UNFCCC Expert Meeting on Adaptation for Small Island Developing States (SIDS)
Part I - Caribbean and Atlantic Ocean SIDS

Session 4: Risk management and risk reduction
Roundtable on Insurance

"Insurance Coverage in Caribbean SIDS & Implications for Adaptation to Climate Change"

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Introduction: Insurance - A well-established mechanism for loss mitigation and risk transfer

- Less than one-fourth (1/4) of all losses resulting from natural disasters around the world are insured.
- The distribution of natural disaster insurance is heavily in favour of developed countries. The United States, United Kingdom and Japan amount to about 55 per cent of the total coverage.
- Asia, with many developing countries, and which represented half of all the damages caused by natural catastrophes and two thirds of all the casualties from catastrophic events in the last years, accounted for only 8 per cent of the insurance coverage for catastrophes purchased in the world market.
- The proportion of commercial and residential properties in the Caribbean which are covered by insurance are significantly higher than in most developed countries, due to both the Caribbean's susceptibility to natural disasters, and its tourism industry and facilities.
- Net reinsurance premiums written by the world's top 40 reinsurance groups amounted to $120.7 billion in 2003, the latest data available. Out of that total, according to Standard & Poor's, German reinsurers wrote the most business, at $43.5 billion, or 36.0 percent. U.S. companies wrote $25.2 billion, or 20.8 percent and the Swiss wrote 15.4 percent, at $24.6 billion. Six other countries accounted for the remainder.

Introduction: Insurance - A well-established mechanism for loss mitigation and risk transfer

- The Caribbean is highly dependent on the reinsurance market. Due to the Caribbean's high risk exposure and losses over the years, very few indigenous insurance companies have developed significant capital bases to retain more risk. As a result, the insurance industry is still very reliant on large international reinsurers in transferring risk.
- International reinsurance companies take up to 80% of the premiums generated within the Caribbean.
- When there are unrelated catastrophic losses in other areas (*Hurricane Andrew* 1992, *September 11*, 2001 terrorist attack) reinsurance rates in the Caribbean are pushed up dramatically, and the indigenous companies have no option but to follow suit or cut back on reinsurance cover -- which carries its own risks in the absence of adequate capitalization.
- Hurricanes — even those associated with large losses — have no statistically detectable effect on the insurance industry's return on equity, and are, by contrast, reduced to the status of random forces that drive the system in an unsystematic fashion.

Insurance Coverage In Caribbean SIDS: Damage from Natural Disasters & Effect On The Insurance Industry's Return On Equity

- New IPCC Report released on 2 February, said there was little doubt that global warming was "very likely" caused by human activity. It is anticipated that this news should help erase some of the scientific uncertainty, unreliability and suspicion, and improve the decision-making environment across the insurance industry.
- The insurance industry is the Caribbean is subject like all industries to changes in the international market. In 2002, rates increased on property insurance in the Caribbean by 40%, as a result of the losses the insurance industry had as a consequence of *9/11*. It should be noted however that no one in the Caribbean islands has been subjected to a terrorism attack, nor do policy holders in the Caribbean carry terrorism cover in their policies yet property insurance rates increased.
- Rates increase in the Caribbean, irrespective of whether the region has been affected by a disaster or not. Hurricane Andrew is a prime example of this, although there was no evidence that hurricane severity increased in the eastern Caribbean, or that properties were being built at lesser standards, insurance rates still soared.

Insurance Coverage In Caribbean SIDS: Damage from Natural Disasters & Effect On The Insurance Industry's Return On Equity

- Many poor, low-lying islands and coastal nations in the Caribbean, Indian, and Pacific Oceans depend on insurance to attract investment in their tourism sectors, which account for as much as 70 percent of their gross national products. These nations, highly susceptible to rising sea levels and storm surges, may see their real estate values drop as investment patterns shift in response to the reduced availability and affordability of property insurance.
- Heavy uninsured losses may also bring loan defaults, and because property is often used as security for loans, some experts fear falling property values could trigger a "credit famine" in local economies. As storms become more frequent and intense, phenomena like these may spread to other parts of the world.
- In 2005 the global reinsurance market bore about half of the $61.2 billion in hurricane-related damage.
- The major source of worry concerning hurricane risk exposure in the US is the fact that the size of coastal populations will grow faster than the overall population, thereby boosting the number of persons and the amount and value of property in the path of potentially destructive hurricanes – this worry extends to tourism expansion in SIDS.

