2017 DECEMBER EDITION

# THE COWRIE

THE SIDS TIMES MAGAZINE

## Climate Smart Zone

Caribbean Leaders Launch Ambitious Plan to Create the World's First Climate Smart Zone

## Resilience

Building Caribbean Resilience

## COP23

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## Waste Management

Better Waste Management for More Resilient Communities, Livelihoods and Ecosystems

SIDS Unit
Division for Sustainable Development
UN-DESA

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# CHIEF'S CORNER

## Was the "COP23 Loss & Damage Outcome" sufficient for SIDS?*

It has been cold on the East Coast, and in the Northern Hemisphere generally. In fact, it snowed in New York last week and its threatening to do so again as I write this. The temperature has since been fluctuating making the process of choosing the appropriate attire to be worn for the day, a very tricky affair. No such problem in this corner however, for we can only send out warm greetings and we do trust that all is good wherever you are. Thank you kindly for taking time to glance through the pages of this, the second edition of the "Cowrie" SIDS Time Magazine.

This edition has been dedicated exclusively to covering issues and themes relating to climate change, in particular Loss and Damage. This is in recognition and acknowledgement of the services rendered by one of our very own Small Island Developing States (SIDS), the Republic of Fiji, who in November 2017, assumed, as the first SIDS ever, the Presidency of the twenty third Conference of the Parties to the United Nations Framework Convention on Climate Change (COP23).

At COP23, the SIDS Unit, Division for Sustainable Development of UNDESA and UNDP provided direct technical assistance to the Fiji Presidency. Was the "COP23 Loss & Damage Outcome" sufficient for SIDS? As someone who had the benefit of observing the evolving nature of negotiations on the issue of Loss & Damage from a COP Presidency Team perspective at COP23 and being privy to the reasons and motivations behind the differing Parties positions on the matter, and as a former Lead Negotiator for the Alliance of Small Island States (AOSIS) and Chair of the Group of 77 & China, with a certain degree of experience and professional interest on the progressive development of this subject in the UNFCCC process, I will have to answer the above question with an "absolute but unfortunate yes".

"Absolute" because without such a compromised outcome representatives of Small Island Developing States (SIDS) would have run the risk of returning home from Bonn with nothing but thumbs to suck; "unfortunate" because SIDS will have to once again, as they have done for the past two or more decades, regroup and continue to persevere in their fight to elevate the issue of Loss and Damage from a non-issue (as it is now) to a technical one and eventually to a universally accepted notion, meriting political recognition and deserving of concrete economic actions and re-actions.

When the AOSIS plenary formally inquired of the President of COP23 on his positions on Loss and Damage, he indicated that they were the same as what was being advocated by AOSIS, i.e. for a COP23 Decision, making Loss and Damage a permanent agenda item in both of the Subsidiary Bodies (SBs), and thus elevating the issue to be regularly considered at the political level of the UNFCCC discussions. He also gave assurances that he wouldn't stand in the Group's way during the negotiations and would, cast his shadow of support from a distance.

Citizens, friends and supporters of SIDS, including those who have been following and participating in the negotiations on Loss and Damage for decades

were in my view, justified in expecting that more should have been done by Fiji as the first ever SIDS's President of COP. But as the President said to AOSIS, given the nature of his responsibilities and obligations to all Parties, on the issue of Loss and Damage, he was bridled.

As negotiations evolved, it was apparent that partners were resolutely opposed to the inclusion of Loss and Damage as a permanent Agenda Item. Even the compromise suggested by the Developing Countries for the establishment of a technical expert group was also rejected. Settlement was later found in the one-off Suva Expert Dialogue "to explore a wide range of information, inputs and views on ways for facilitating the mobilization and securing of expertise, and enhancement of support, including finance, technology and capacity-building, for averting, minimizing and addressing loss and damage" during the next meeting of the SBs in May 2018. The outcomes of this will inform a technical paper on financial resources for Loss and Damage that will be prepared as part of the review of the WIM in 2019.

