Demand for Weather-related Insurance and Risk Management Approaches in the Caribbean

Project undertaken on behalf of the Munich Climate Insurance Initiative (MCII) and the German Development Corporation (GIZ)

Prepared by Drs. Koko Warner and Jonathan Lashley

Presented at the German Pavilion during COP-17 (Durban), 06 December 2011

MCII

Presentation Structure

MCII
Munich Climate Insurance Initiative

1. Project background
   - Aims and objectives
   - Methodology
2. Effects of weather-related disasters on the Caribbean Region
3. Background Information on the sample
4. Coping strategies employed by low income persons in the Caribbean with specific reference to those in Tourism and Agriculture
5. Implicit (need) and Explicit demand for weather-related microinsurance
6. Summation

Project Background

MCII
Munich Climate Insurance Initiative

Aims

- **Understand the needs of low income groups in managing loss and damage from weather-related events**
- **Inform policy discussions on loss and damage in the UNFCCC (United Nations Framework Convention on Climate Change) process with parameters for making certain tools like insurance effective in assisting low-income groups in managing loss and damage**
- **Use the results of the market demand survey to inform product design and implementation**

Methodology

- **Desk research on background issues in the Caribbean related to climate change, extreme weather events, poverty, coping mechanisms and microfinance**
- **Survey of 1059 low income persons in Agriculture and Tourism in Belize, Grenada, Jamaica and St. Lucia (farmers, fisherfolk, vendors, transport providers, beach workers, tour guides, hotel/restaurant workers and agricultural workers)**
- **Interviews with financial institutions and representative organizations**

Effects of weather-related disasters on the Caribbean Region

MCII
Munich Climate Insurance Initiative

- The Caribbean suffers an average of one major hurricane and numerous tropical storms per annum (Carby 2011)
- For countries affected by a disaster, tourist arrivals fall in that year by 2.8%. There is also a 13% reduction in growth rates which takes 3 years to recover to pre-disaster levels (Crowards, 2005)
- CCRIF (2010) estimates that losses in agriculture, housing and tourism could increase by 1% to 3% of GDP by 2050; 90% of which would be caused by hurricane damage
- Since 1981 for Belize, Grenada, Jamaica and St. Lucia, Hurricane/Flood damage amounted to US$5 billion, affecting 1.5 million persons

Background Information on the Sample

MCII
Munich Climate Insurance Initiative

- 1059 responses representing 96% of target sample
- 49% urban/suburban; 51% rural
- 64% of respondents were household heads
- 52% had completed at least secondary education
- Average household had 4 persons, with 2 persons working full-time
- Household expenditure per person was 113% of the poverty line (vulnerability is 125% of the poverty line)

Main Job	Males (%)	Female (%)	Total (%)
Agriculture/Fisheries	39.4	16.8	30.5
Vendor	12.9	43.9	25.1
Catering	4.7	8.0	6.0
Hotel/Restaurant Worker	4.8	11.1	7.4
Taxi	17.0	0.5	10.5
General Services/Other	21.1	19.9	20.5

- 49% high/very high dependence on agriculture
- 41% high/very high dependence on tourists
- 14% highly dependent on both sectors
- Males more reliant on agriculture and females on tourism
- 69% were self-employed
- 61% of business were not registered

Coping Strategies in Tourism and Agriculture in the Caribbean: Survey Results (1)

MCII
Munich Climate Insurance Initiative

Experience of Extreme Weather Events

- 42% of the sample experienced some loss due to extreme weather (drought, flooding or wind damage) since 2000, with some experiencing multiple losses
  - 10% had experienced house damage due to flooding
  - 16% had experienced house damage due to high winds
  - 21% had experienced loss of customers due to a hurricane or tropical storm
  - 17% lost employment due to extreme weather
- The main ACTUAL coping mechanisms utilised from last event included using savings (36%), borrowing (12.4%) and governmental assistance (9%).
- Of concern: 23% did not repair or replace damaged or lost items
- In general the responses taken are considered medium level stressors (see next table)

