Climate Change in the Pacific

Middlebury Institute of International Studies at Monterey
April 2, 2019
Science Speaks 2018 – Need for Urgent Action on Long Term Issues

Impacts of climate and natural disasters continued in 2018

- Economic cost of natural disasters was $320 b in 2017 and $225 b in 2018
- Wildfires (California, Greece), Floods (Kerala India, Nigeria, Japan, N. Korea), Heatwaves (Pakistan, Spain, Armenia, Japan, Oman), Drought (Horn of Africa, East/Southern Africa), Hurricanes/Typhoons (US, Philippines)

Climate change and natural resource degradation will have a negative impact on poverty, jobs and economic growth

Over next 10 years:
- 10% reduction in GDP from loss of biodiversity and ecosystem services
- Loss of 72 m full time jobs due to heat stress
- 100 m more people in poverty from climate related impacts
- Loss of 3% of GDP per year from air pollution in India
- Loss of productivity caused by a hotter world is estimated to cost the global economy 2 trillion dollars

Over next 30 years:
- 140 m people forced to move to less vulnerable places (climate migrants)

2018 Science Speaks

IPCC report, US climate assessment, UN Gap report, Global Carbon Project

- Negative impacts of climate change already felt; current path less sustainable than we thought; window to avoid severe negative effects closing rapidly and significant low-carbon transformation is required.
- Global carbon emissions reached an all-time high in 2018, rising 2.7% after an increase of 1.6% in 2017.
- Earth’s oceans have warmed more than previously thought, with impacts on sea levels and storm intensity.
The Pacific is one of world’s most vulnerable regions to natural disasters and climate change
Pacific Island Countries face extreme risks

Building resilience is essential for poverty alleviation and prosperity

Average Annual Loss from Disasters/GDP

Based on reported disaster damages - Natural Hazards
UnNatural Disasters (World Bank)

Based on modeled annual losses from cyclones, earthquakes and tsunamis (PCRAFI)
Key Challenges

A high exposure to natural disasters….

Compounded by development trends….

And exacerbated by climate change…
Hidden Challenges
An ambitious set of targets for 2025

- Doubling 5-year investments to $200 billion, $100 billion direct finance from the World Bank (IBRD/IDA), and $100bn of combined direct finance from IFC & MIGA and private capital
- Increasing systemic impact in countries with support for their NDCs

IBRD/IDA

- Elevating climate actions for mitigation in key sectors, supporting:
  - Generation, integration, and enabling infrastructure for 36 GW of renewable energy;
  - 1.5 million GWh-equivalent of energy savings through efficiency improvement;
  - 100 cities to achieve low-carbon and resilient urban planning & transit-oriented development;
  - Integrated landscape management in up to 50 countries, covering up to 120m hectares of forests.
  - Risk screening: 100% of projects screened for climate risks

  - Carbon Pricing: Applying a carbon price to projects in high emitting sectors,
  - Greenhouse Gas Disclosure: Disclosing GHGs emissions

IFC:

- Offshore Wind: Convening a working group to offer advisory services to governments on structuring first tenders
- Battery Storage: Doing upstream work to reduce regulatory uncertainty
- Task Force on Climate-related Financial Disclosures: Disclosing climate risk using TCFD guidelines

MIGA

- Committing to use Derisking products in support of the WBG climate target
- Supporting new guarantees for Climate Change Adaptation and Mitigation: 60% of Projects in FY18 supported climate activities of which 75% supported renewables

No upstream oil and gas after 2019
- WBG @ One Planet Summit, 2018

Action Plan on Climate Change Adaptation and Resilience

- Direct adaptation climate finance to reach $50 billion over FY21–25, double what was achieved during FY15-18
- Provide early warning systems and hydrometeorological data to prepare 250m people in at least 30 countries for climate risks;
- Support 100 river basins with climate-informed management
- Build more climate-responsive social protection systems;
- Support 20 countries to respond early to climate and disaster shocks.
- Incorporate adaptation and climate risks in IFC’s Anticipated Impact Measurement and Monitoring System