Finally, "yes" because the compromised outcome found at COP23 provides a ray of hope, not only for SIDS but for all humanity. Loss & Damage is real and it is an issue that needs to be addressed in a holistic and accommodating manner by all Parties. The direction to which the discussion on Loss and Damage is heading under the UNFCCC process is in my view, in line with the spirit of the Paris Agreement. Loss and Damage must not be derailed by impatience or by the them and us posturing. Its effect and frequency is simply far too devastating and economically debilitating for our own good. SIDS must not lose hope. They, as with other member states have a deadline of 15 February 2018 to submit views to inform the Warsaw International Mechanism (WIM) Excom Report. The WIM will be reviewed in 2019, and SIDS must now aspire to ensure that by then, partners, relevant scientific institutions, organizations and the whole world, is in a position to advance this issue together.

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**Views expressed herein are Mr. Navoti's own personal observations and are not attributable to or reflect the views of the SIDS Unit, the Division for Sustainable Development or UN-DESA*


*MINUSTAH Military Personnel Assists Hurricane Victims. Credit: UN Photo/Marco Dormino*

# Opening Remarks by the Under Secretary-General, Mr. Liu Zhenmin, delivered at the COP23 Loss & Damage Side-Event

USG Mr. Liu Zhenmin/ UN Photo

*"Excellency – the President of COP23, Hon. Mr. Frank Bainimarama, Prime Minister of Fiji;*
*Excellency – Hon Mr. Paweł Salek, State Secretary for Climate of Poland, incoming President of COP24;*
*Excellency – Mr.Thoriq Ibrahim, Minister of Environment and Energy of the Republic of Maldives, Chair of the Alliance of Small Islands States (AOSIS).*
*Excellency - Ms. Fekita 'Utoikamanu, Under-Secretary-General OHRLLS*
*Distinguished Colleagues*
*Excellencies*
*Ladies and Gentlemen.*

*It is indeed my greatest pleasure and honour to welcome you all to this very important event. We are gathered here today to have a frank and free discussion on the issue of Loss & Damage and its potential impact on State's Implementation of the 2030 Agenda.*

*This Side Event was intended to be a demonstration of our commitment, focus and continued political emphasis on the issue of Loss and Damage. It highlights the need for and serves to encourage all stakeholders, in the spirit of the Paris Agreement, to address the issue of Loss and Damage in a more focused and coherent manner. Additionally, the Event is also intended to underscore the potential adverse impacts of Loss and Damage on the implementation and achievement of the Agenda 2030 including its relevant Sustainable Development Goals (SDGs).*

*Article 8 of the Paris Agreement provides the legal basis for long-term action on loss and damage and anchors the Warsaw International Mechanism to the Agreement. This Article, as we know, also clarifies that action on Loss and Damage shall be cooperative and facilitative and be undertaken in coordination with competent bodies inside and outside of the UNFCCC structure and it also clearly outlines possible fields of cooperation in a non-exhaustive list.*
*In addition to Article 8, I also recall Decision 1/CP21 of COP21 which requested the Executive Committee of the Warsaw International Mechanism to:*

*• establish a clearinghouse for risk transfer that serves as a repository for information on insurance and risk transfer, to facilitate the efforts of Parties to develop and implement comprehensive risk management strategies;*
*• develop recommendations for integrated approaches to avert, minimize and address climate-related displacement; and*
*• clarifies that the inclusion of loss and damage in the Paris Agreement does not provide any basis for liability.*

*While we commend the efforts to date of the Executive Committee, we all know that a lot remains to be done.*

*Excellencies*

*The ambitious, universal and transformative 2030 Agenda for Sustainable Development adopted in September 2015 and its 17 SDGs and 169 targets is complex and requires political will and the involvement of the-whole-of-government, all stakeholders and the whole-of-society for it to be implemented. The importance of national mainstreaming of the SDGs cannot be over emphasized as it is critical to have national ownership from the outset.*

*In many vulnerable countries, including SIDS, despite genuine efforts and plans by many governments to mainstream the SDGs into their national development plans, there is a realisation that potential disruptions caused by climate induced Loss and Damage, by extreme and slow onset events, has real likelihood to derail or completely inhibit their good intensions.*

*The impacts of Loss and Damage result in major social, economic and environmental setbacks, hindering the efforts of vulnerable countries in achieving the SDGs. Amongst the multiple potential scenarios of climate induced Loss and Damage, extreme weather events can destroy infrastructures such as water-treatment plants and wastewater plants, hindering water treatment and releasing raw sewage, and thus undermine the ability to reach SDG 6, while leading to flourishing diseases and epidemics sought to be avoided in SDG 3. Recent Hurricanes in the Caribbean and in the United States are glaring examples that such a scenario is plausible, as several wastewater plants were either overwhelmed or damaged and released millions of gallons of raw sewage.*

