



InsuResilience

Solutions Fund



Beneficiaries and Sustainability of Rapid Response Reef Risk Financing in the MAR

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Supplementary Report:

InsuResilience Target Group

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Introduction

The study titled 'Beneficiaries of Rapid Response Reef Risk Financing in the MAR Region' (the Beneficiaries Report) identifies the beneficiary population of the proposed reef insurance programme and the number of people within that population who are poor and vulnerable according to national poverty lines documented and calculated by the MAR country governments.

However, in order to evaluate the potential impact of the proposed reef insurance programme for the purposes of applying for InsuResilience funding, it is required to identify a specific sub-set of the beneficiary group: the 'InsuResilience Target Group.' Unfortunately, the national poverty rates as calculated in country poverty assessments and by the statistical departments of the MAR countries do not use the same methodology or income levels as the InsuResilience methodology. Therefore, the short supplementary document describes the overlap between the poor and vulnerable people identified in the Beneficiaries Report and the InsuResilience Target Group.

InsuResilience Target Group

The InsuResilience Target Group is defined as the 'poor and vulnerable,' based on the MCII framework,¹ as follows:

- **Extreme poor:** people earning below PPP\$1.90 / day;
- **Poor:** people earning below PPP\$3.10 / day and above PPP\$1.90 / day; and
- **Vulnerable:** people particularly exposed to extreme weather events earning below PPP\$15 / day and above PPP\$3.10 / day.

Therefore, because the entire beneficiary population is particularly exposed to extreme weather events (as they are all coastal populations in areas at high risk to hurricanes), the relevant threshold to determine the sub-set who are in the InsuResilience Target Group is PPP\$15 per day.

Direct and Indirect Beneficiaries

The proposed reef insurance programme aims to fund rapid response to restore reefs damaged by hurricanes, rather than reimburse individual loss. An important aspect of reef insurance is that a prompt pay-out for rapid response can finance both the protection and growth of a living reef as well as mitigate the interruption of livelihoods of those dependent on reef services. To state this somewhat differently, it addresses the damage to assets from a storm, the economic loss from a suspension of the normal flow of services from the reef, and the related social costs of loss of livelihoods among a vulnerable population.

¹ MCII: Climate Risk Insurance for the Poor and Vulnerable. How to effectively implement the pro-poor focus of InsuResilience. Bonn, 2016.



Direct beneficiaries of such insurance are the fishing and tourism sectors. Individuals *might* seek to purchase hurricane risk insurance that gives a direct cash pay-out for lost earnings. Global experience, however, indicates that it is unlikely that many individuals, particularly low-income workers, would pursue this option. Nor would a direct cash pay-out to individuals likely have long-term benefits for reef health, and therefore, reef-related ecosystem services. Thus, the proposed insurance programme is envisioned to provide a pay-out for reef restoration rather than individual losses, therefore not providing a direct pay-out, but rather indirect benefits to workers and individuals from the demand for their services during a restoration effort and, perhaps more importantly, from long-term ecosystem service provision reinstated more quickly via reef restoration.

Therefore, the proposed insurance programme focuses on providing rapid response in the aftermath of damaging storm events, treating the Mesoamerican Reef as 'natural infrastructure,' which requires the same kind of post-event response as grey infrastructure would. The insurance programme benefits the users of this natural infrastructure in the same way that insurance of grey public infrastructure benefits users (communities, businesses, and governments). Along the same lines, beneficiaries of the insurance programme will be largely the same as the beneficiaries of the ecosystem services of the reef.

Indirect Beneficiary Population Profile

We have identified a total of **1,978,539 people** local to the reef sites, who are indirect beneficiaries of the proposed insurance programme. By country, this includes:

- **Belize:** 12,067 people (11,767 in San Pedro, and 300 on Turneffe Atoll);
- **Guatemala:** 129,666 people (81,078 people in Puerto Barrios, and 48,588 people in Livingston);
- **Honduras:** 1,835,511 people (by Department: 432,362 in Atlántida, 241,651 in Colón, 1,098,944 in Cortés, and 62,554 in Islas de la Bahía); and
- **Mexico:** 1,295 people (375 in the small fishing village of Xcalak, and 920 in the town of Mahahual).