The Plan will also support countries to mainstream approaches to systematically manage climate risks at every phase of policy planning, project design, investments, and implementation.
- Helps countries and cities build resilience against catastrophic climate events
- Provide access to early warning systems to 100 million people in low-income countries and small island states by 2021
- Produces Thinkhazard.org, an open-source tool which facilitates screening project locations worldwide for eleven natural hazards
Assessing and Managing Residual Risk
Disaster Risk Financing and Insurance
Pacific Catastrophe Risk Assessment and Financing Initiative
## Pacific Island Countries Nationally Determined Contributions

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<tr>
<th>Mitigation Priorities</th>
<th>Adaptation Priorities</th>
<th>Cross-Cutting Priorities</th>
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<td><strong>EE</strong> (Cook Islands, Fiji, Kiribati, Marshall Islands, Nauru, Palau, PNG, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu)</td>
<td><strong>Coastal &amp; Marine Resilience</strong> (Cook Islands, Fiji, Kiribati, Nauru, Solomon Islands, Tonga, Vanuatu)</td>
<td><strong>Forests &amp; LUCF</strong> (Cook Islands, Kiribati, Nauru, PNG, Solomon Islands, Tonga, Vanuatu)</td>
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<td><strong>Water</strong> (Cook Islands, Kiribati, Nauru, Solomon Islands, Vanuatu)</td>
<td><strong>Agriculture</strong> (Cook Islands, Kiribati, Nauru, Solomon Islands, Tonga, Tuvalu, Vanuatu)</td>
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<td><strong>Energy, general</strong> (Cook Islands, Kiribati, Marshall Islands, Micronesia, Nauru, Palau, PNG, Solomon Islands, Tonga)</td>
<td><strong>Infrastructure Resilience</strong> (Fiji, Kiribati, Nauru, Solomon Islands, Tonga)</td>
<td><strong>Budgeting</strong> (Fiji)</td>
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<td><strong>Sea transport and shipping</strong> (Marshall Islands)</td>
<td><strong>Area- and Community-Based Adaptation</strong> (Kiribati, Solomon Islands, Vanuatu)</td>
<td><strong>Climate Information</strong> (Fiji, Kiribati, Nauru, Vanuatu)</td>
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<td><strong>Waste</strong> (Cook Islands, Marshall Islands, Palau, Solomon Islands, Tonga, Tuvalu)</td>
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<td><strong>Transport</strong> (Cook Islands, Fiji, Kiribati, Marshall Islands, Micronesia, Palau, PNG, Solomon Islands, Tonga, Tuvalu, Vanuatu)</td>
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Robust coastal and risk modelling to design and implement 50-year protection of key infrastructure assets serving Tarawa

Using local governance structures to support communities in 14 islands to install rainwater harvesting tanks and plant 35,500 mangrove saplings on 9 islands

Community engagement with 54 customary land owners for groundwater infiltration galleries (‘horizontal wells’) with 200-year design life

Delivering pressurized 24/7 clean water supply in three zones in Tarawa; used geocoordinates-based app to provide addresses for 500 households for billing and repairs

UAVs used for topographical survey to design new water network

**Kiribati.** One of the most vulnerable countries in the world to climate change and its impacts: sea-level rise, storm surge, coastal erosion and inundation, salinization of groundwater.
Strengthen early warning systems and climate resilient investments in shoreline protection to provide immediate and effective response to crises.

Timely and actionable hazard forecast and warning messages.

Strengthened institutional capacity of National Disaster Management Office to respond to disasters.

Coastal vulnerability assessment for Ebeye and Majuro, strengthen coastal risk management and coastal protection including major coastal resilience investment in Ebeye.

Strengthen community involvement in the planning, implementation and evaluation of early warning and shoreline protection.

Republic of the Marshall Islands. Most of the 1,000 Islands, spread out over 29 narrow coral atolls in the South Pacific, are less than six feet above sea level — and few are more than a mile wide making the country extremely vulnerable to the impacts of climate change.
Thank You