Coping Strategies in Tourism and Agriculture in the Caribbean: Survey Results (2)

MCII
Munich Climate Insurance Initiative

	Grenada (%)	St. Lucia (%)	Jamaica (%)	Belize (%)	Stressor Level
Insurance Payout	4.8	1.5	2.9	8.6	Low
Used Savings	**45.7**	**96.2**	**65.4**	**34.5**	**Medium**
Used Remittances	3.8	3.1	9.6	1.7	Medium*
Found another job	10.5	6.1	0.0	12.1	Medium
Sold possessions	1.9	1.5	0.0	13.8	High
Government Assistance	**34.3**	**8.4**	**1.9**	**25.9**	**Medium***
Borrowed (informal)	7.6	10.7	16.3	13.8	Medium
Borrowed (formal)	7.6	10.7	0.0	**36.2**	**Medium**
Did not repair/replace	**22.9**	**59.5**	**48.1**	**24.1**	**?High?***
Other (includes 'waiting')	**9.5**	**0.8**	**51.9**	**6.9**	**?High?***
TOTAL	**148.6**	**198.5**	**196.1**	**177.6**	-

Stressor Levels from Sebstad et al. (2006).
Totals do not sum to 100% as multiple responses were allowed. High amounts over 100% indicates multiple coping strategies.
**Indicates that stressor level was not included in Sebstad et al. (2006) but inferred from other levels.*

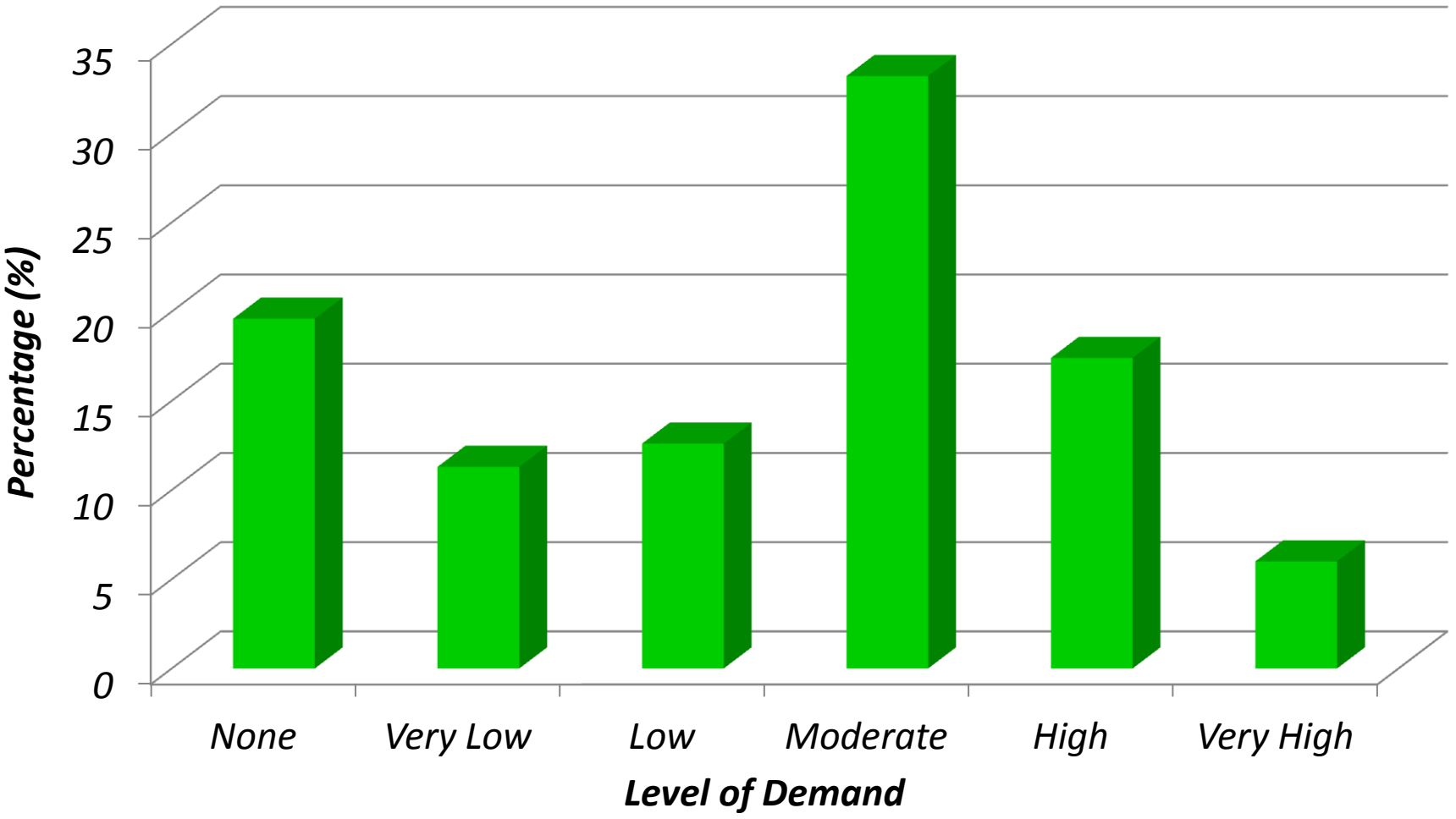
Demand for weather-related microinsurance in the Caribbean: Implicit Need

