaptation.
 - Track resilience outcomes.
 - Learn from experience.

Three types of adaptation, with examples

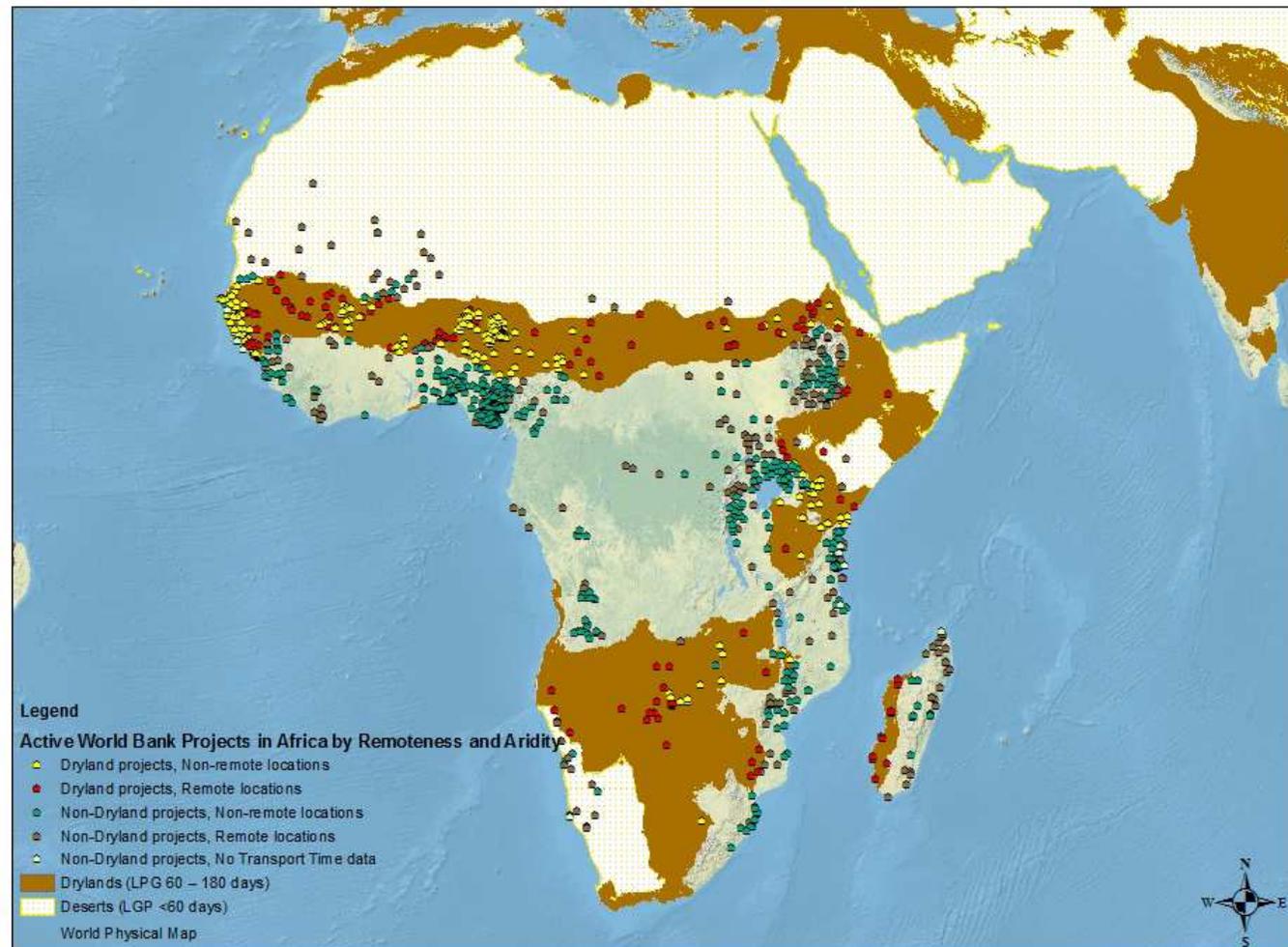
	Net benefits later	Net costs later
Net benefits now (Adaptation to current climate variability)	<i>Resilient adaption to climate variability:</i> <ul style="list-style-type: none">• Capacity building• Hydromet services	<i>Maladaptation:</i> Unsustainable extraction of groundwater
Net costs now	<i>Anticipatory adaptation:</i> <ul style="list-style-type: none">• Climate-proofing long-lived infrastructure• Coastal zone planning	<i>No adaptive benefit:</i> Unsustainable groundwater extraction for uneconomic crops