Insurance Coverage In Caribbean SIDS: Damage from Natural Disasters & Effect On The Insurance Industry's Return On Equity

- Subsequent to Hurricane Ivan, ECLAC carried out, in association with other national, regional and international institutions, comprehensive assessments in six countries: Bahamas, Cayman Islands, Dominican Republic, Grenada and Jamaica:
- 76% of the total impact constituted actual physical damage to assets (houses, businesses, roads and bridges, utilities, schools, hospitals and clinics, etc.), which imply losses in terms of flows of more that US$ 1,454 million.
- By sector, most of the damage affected the social sectors (47.5%) and productive activities (both goods and services, 35.2%, namely tourism).
- Damage and losses to infrastructure and utilities such as electricity, water and sanitation, and transport represented 15.6%.
- The direct environmental impact, since most of natural resources are expected to recuperate, is 1.3%.

Insurance Coverage In Caribbean SIDS: Damage from Natural Disasters & Effect On The Insurance Industry's Return On Equity

- RMS has estimated $1-2 billion of insured losses in the Caribbean, with the majority of the loss occurring in the Cayman Islands.
- The overall loss to the reinsurance market from these events will be similar in size to the loss that Hurricane Georges developed for reinsurers operating in the Caribbean. While none of the Hurricanes have individually caused a large reinsurance loss, the aggregation of losses is impacting the results of reinsurers that are active in the Caribbean.
- The market is currently quoting various types of covers. Several insurers operating in the Caribbean impacted by Hurricane Ivan and Frances are quoting back-up or third event covers. Particularly affected are companies with multi-island exposures. In some cases both first and second event limits have been utilized. This is creating need for additional mid-term purchases in an unfavorable market.
- The market terms and conditions in the Caribbean are greatly affected by what happens in the Florida market place. Despite the significant insurance loss, the reinsurance component was relatively small.

SIDS Case Studies: Landmark Events in the Caribbean (Hurricane Ivan, 2004 - Grenada), Pacific (Cyclone Heta, 2004 - Niue) and AIMS (Tsunami 2004)

Grenada – Hurricane Ivan 2004
Population - 102,632

- 28 persons dead: most of the people who died were the most vulnerable – 70% of the deceased were over 60 years old.
- Grenada was particularly vulnerable on account of its economy being highly dependent on its natural resources: tourism and agriculture
- The impact in terms of GDP: 212%. Damage sustained:
- 90% nutmeg tress uprooted and 90% short-term cash crops wiped out
- 92% forest area and watersheds destroyed
- Tourism – significant damage to 70% of buildings and stocks; direct damage to sector was $EC17 million, indirect $EC4 million

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Grenada – Hurricane Ivan 2004
Population - 102,632

Damage sustained:

- Livestock sector - $9 million
- Fisheries sector - $5.7 million
- Housing Sector - $EC1,380 million - 28,000 houses or 89% of the country's housing stock of 31,122 houses damaged
- Education sector - $EC215 million Sporting Facilities - $EC18 million
- Historical sites - $EC7.9 million

SIDS Case Studies: Landmark Events in the Caribbean (Hurricane Ivan, 2004 - Grenada), Pacific (Cyclone Heta, 2004 - Niue) and AIMS (Tsunami 2004)

Grenada – Hurricane Ivan 2004

- 80% of Grenada Electricity Services Ltd (GRENLEC's) distribution system was damaged, while the main generating system was left essentially intact
- Prior to Hurricane Ivan, the economy was projected to
- Association of Grenada Insurance Companies (A.G.I.C.), it's member companies received a total of 5,184 claims as a direct result of Hurricane Ivan. Up to June 2005, 5,042 claimants have received settlement, totaling ECD416 million.

SIDS Case Studies: Landmark Events in the Caribbean (Hurricane Ivan, 2004 - Grenada)

Environmental Asset	Intensity of Damage	Extent of Damage	Functioning of Asset	Duration of Impact	Recovery of Asset
Mangroves	Medium	70%	Adverse Effect	Short to Medium term	Natural/ requires appropriate environmental protection measures
Sea grass beds	Minor	<10%	No Effect	Short term	Natural
Coral reefs	Minor	<10%	No Effect	Short term	Natural
Beaches	Major	>50%[a]		Short to Medium term	Natural
Forest and natural vegetation	Extreme	100%	Intense impairment of the functioning of the asset	Long term	Irreversible damage. Requires concentrated environmental protection measures.
Wildlife	Extreme	100%	Impairment of the functioning of the asset	Medium to Long term	Requires concentrated environmental protection measures
Fisheries[a]	Minor	<10%	No effect	Potential Medium to long term impact*	Natural

Table 34 Incremental Damage Intensity Rating of Environmental Assets[40]

SIDS Case Studies: Landmark Events in the Caribbean (Hurricane Ivan, 2004 - Grenada)

