Climate Risk Adaptation and Insurance in the Caribbean

Making Weather-Index Microinsurance Work for Vulnerable Individuals

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October 08, 2013
Kingston
Climate Risk Adaptation and Insurance in the Caribbean

Project Consortium
- MCII at UNU-EHS: coordination, research, evaluation
- Caribbean Catastrophe Risk Insurance Facility
- Microensure
- Munich Re

Donor
- International Climate Initiative of the German Federal Ministry for the Environment, Nature Conservation, Nuclear Safety (BMU)

Supported by:
Federal Ministry for the Environment, Nature Conservation and Nuclear Safety
based on a decision of the Parliament of the Federal Republic of Germany
Our Goals

- Parametric weather index insurance solutions for low-income people
- Extend the financial safety net to previously excluded persons
- Find ways to catalyse sustainable adaptation to climate change
Target Countries

- Jamaica
- St. Lucia
- Grenada

Source: caribbean-on-line.com
Getting to Know Our Customer

Demand Study 2011

1. What coping strategies did low-income populations employ?
2. Was there a demand for risk transfer solutions?
3. Were they willing to pay?
4. How will the solutions be distributed?
### Coping Strategies and their Impacts

<table>
<thead>
<tr>
<th>Stressor Levels</th>
<th>Did Not Repair/Replace (%)</th>
<th>Other (Includes Waiting) (%)</th>
<th>Used Savings (%)</th>
<th>Borrowed (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>48.1</td>
<td>51.9</td>
<td>65.4</td>
<td>16.3</td>
</tr>
</tbody>
</table>

*Stressor Levels from Sebstad et al. (2006)*

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- Coping strategies often lead vulnerable populations **deeper into poverty**
- Over the last 30 years **1.5 million affectees** of extreme weather events in the eastern Caribbean
- In Jamaica, **96.3%** of the national population, **94.9%** of national territory, **96.3%** of GDP is exposed
- Total economic damage amounted to **USD 2.6 billion** caused by extreme weather in Jamaica
- Negative impacts on **economic growth** and **productivity**

**Poverty and social vulnerability are intertwined!**

Level of demand for insurance by country (in %)

Results:
Moderate demand: 33%
High to very high demand: 23%

Source: Lashley and Warner 2012
Risk Transfer Solutions for Loss and Damage

Livelihood Protection Policy
- Parametric product: Dual peril - wind-speed, rain
- Beneficiaries: Individuals
- Beneficiaries determine the level of coverage they require - product sold in units
- Effect: Provides liquidity to individuals in the aftermath of extreme weather events to protect livelihoods

Livelihood Resilience

Financial Resilience
- Protects individuals against weather extremes, climate shocks
- Provides recourse to coping strategies that could lead to poverty
- Improves access to credit, leading to financial stability in the long run
- Encourages behaviour shift from risk neutral to risk aware
Why is it important for agriculture?

- Increasing resilience of farmers against weather extremes, climate shocks reduces food insecurity, crop losses
- Accumulated losses from small scale, highly frequent, localized disasters undermine local development and competitiveness
- Improve access to credit, financial stability
- Encourage risk aware behaviour
Weather Index Insurance: How it works

- Spatial Resolution of the target country
- Wind speed and Rainfall
- Correlation analysis for wind, rain

Trigger and payout structure of the Livelihood Protection Policy
Antoine’s story

WHAT ANTOINE EXPERIENCED

- **Before the hurricane** Antoine did not recognize a hurricane was approaching and did not secure his greenhouses or other assets in time.
- **Immediately after** Two out of three greenhouses were lost, along with his sugarcane crop and livestock. He and his family barely escaped with their lives.
- **Medium-term** Antoine spent all of his savings on food and medicine for his family. He could not pay back his loan for the greenhouses and must resort to selling other assets and asking relatives for money.
- **Long-term** Antoine and his family ended up deeply in debt. The lost greenhouses were not replaced, making the family more vulnerable to subsequent hurricanes. These are likely to destroy more of their assets and lead them deeper into poverty.

HOW LPP COULD HAVE HELPED ANTOINE

- **Before the hurricane** Antoine receives an SMS warning of an approaching hurricane. He secures his property and leads his family to a safe location.
- **Immediately after** As he was able to secure his property only one greenhouse is lost. The hurricane exceeded the rainfall/wind speed threshold, so Antoine gets an SMS telling him he will receive a payout within 30 days.
- **Medium-term** With the payout deposited in his bank account Antoine can repay his loan and start rebuilding his livelihood without resorting to more desperate coping measures.
- **Long-term** Antoine is able to both repay his loan and rebuild the lost greenhouses with the payout he receives from his policy. This puts him and his family in a better position for when another hurricane inevitably strikes.
Conclusions

- Insurance can fulfill four functions to help meet the needs of low-income countries & communities
  - Assess and price risks
  - Reduce financial repercussions of volatility, create more certainty
  - Incentivize loss reduction & resilience building activities
  - Provide timely finance to recompense damage
Thank you!