Adapting to climate variability: droughts



- ▶ Sustainable land management (SLM)
 - Median reported ERRs of 20%
 - *Towards a solutions Bank: we need info on SLM impacts on water availability and sensitivity of household income to droughts*
- ▶ Index insurance
 - Pilots have struggled with high costs and low uptake rates
 - Apparent success in Mongolia, though sustainability in question
 - *Towards a solutions Bank: assess impacts on welfare, compare targeting households vs. banks as clients.*
- ▶ Drought relief
 - Ethiopia project demonstrates reduction in drought impacts on hunger; transformation from reactive to pre-financed system.

Sustainable land management projects in Sub-Saharan Africa



Disaster risk reduction



- ▶ Post 2006, Bank has increased emphasis on risk reduction vs. disaster response.
- ▶ Increase in proportion of 'soft' reduction activities
- ▶ *Towards a solutions Bank: assess costs, benefits, sustainability of alternative approaches, particularly 'soft' approaches*

Financial instruments for disaster risk mgt.



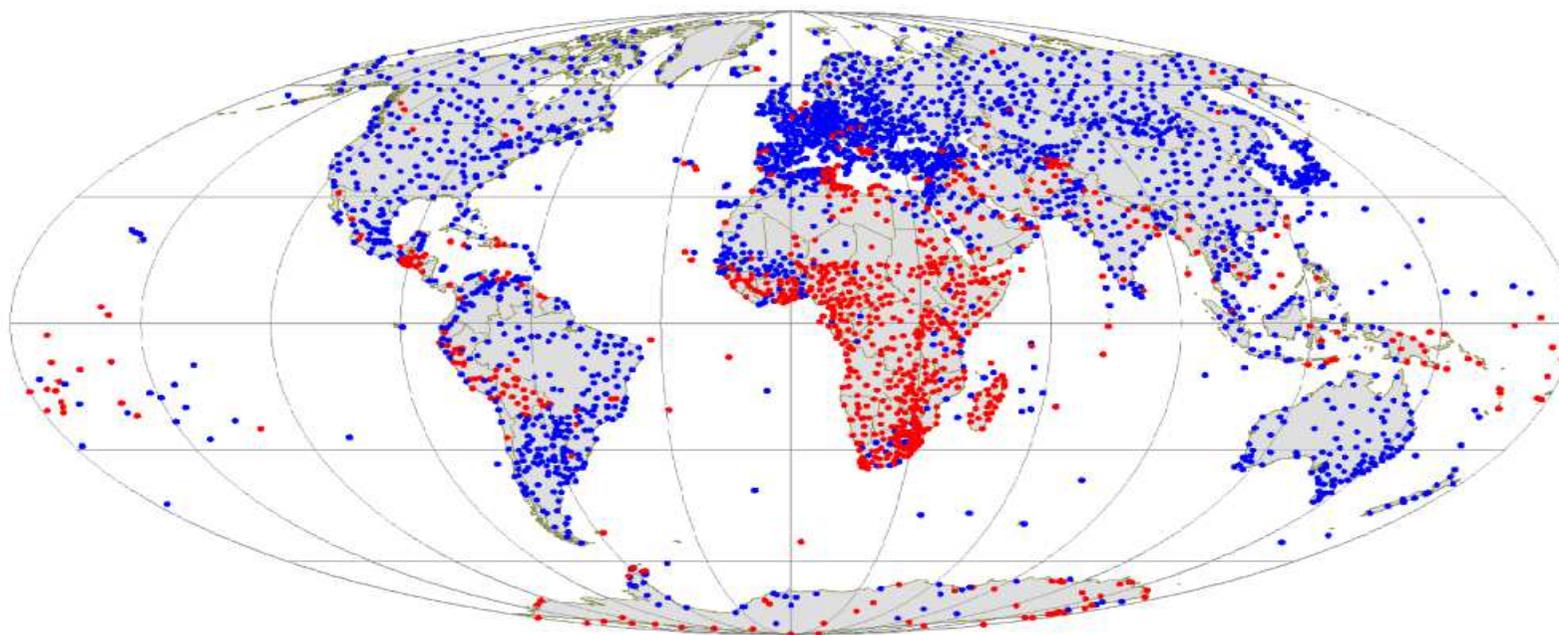
- ▶ Cat DDOs – essentially contingent credit lines -- are well received instruments for post-disaster liquidity
- ▶ CCRIF – successful multi-country risk pool for Caribbean countries.
- ▶ But these cover only a small fraction of total damages.
- ▶ Cat bonds – intended for higher coverage – are complex, expensive and have been unattractive