Sector	Direct damage	Indirect damage	Total
Agriculture	0.05	0.05	0.10
Manufacturing	0.02	0.00	0.02
Wholesale and retail trade		0.01	0.01
Tourism	0.31	0.10	0.41
Electricity	0.07	0.02	0.09
Water/sewage	0.01	0.00	0.01
Telecommunnications and broadcasting	0.08	0.06	0.14
Cable	0.01	0.01	0.01
Education	0.20	0.00	0.20
Transport	0.01	0.00	0.01
Housing	1.37	0.01	1.38
Health	0.01	0.00	0.01
Total	2.13	0.26	2.39

Table 38 Summary of direct and indirect damages In relation to of GDP

SIDS Case Studies: Landmark Events in the Caribbean (Hurricane Ivan, 2004 - Grenada), Pacific (Cyclone Heta, 2004 - Niue) and AIMS (Tsunami 2004)

Niue – Cyclone Heta, 2004
Population - 1300 (2004), 1650 (2003), 5000 (1960's) 20,000 live outside mostly in New Zealand

- 2 dead 200 homeless
- $NZ50 million damage - The value of the damage translates to $29,000 for each of Niue's 1300 people, or 200 years of annual exports.
- The capital city of Alofi, which took the brunt of the storm, was devastated as most of the commercial and financial areas were wiped out by the high winds
- Niue dependent on aid from New Zealand, which meets half of Niue's budget needs and funds essential public services such as health and education

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•Lord Liverpool hospital demolished.
•Country's only museum, Huanaki Musuem, destroyed - lost 90% of its collection.
•Nieu hotel which had hosted delegates of international meetings, $NZ40 million in damage.
•Niue is the world's largest raised coral atoll, measuring 259 square kilometres and standing 70 metres above the ocean – a Diver's paradise.
•The ocean rose over Niue's 30 meter high coral cliffs and came ashore, taking almost all of Alofi South, and other major portions of the west side of Niue, and destroying much of the rain forest. The storm was hundreds of miles wide.

SIDS Case Studies: Landmark Events in the Caribbean (Hurricane Ivan, 2004 - Grenada), Pacific (Cyclone Heta, 2004 - Niue) and AIMS (Tsunami 2004)

The Maldives – Tsunami 2004
Population – 359,008 (July 2006 est.) 80% of the area is one meter or less above sea level

Dead: 83; Missing: 25; Displaced: almost 20,500
•Total damages of nearly $0.5 billion, equivalent to some 62% of GDP. Over the past decade, real GDP growth averaged over 7.5% per year. As a result of the tsunami, the GDP contracted by about 3.6% in 2005.
•About 100,000 people, or a third of the population severely affected
•Of the 198 inhabited islands in the archipelago, 53 suffered severe damage, and 10% of the islands were totally destroyed.
•Schools, clinics and pharmacies were destroyed in some 50 islands. According to the National Disaster Management Centre 64 schools, 30 health centers, and 60 island administrative facilities need to be reconstructed or rehabilitated. In total, more than 5,000 buildings were damaged.
•79 islands had no safe drinking water and 15% of the water systems destroyed or contaminated.
•Tourism sector – Accounts for 20% of GDP; and more than 60% foreign exchange receipts; out of the 87 resorts, 19 were severely damaged and had to be closed down, while 14 others suffered major/partial damage.

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Population – 359,008 (July 2006 est.) 80% of the area is one meter or less above sea level

- For the damaged resorts, preliminary estimates of the cost to rebuild was around $100 million.
- While some of the physical damage will be covered by insurance, it was discovered that in many cases there were limits for natural disasters which fall short of replacement cost, insurance caps and other clauses which limit the amount of insurance payment received.
- Replacement values stated in various policies were also be undervalued. It was estimated that about 50% of the physical damage was covered by insurance. Most policies also cover business interruption while a resort is not operating, however, they will generally not cover cash flow losses related to market conditions or the overall decline in visitor arrivals once the hotel is operational.

CONCLUSION

•The state of Climate Change science and what it tells us – SIDS need to review the most recent IPCC Report (4th Assessment)

• The implications for SIDS - high vulnerability must be reduced if we are to meet the challenges of climate change and sea level rise.

•The three cases of natural disasters in SIDS, in 2004 – which we believe are the harbingers of things to come – amplifies the cost to SIDS.

•Two complimentary ways in which we can reduce vulnerability – building our resilience – effective insurance coverage of agriculture, property and infrastructure; and ensuring sustainable development of the natural resources – implementing rather than mentioning the BPOA and The MIS, by our governments.

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