*Distinguished Colleagues*

*This Event is timely, because quite frankly, there is a swirling and an increasing volume of desire, from amongst the most vulnerable, urging, that we at this Conference and in future, must show leadership and provide clear direction on the issue of Loss and Damage.*

*I know that your officials have been intensely negotiating on this Item for the past two weeks. I hear that Parties, in a spirit of compromise, have agreed on a series of issues and procedures that ensures your discussions on Loss and Damage will continue to be advanced in future Conferences. This is a positive development, officials must be commended for their flexibility and accommodation. Quite frankly, the stake is too high, simply to be dictated by short term consideration. Loss and Damage is a present and long-term danger that we must address together. We are all potential victims here.*

*I once again, warmly welcome all participants and our distinguished speakers. I thank you."*

*USG Mr. Liu Zhenmin at the COP23 Loss & Damage Side Event/ UN photo*

# ACCOMPLISHEMENTS FROM COP 23

## STATEMENT FROM ATTORNEY-GENERAL & MINISTER RESPONSIBLE FOR CLIMATE CHANGE ON ACCOMPLISHMENTS FROM COP23

### The Fijian Government Press Release*

**EIB Water and Wastewater Infrastructure Partnership**

The European Investment Bank (EIB) partnered with the Fijian Government to fund a water and wastewater investment programme to better protect water infrastructure against natural disasters in Fiji and strengthen the resilience of water distribution and wastewater treatment. EIB and the Fijian Government signed a $75 million loan agreement to support the project.

**Drua Insurance Incubator**

The Pacific Climate Finance and Insurance Incubator – known as the Drua Incubator – will bring together leaders in finance, investment and insurance to develop and "incubate" transformational and scalable financial and insurance products that meet the specific requirements of Pacific Small Island Development States. The Government of Luxembourg has agreed to provide initial funding of €1 million euros for the initiative.

**Climate Vulnerability Assessment**

Word Bank carried out a Climate Vulnerability Assessment (CVA) of Fiji to identify the scale of climate risks posed to Fiji to better inform climate adaptation measures. The CVA determined Fiji's annual losses due to extreme weather events could reach 6.5 per cent of GDP by 2050 and that an estimated $9.3 billion over the next 10 years is required to finance adaptation work across Fiji. The CVA will have a direct impact on Fiji's critical climate adaption work to ensure resources are allocated appropriately in vulnerable regions across the country.

**International Partnership for Blue Carbon**

Australia committed an additional $9.4 million towards the initiative to support efforts to protect and manage coastal blue carbon ecosystems in the Pacific, in partnership with Fiji and other Pacific Island Countries.

**2018 Talanoa Dialogue**

COP23 Presidency announced an inclusive and participatory process that allows countries, as well as non-state actors, to share stories and showcase best practices in order to urgently raise ambition – including pre-2020 action – in (NDCs). This is to enable countries to collectively move closer to the more ambitious Paris Agreement goal.

**Implementation Guidelines**

While important work remains to be done, COP23 made significant progress toward clear and comprehensive implementation guidelines for the Paris Agreement, which will make the agreement operational.

**Launch of Ocean Pathway Partnership**

The Fijian COP23 Presidency launched the Ocean Pathway Partnership to encourage the climate negotiations process to address the relationship between climate change and the ocean. This will consolidate existing work being done to create a coordinated effort among governments at all levels, existing ocean alliances and coalitions, civil society and the private sector to create a stronger link between climate action and a healthy ocean. This will be co-chaired by Fiji and Sweden, after leading the UN Ocean Conference in July.

**InsuRelience Global Partnership for Climate and Disaster Risk Finance and Insurance Solutions**

The German Federal Ministry for Economic Cooperation and Development (BMZ) contributed 110 million euros (US $125 million) to launch the Partnership to bring affordable insurance and other financial protection to millions of vulnerable people around the world.

**Launch of the Fiji Clearing House for Risk Transfer**

This new online resource will help connect vulnerable countries with the best available information on affordable insurance and solutions – tailored to their unique circumstances – that will allow them to better prepare for the risks posed by climate change.