The World Bank compiles income distribution information at the national scale for each of the MAR countries. Using the most recent national-level data available, Table 1 estimates the proportion of the beneficiary population within the InsuResilience Target Group.



Country	Proportion of national population with income below PPP\$15/day ²	Total Beneficiary Population	InsuResilience Target Group	Year ³
Belize	88.07%	12,067	10,627	1999
Guatemala	88.09%	129,666	114,223	2014
Honduras	88.03%	1,835,511	1,615,800	2017
Mexico	75.84%	1,295	982	2016
Total	88.03%	1,978,539	1,741,633	

Table 1 InsuResilience Target Group estimation using the most recent national income distributions for the MAR countries available on the PovcalNet, the online tool for poverty measurement developed by the Development Research Group of the World Bank.⁴

While the data available for Guatemala, Honduras, and Mexico is sufficiently recent to estimate the InsuResilience Target Group in those countries, in the case of Belize, more recent statistics found in the Country Poverty Assessment carried out in 2009 (although still 10 years old) can provide an update to the most recent World Bank numbers (10 years earlier still, in 1999).

Belize

A Country Poverty Assessment (CPA)⁵ was conducted for Belize in 2009⁶. This report included the *expenditure* distribution across Belize according to average spending per capita per annum and per day, summarised in Table 2. Each quintile contains 20% of the total population, where Q1 represents the population with the lowest expenditures.

	Q1	Q2	Q3	Q4	Q5	All
Average spending per capita [US\$/annum]	601	1,013	1,487	2,220	5,058	2,077
Average spending per capita [US\$/day]	1.65	2.78	4.07	6.08	13.86	5.69

Table 2 Per capita expenditure distribution for Belize.

² 2011 Consumption PPP.

³ Most recent year of data availability.

⁴ <http://iresearch.worldbank.org/PovcalNet/home.aspx>

⁵ CPAs have been undertaken throughout the Caribbean since 1995, following the Caribbean Development Bank's decision to target more of the benefits from its development programme to the poor. The majority of CPAs are executed by the Caribbean Development Bank with financial assistance from the Department for International Development of the United Kingdom, the Canadian International Development Agency, the United Nations Development Programme, the World Bank and Inter-American Development Bank.

⁶ By Halcrow Group Limited, Decision Economics, Penny Hope Ross, and the Belize National Assessment Team, funded by Government of Belize and Caribbean Development Bank, 2010. 2009 Country Poverty Assessment Final Report.

http://sib.org.bz/wp-content/uploads/2017/05/Poverty_Assessment_Report_2009.pdf



The InsuResilience threshold of PPP\$15/day is US\$6.75 in Belize, according to World Bank computation (using 2011 consumption PPP).

Therefore, the average spending of Q1-Q4 are below the InsuResilience threshold. As a conservative estimate, though, with 60% of the population spending an average of less than US\$1,487 per annum / US\$4.07 per day, we can estimate that out of the 12,067 beneficiaries of the reef sites in Belize, at least 7,240 of them are in the InsuResilience Target Group (Table 3).

Total beneficiary population	12,067
Updated (conservative) estimate of the InsuResilience Target Group population	7,240

Table 3 Beneficiary population of the Belizean reef sites.

Therefore, even using this conservative estimate of the InsuResilience Target Group in Belize, the total beneficiary population of the reef sites for all the MAR countries includes an estimated 1,738,245 people in the InsuResilience Target Group (Table 4).

Country	Proportion of national population with income below PPP\$15/day ⁷	Total Beneficiary Population	InsuResilience Target Group	Year ⁸
Belize ⁹	(at least) 60%	12,067	(at least) 7,240	2009
Guatemala	88.09%	129,666	114,223	2014
Honduras	88.03%	1,835,511	1,615,800	2017
Mexico	75.84%	1,295	982	2016
Total	(at least) 87.85%	1,978,539	1,738,245	

Table 4 Revised InsuResilience Target Group estimation.

⁷ 2011 Consumption PPP.

⁸ Most recent year of data availability.

⁹ Belize numbers are drawn from the 2009 CPA.