MCII
Munich Climate Insurance Initiative

Perceived Risk Level	House damage due to flooding	House damage due to high winds	Crop/ Livestock loss due to flooding	Crop/ Livestock loss due to high winds	Crop/ Livestock loss due to drought	Loss of customers due to storm	Loss of job due to extreme weather
At no risk	54.1	46.8	48.9	47.2	54.1	27.0	30.1
Small risk	26.0	21.8	9.5	9.9	9.6	15.9	18.1
Moderate risk	**9.8**	**13.6**	**6.2**	**5.5**	**4.2**	**13.9**	**12.7**
High risk	**6.3**	**12.0**	**7.5**	**6.8**	**2.1**	**23.2**	**20.4**
Very high risk	**1.7**	**2.4**	**2.0**	**2.3**	**1.0**	**9.7**	**10.0**
Not applicable	3.8	3.4	27.9	28.3	28.9	10.4	8.6
Number of Responses	*1019*	*1017*	*955*	*955*	*954*	*994*	*989*

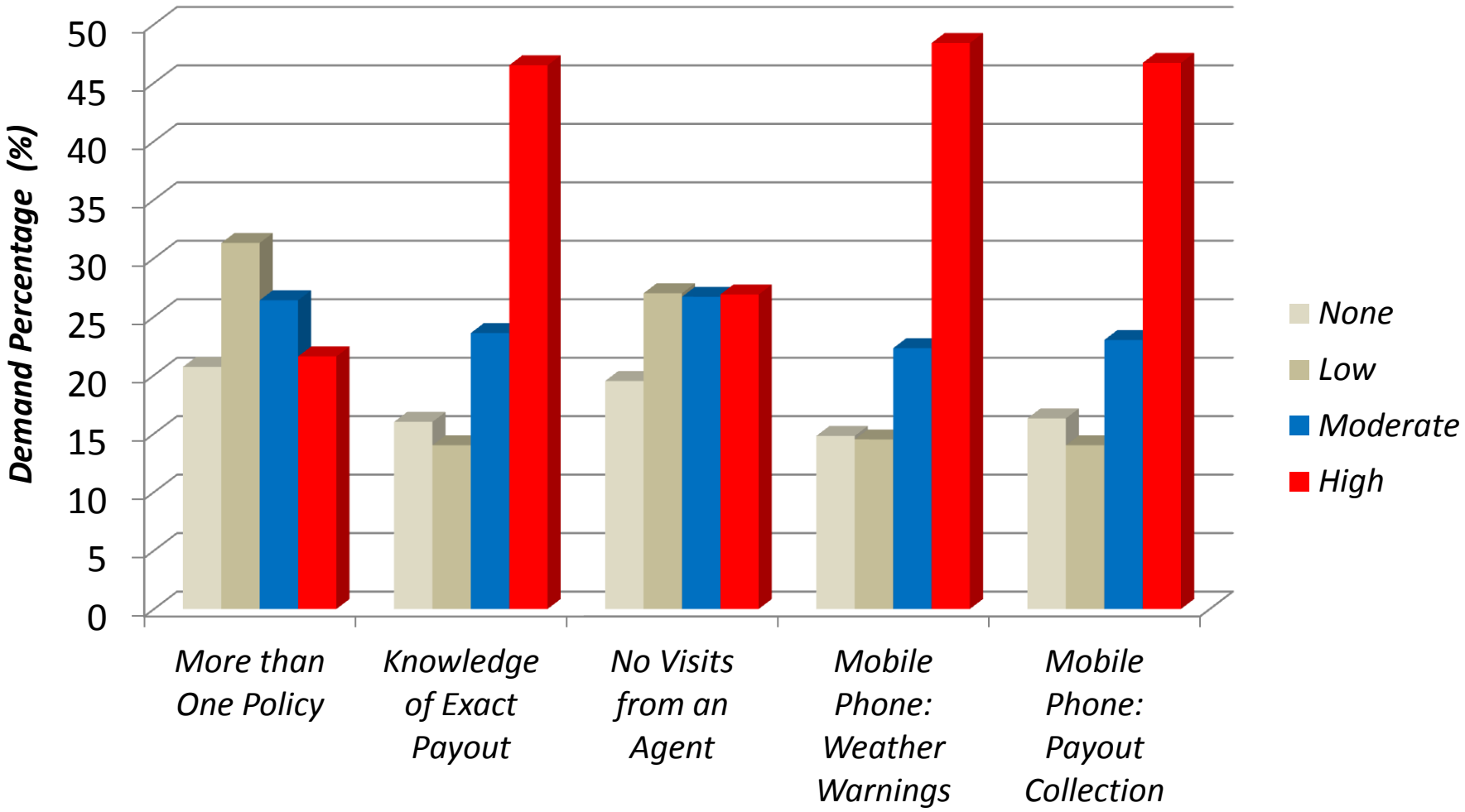
Demand for weather-related microinsurance in the Caribbean: Explicit (stated) Demand

MCII
Munich Climate Insurance Initiative



Demand for weather-related microinsurance in the Caribbean: Demand for Product Components

MCII
Munich Climate Insurance Initiative



Summation

MCII
Munich Climate Insurance Initiative

- The Caribbean is an at-risk region from extreme weather events
- Low income persons are experiencing losses due to extreme weather: 42% had experience a loss since 2000
- Coping mechanisms are mainly medium stressors, with a worrying number ‘waiting’ or ‘doing nothing’ as a response
- There is an implicit demand (need) for insurance: approximately 31% considered themselves at a high/very risk of losing income due to extreme weather
- High/Very High Explicit Demand for Weather Related Microinsurance by 23% of respondents

Next Steps

Design, market and implement a weather-based index insurance for low income persons in the region that adheres to the principles of microfinance:

Non-complex, innovative, easily accessible, and appropriate in terms of timeliness, both at it relates to their income streams and post-disaster needs.

Thank you!

MCII
Munich Climate Insurance Initiative

For more information, visit us at:

www.climate-insurance.org

info@climate-insurance.org

Dr. Koko Warner, MCII Executive Board Member
c/o United Nations University Institute of Environment and Human Security (UNU-EHS)
UN Campus, Hermann-Ehlerstr. 10
53113 Bonn, Germany
Tel: +49 228 815 0226, Fax: +49 228 815 0299