**Finalisation of the Gender Action Plan**

Countries finalised the first-ever Gender Action Plan, which aims to increase the participation of women in all UNFCCC processes. It also seeks to increase awareness of and support for the development and effective implementation of gender-responsive climate policy at all levels of government.

**Finalisation of the Local Communities and Indigenous Peoples Platform**

This will provide direct and comprehensive means to give a greater voice to local and indigenous people in the negotiations and allow them to share their traditional knowledge and best practices on reducing emissions, adapting to climate change and building resilience.

## Historic Breakthrough in Agriculture

Countries reached a historic agreement first on agriculture that will help countries develop and implement new strategies for adaptation and mitigation within the sector, to both reduce emissions as well as build resilience to the effects of climate change

## Adaptation Fund

The Adaptation Fund was replenished with a total of US $93.3 million, exceeding this year's funding target by US $13 million.

## America's Pledge

A delegation of sub-national leaders led by Gov. Jerry Brown of California and former New York City Mayor Michael Bloomberg presented a report on the ongoing efforts by American states, cities, businesses and civil society to uphold the emissions reduction target of the United States under the Paris Agreement.

## Bonn-Fiji Commitment

Leaders gathered to officially adopt the Bonn-Fiji Commitment of Local and Regional Leaders to Deliver the Paris Agreement at All Levels, a pledge that signals their commitment to bring forward a critical shift in global development. The Bonn-Fiji Commitment highlights the pledge to raise collective ambition for climate action.

## Launch of the NDC Regional Hub

The NDC Partnership is establishing a new regional hub to support the implementation of NDCs in the Pacific. The Regional Pacific NDC Hub will be based in Suva, Fiji, and will provide expertise for developing regional solutions to mitigate global warming and enhance efforts by Pacific islands to adapt to climate change.

## Health Initiative for the Vulnerable

WHO, in collaboration with the UNFCCC and the Fijian COP23 Presidency launched a special initiative to protect people living in SIDS from the health impacts of climate change. Its goal by 2030 is to triple the levels of international financial support to climate and health in SIDS.

## First Open Dialogue between Governments and Non-Stare Actors

The Fijian COP23 Presidency presided over the first ever Open Dialogue between governments and non-state within the formal climate negotiations. Discussions were held surrounding how non-state actors can help countries design and implement more ambitious NDCs and how to better integrate NPS into the negotiations process.

## Expert Dialogue on Loss and Damage (the Suva Expert Dialogue)

Provides important space to raise awareness about the vulnerability of small island states. It will explore options for mobilising expertise, technology and support for the victims of climate change.

# Agreements on LOSS AND DAMAGE during COP 23

Loss and Damage is perhaps one of the most contentious issues negotiated in the climate change talks. Loss and damage is what results when global mitigation efforts (greenhouse gas emission cuts) are not enough to reduce the adverse impacts of climate change, and available adaptation measures are not viable options for addressing the magnitude of the impacts being experienced.

The 23rd Conference of the Parties (COP 23), having noted the concerns raised by Parties on the increasing frequency and severity of climate-related disaster that have affected many countries, including heatwaves, drought, floods, tropical cyclones, dust storms and other extreme weather events, as well as the increasing impacts associated with slow onset events, and the urgent need to avert, minimize and address these impacts, agreed to:

**1.** A five-year rolling workplan comprising 5 workstreams, including provisions for strengthening:

**a.** slow onset events, such as sea level rise and ocean acidification;

**b.** comprehensive risk management, including risk assessment and transfer (e.g. insurance);

**c.** non-economic losses, such as loss of land, culture, self, life;

**d.** human mobility, including displacement, migration and planned relocation (recall the case of Barbuda); and

**e.** action and support, where support refers to finance, technology and capacity building.

**2.** A one-off (Apr-May 2018) expert dialogue(Suva Expert Dialogue) focused on action and support for loss and damage to further strengthen work to be undertaken on sources and modalities of finance; this means that further to the work of the Executive Committee throughout the year (intersessionally, with meetings at least twice a year) and scheduled loss and damage events arising from decisions of COP 22, there will be no gap in loss and damage receiving focused attention in April, May, June session and at each COP, right up to the 2019 Review of Warsaw International Mechanism for Loss and Damage (WIM), that is expected to lead to recommendations to the governing body for strengthening the WIM

**3.** A window/conduit for establishing an Expert Group on action and support in the future; such an expert group is important in facilitating focused work on the action and support workstream through the use of experts that will extend the reach of the executive committee beyond its 20 members;

**4.** Provisions on mobilization of support, including a call to parties to make resources available for the work of the executive committee and its 5-year rolling workplan,

including its expert groups; and a call to relevant organizations to mobilize resources and tools to avert, minimize and address loss and damage; mobilization of funding could be through a wide variety of instruments, channels and partnerships that could come in the form of supplementary payments to the UNFCCC Trust Funds or through bilateral funding of specific activities or workstreams, in line with the five-year rolling workplan.