Adapting to climate variability: Improving supply and use of hydromet info

Availability of CLIMAT reports from RBCN stations

Monitoring period: 1 to 15 October 2011

(CLIMAT reports September 2011)



■ report received (2110)
■ no report received (860)

The designations employed and the presentation of material in this chart do not imply the expression of any opinion whatsoever on the part of the Secretariat of the World Meteorological Organization concerning the legal status of any country.

WMO Secretariat

Maladaptation: a cautionary tale



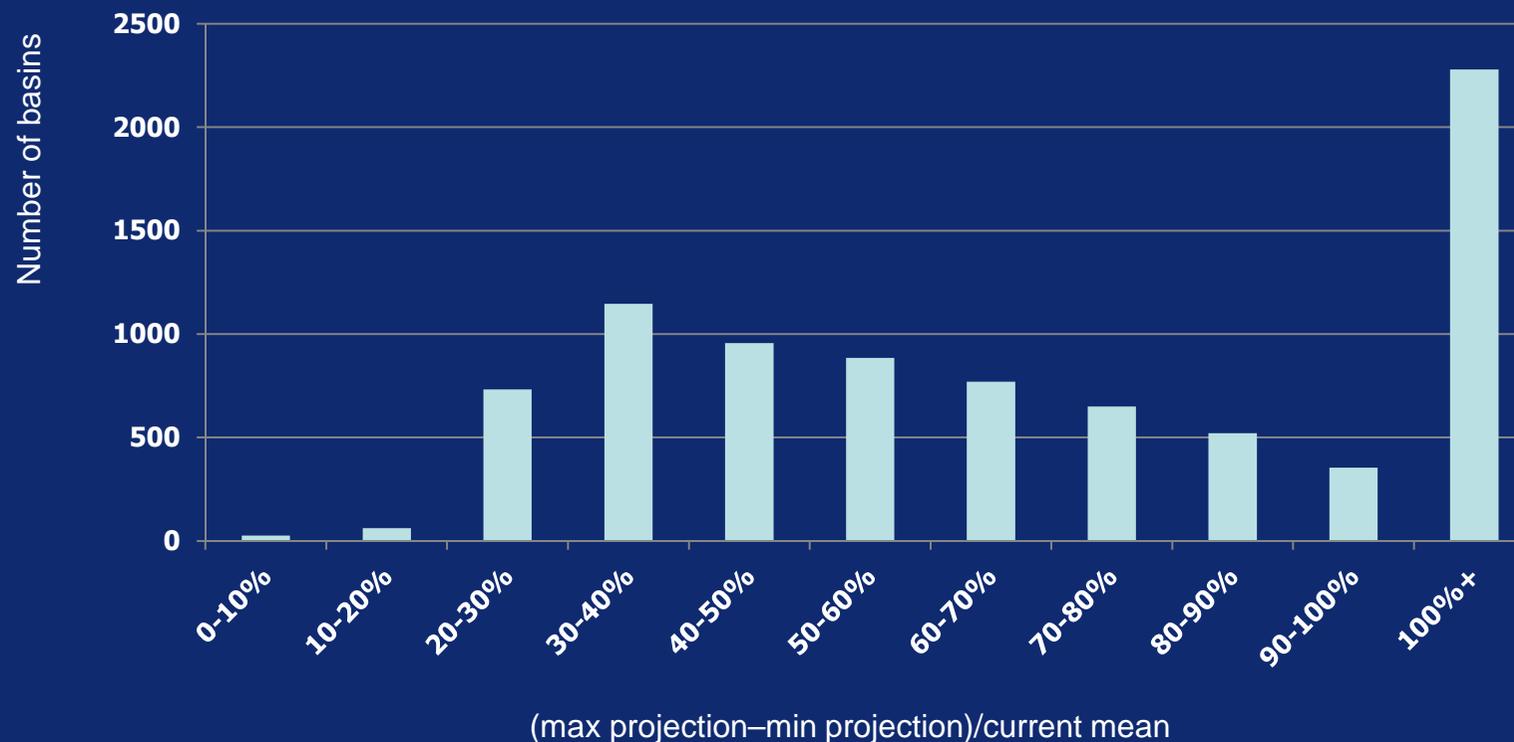
- ▶ Trees in the drylands: sponges or vampires?
 - Afforestation in the Loess Plateau: exotic species reduced sedimentation, increase carbon storage – but depleted groundwater.
- ▶ *Towards a solutions Bank: model and then monitor hydrological and social impacts of land management and forestry interventions*