5. A call for collaboration and partnerships in the development and dissemination at all levels, of user-friendly information and communication products on averting, minimizing and addressing loss and damage issues of relevance to the regional and national context (e.g. addressing loss and damage associated with hurricanes or sea level rise for island nations);

6. Guidance to the Executive Committee to enhance efforts to ensure that information generated from its work is converted into user-friendly products, such as tools and methods, and material for training modules, with a view to enhancing the coherence and effectiveness of relevant efforts undertaken at the regional and nagional levels;

7. The already-established task force on displacement to take into consideration both cross-border and internal displacement;

8. The research community to strengthen cooperation and collaboration, including through partnerships with the Executive Committee and for research institutions and organizations to share data and key findings on slow onset events.

9. When updating the five-year rolling workplan, to consider cross-cutting issues & current, urgent and emerging needs related to extreme weather events & slow onset events.

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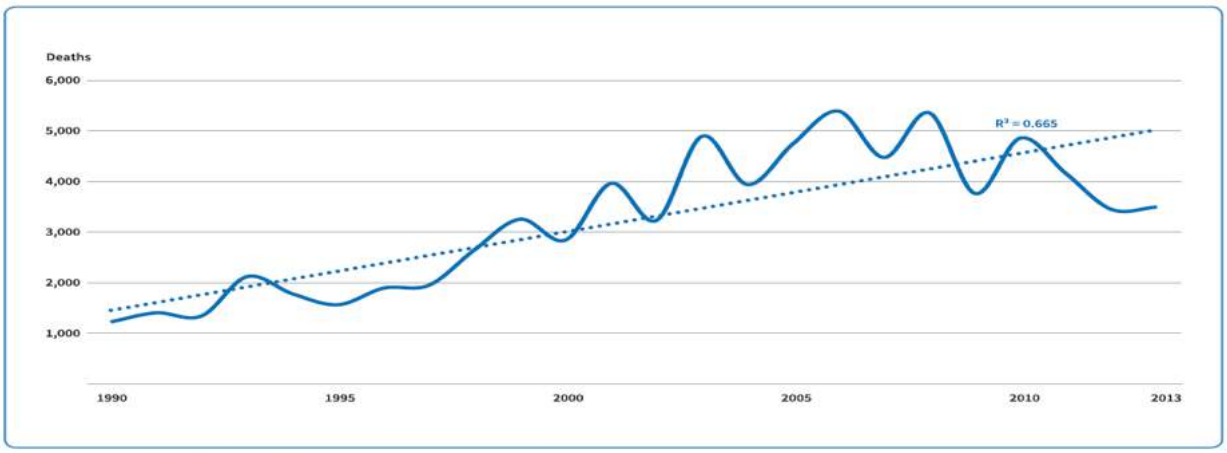
# Strengthening Early Warning Capacity in SIDS

The number of people at risk of losing their lives to weather and climate hazards is increasing in low-income countries and SIDS (see Figure 1)[1]. As it is the poorer segments of the population in these countries that are most affected, the impact of extreme climate events further hampers people's efforts to extricate themselves from poverty (UNISDR, 2015). This trend is both unacceptable and reversible.[2]

SIDS have far higher levels of risk relative to the size of their populations and economies.[3] In the case of tropical cyclones, Vanuatu has the highest casualty risk per million inhabitants in the world, with St Kitts and Nevis in third place. This uneven distribution of risk is also more broadly true for low-income countries where, for the same number of people exposed to tropical cyclones, casualty risk is approximately 200 times higher than in OECD countries (UNISDR, 2011).

More targeted research reveals a direct correlation between the intensity of hurricanes and the level of poverty. A variation in the wind intensity of a hurricane that affects a country in Central America leads to a decrease in total per-capita GDP growth of 0.9 – 1.6%, which in turn increases moderate and extreme poverty by 1.5%.[4]

*Figure 1 – Mortality linked to disasters in lower income countries and Small Island Developing States, 1990 to 2013*




*(Source: UNISDR with data from national loss databases.)*

To counteract the special vulnerability of SIDS to extreme climate events, much can and should be done. Having an effective early warning system in place is critical. Early warning systems undoubtedly save lives.[5] Warnings allow people to get out of harm's way and seek shelter from storms and floods, they enable authorities to reduce water levels gradually in reservoirs when flooding is expected or prepare medical facilities for larger caseloads of heatwaves.

Early warnings also enable people to take action to protect their assets and livelihoods by shuttering windows in the case of storms or adjusting the timing and type of crops planted when drought is expected. The World Bank estimates that improved hydrometeorological forecasting and early warning could save 13 billion USD per year in avoided asset losses; 22 billion USD per year in avoided losses to wellbeing more generally defined, and 30 billion USD in avoided productivity losses globally. Overall, every dollar invested has the potential to generate 3 USD worth of social economic benefits.[6]

Given their proven effectiveness in saving lives and reducing economic losses, early warning systems are a priority for SIDS. In their climate change Nationally Determined Contributions the great majority of SIDS have prioritized the strengthening of climate information and early warning systems. Strengthening an early warning system requires strengthening each of its four components:

These components must be seamlessly integrated and each component must be effective for warnings to succeed—a warning based on inaccurate information or that doesn't reach everyone who needs it, fails.

## CREWS Initiative

In response to demand, the CREWS initiative was launched at the 2015 climate change conference (COP21) in Paris, France, as part of the Climate Change Action Agenda. Its objective is to significantly increase the capacity of SIDS and Least Developed Countries (LDCs) to generate and communicate effective, impact-based, multi-hazard, gender-informed, early warnings and risk information.

As the only fund dedicated to early warning systems, CREWS maximizes its impact by building on existing investments. It also assists partner countries to access additional climate financing, such as from the Global Climate Fund, by enabling them to show results and to articulate the relevance of early warning systems in meeting their national development goals.

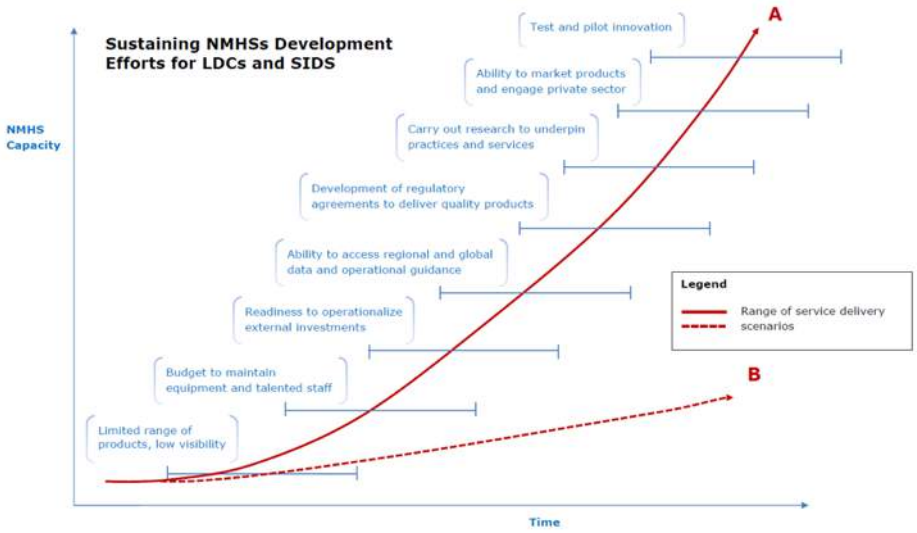
CREWS is currently supporting early warning improvements in Burkina Faso, Mali, Niger, and the Pacific (Fiji, Kiribati, Niue, Cook Islands and Tuvalu, with some services extended to Vanuatu, Samoa, Tonga, the Federated States of Micronesia, Solomon Islands, Palau, Nauru, Marshall Islands and Tokelau). Activities will soon be launched in the Democratic Republic of Congo and Papua New Guinea. Regional projects are also being finalized in the Caribbean and West Africa, including a stocktaking of early warning needs in the Caribbean after the 2017 hurricane season.