Anticipatory climate adaptation and land use planning: often called for, seldom practiced

- ▶ Dozens of studies note that increasing exposure drives disaster risk, as people move to and invest in cities on coasts and flood plains.
- ▶ But there are few demonstrated examples.
 - Long-term land use planning is politically difficult (costs now, benefits later).
 - Land use planning is seldom attempted.
- ▶ *Towards a solutions Bank: learn from ongoing efforts India Coastal Zone Mgt, Western Cape, and other projects that try to shape land use patterns.*

Climate models give divergent projections limiting usefulness for project design

Divergence of precipitation projections for 2030s for 8380 basins



Source: Data from Strzpek, McCluskey, Boehlert, Jacobsen and Fant 2011

Assessment of studies and projects which used climate models



- ▶ 28 cases
- ▶ Only 5 used climate projections for quantitative decision making (cost/benefit comparison of scenarios)
- ▶ Most defaulted to robust, 'no-regret' recommendations not dependent on projections.

National-level adaptation projects



Caribbean



Colombia



Kiribati



Lessons from national-level projects



- ▶ **Adaptation issues are deeply interlinked with development issues.**
- ▶ A focus on current concerns has been more attractive than anticipatory adaptation to long-term transformational threats.
- ▶ Projects have tended to spread themselves across too many locations and issues, straining limited capacity.
- ▶ A strong theory of change is needed to guide actions.
- ▶ Planning and execution need to be concurrent and iterative.
- ▶ Coordination is best vested in a powerful central agency.

Attempts to calculate adaptation spending are well-meaning but misguided



- ▶ Adaptation and development are often inseparable joint outputs of investments, policies and programs.
- ▶ The Bank's system tracks "spending on activities that include some explicit attention to adaptation benefits." This is not the same as "spending on adaptation".
 - Risk of over-counting by counting full cost of activity.
 - Risk of under-counting by missing activities that build resilience but don't necessarily look like explicit adaptation.
 - Tracks inputs, not results.
- ▶ Adaptation labeling risks misallocating resources.
- ▶ A better solution: focus on outcomes and measuring resilience.



Recommendation: climate risk management

Develop reference guidelines for incorporating climate risk management into project and program design, appraisal, and implementation.

- ▶ Not meant to be rigidly prescriptive
- ▶ Guidance on when to worry, what tools to use:
- ▶ The challenge is widely shared; Bank Group could convene scientists, industry experts to formulate approaches

Recommendation: anticipatory adaptation



- ▶ Population growth and movement is a major contributor to climate risk exposure (IPCC)
- ▶ Act now to promote spatial patterns of settlement and land use that reduce exposure to climate risk
- ▶ Focus on land use planning for:
 - Urban coastal areas
 - Floodplains
 - Estuaries
 - National biodiversity strategies

Recommendations: towards a learning agenda



Learn faster, offer better products, and improve strategic focus by:

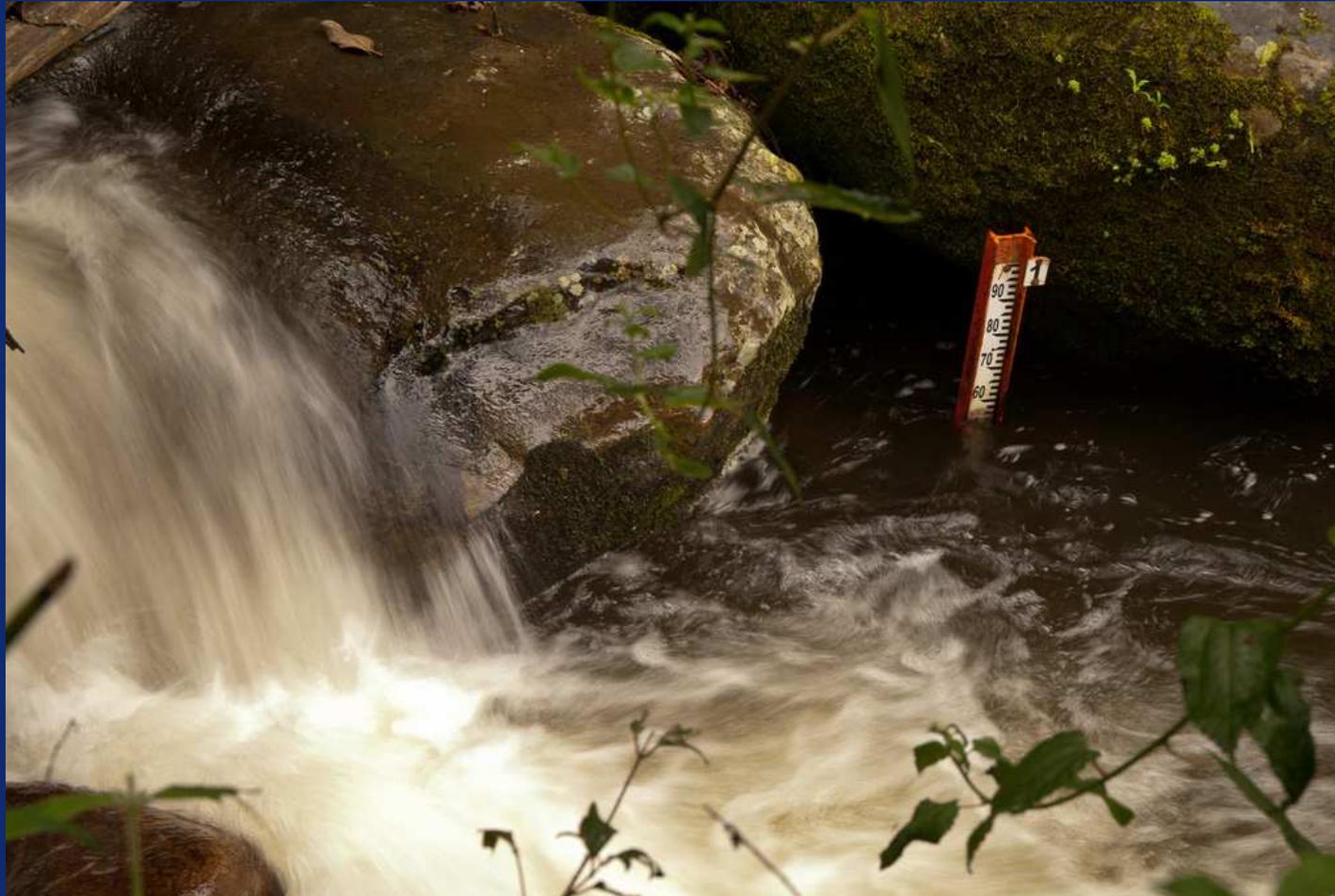
- ▶ Developing and piloting territorial and national-level measures of resilience outcomes and impacts for inclusion in an improved results framework
- ▶ Better assessing the costs, benefits, sustainability, and impact of activities with presumed resilience benefits

Ways forward: Track national progress towards resilience



- ▶ Measures of institutional capacity
 - Agricultural research and extension service performance
 - Hydromet system performance and use
- ▶ Direct measures of household resilience
 - Sensitivity of household consumption to weather shocks
- ▶ Biophysical measures of resilience
 - water consumption
 - recurrent flooding
 - Population and infrastructure exposed to storm surges and floods

Please visit ieg.worldbankgroup.org
to read the report. Thank you



Promoting and measuring resilience at the household level



- ▶ Nicaragua *Atencion a Crisis* Program provided small grants to rural households for business investment
- ▶ Rigorous randomized control trial evaluation
- ▶ Household income increased 8% compared to controls
- ▶ Recipients were completely insulated against drought shocks – while control groups suffered
- ▶ Take-aways:
 - *This doesn't look like a stereotypical 'adaptation project' – but it measurably boosted resilience*
 - *Resilience is measurable by tracking household responses to shocks*
 - *No meaningful way to allocate expenditure between 'poverty reduction' and 'adaptation'*

Ways forward: Learn from project experience



An inspirational example: the Sujala (Karnataka Watershed) project

- ▶ M&E costs integrated into project
- ▶ Real-time feedback led to improvements in efficiency and in targeting benefits to women and landless.
- ▶ Demonstration of 24% income gains, plus environmental gains, led to scale up and replication of project
- ▶ Bottom line:
 - Costs are manageable (Bank spends \$600m/year on knowledge!)
 - Techniques are known
 - Benefits are large