Country and regional projects are implemented with the support of international partners who provide technical assistance and capacity development in a variety of ways, including the twinning of institutions (i.e. between two or more National Meteorological and Hydrological Services) and by leveraging the expertise of regional and international institutions (See Figure 2). The World Bank and its Global Facility for Disaster Reduction and Recovery (GFDRR), the World Meteorological Organization (WMO) and the UN Office for Disaster Risk Reduction (UNISDR) serve as implementing partners of the CREWS initiative, assisting the selected recipient countries and regional organizations in the design of the projects and providing implementation support.

Australia, France, Germany, Luxembourg and the Netherlands contribute to the pooled trust fund and provide oversight to CREWS operations through the CREWS Steering Committee. The initial financing target is USD 100 million by 2020. The budget, as of 2017, is USD 30 million. Now is the time to align resources to support SIDS in strengthening their early warning systems to save lives and livelihoods.

For more information, please visit www.crews-initiative.org

*Figure 2 – Strengthening capacity of National Meteorological and Hydrological Services*




1 *UNISDR Global Assessment Report (GAR), 2015. According to the same report, in most countries the number of lives lost to hydrometeorological events is trending down. This is due in a large part to enhanced capacity to predict extreme events, alert exposed populations and reduce risk to future impacts (UNISDR, 2015).*

2 *CREWS, 2016: CREWS Investment Plan 2016-2020.*

3 *IPCC, 2012: Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation.*

4 *Ishizawa, Oscar A.; Miranda, Juan Jose. 2016. Weathering Storms: Understanding the Impact of Natural Disasters on the Poor in Central America. Policy Research Working Paper No. 7692. World Bank*

5 *David Rogers and Vladimir Tsirkunov identify some quantifications of lives saved by early warning systems in "Costs and Benefits of Early Warning Systems". UNISDR, GAR 2011.*

6 *Hallegatte, Stephane, Adrien Vogt-Schilb, Mook Bangalore, and Julie Rozenberg. 2017. Unbreakable: Building the Resilience of the Poor in the Face of Natural Disasters. Climate Change and Development Series. Washington, DC: World Bank.*

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# Self-Insurance Against Natural Disasters: Fiji's Early Pension Withdrawals Assistance[1]

*A building damaged by Winston. Photo taken by Alison Stuart (IMF).*

In 2016, Tropical Cyclone (TC) Winston stuck Fiji. Winston was one of the most intense storms ever to hit Fiji. It damaged infrastructure, houses and (cane and non-cane) agricultural production. It also cost livelihoods and lives. The combined value of damaged assets and production losses was about 30 percent of GDP. For individual residents, the biggest economic losses came from the damage to their houses. However, the path of the cyclone cut through mostly rural areas where property insurance coverage was very low. Those who either partially or completely lost their houses had to move out of their homes and/or bear rebuilding costs. The lack of available funds was a major challenge for most households hit by the disaster.

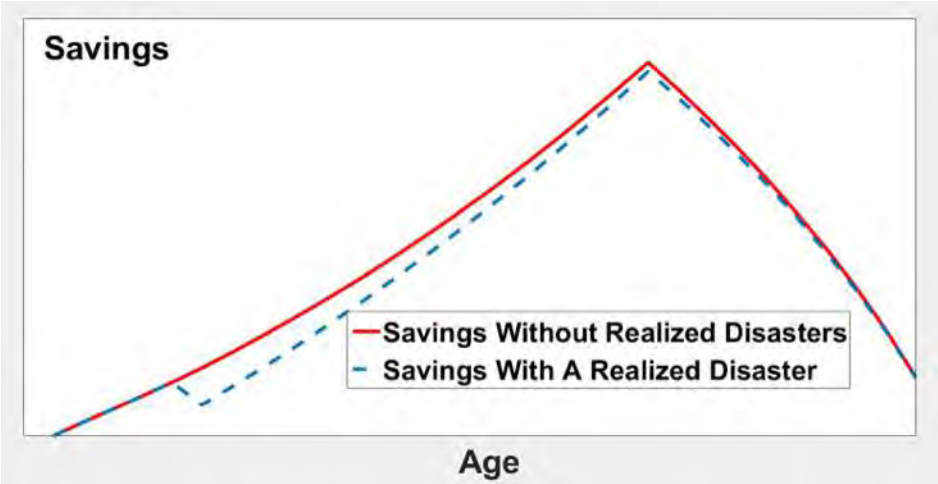
As a relief measure, the Fiji government, through the National Provident Fund (FNPF), allowed residents affected by TC Winston to withdraw up to F$ 6,000 (about US$ 2,900) under the FNPF's pre-retirement withdrawal facilities. The idea was to provide "the much-needed stimulus for economic activity and help rebuild confidence in the Fiji economy, by allowing FNPF members to help themselves and their families recover from the damage sustained from TC Winston" (FNPF 2016 Annual Report). By May, about F$ 275 million (2.8 percent of GDP) had been disbursed to 180,000 members who applied for early withdrawals.

The views on this policy were mixed. On the positive side, the new policy provided emergency funds to financially constrained households and hence mitigated the negative impact of Winston on household consumption. On the negative side, it raised the concerns that retirees would have lower pension revenue in the future. This reduction in future pension payments could harm the well-being of pensioners. Another concern was that for some households, the money withdrawn under the pre-retirement withdrawal facilities were not really used for intended purposes.

Overall, the early withdrawal policy could be welfare improving, as long as the future pension contribution rates can be adjusted accordingly to balance short-term emergency spending and long-term retirement needs.

To understand this, imagine there is a worker who receives a salary and decides how much to spend (and save) in each year. If she is lucky that there is no natural disaster in her life, her savings will follow the typical hump-shape path (the red line): she saves during the working age, and consumes her savings after retirement. If a disaster materializes, she would optimally choose to use some of her savings to avoid starving, and then gradually build up her savings again (the blue dashed line). If

***Fiji's pension scheme is a notional defined contribution scheme operated by Fiji National Provident Fund (FNPF). All employees in the formal sector are mandated to participate the pension scheme. Employees and employers pay mandatory monthly contributions (combines to 18% of their salaries) to FNPF. Collected contributions and the associated investment returns are credited to members' individual accounts. Upon retirement (age 55), members can choose to withdraw from their individual accounts through a lump-sum payment or annuity. Early withdrawals are generally disallowed unless there is a qualified life event.***




this theory were right, it would seem that in bad times the government could just simply allow pensioners to withdraw from their pension accounts at will. The erosion of pension savings would not be a concern because households would voluntarily save more in the future.

One big drawback to the argument above is that it assumes households are always rational enough to make the right financial decisions. In reality, however, households tend to undersave for retirement. This can happen for various reasons: myopia, inaccurate expectations on life expectancy or future inflation, lack of knowledge on financial planning etc. When households have an "undersaving" bias, allowing early withdrawals (even just up to F$ 6,000) from pension accounts will encourage households to over-spend their pension savings before retirement.

Does this "undersaving" bias of households apply to Fiji? The answer is likely to be yes, and it is supported by two pieces of evidence. First, the participation rates of the voluntary pension scheme (designed for the self-employed) have been very low; second, in 2016, over 95% of the retirees chose to withdraw their pension savings at the age of 55 in a lump-sum payment (versus annuity). Though they could be explained by other factors, both observations are likely to indicate that the mandatory contributions requirement and limitations on early withdrawals are critical in ensuring sufficient pension savings by the time of retirement.

So what is the next step? The one-off early withdrawal policy provided the much-needed emergency funds for Fijians at the cost of reduced pension account balance. Under laissez faire, the foregone pension savings would not come back because of households' undersaving bias. One possible solution is to increase the mandatory contribution rates going forward, so that the pension savings can be restored. That is, a one-off early withdrawal option in bad times followed with an increase in mandatory contribution rates in the next a few years (especially for middle or high income households) should be able to restore much the pension savings withdrawn right after Winston. ■

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*A construction site in Fiji.*
*Photo taken by Alison Stuart (IMF).*


*DRR and CC Experts meet in Bonn - DRR4NAP Expert Meeting 27-28 November 2017*

## Leveraging on the

# SENDAI FRAMEWORK

## to fulfill Article 8 of the Paris Agreement

The Sendai Framework for Disaster Risk Reduction is a road map which sets out the guiding principles and priorities for action to face the reality that more and more people are at risk to disasters than ever before. It is designed to reduce disaster losses, to reduce existing levels of risk and more importantly to include the consideration for future risks, thus binding together the disaster risk reduction (DRR) and the climate change (CC) agendas and communities.

It was the first framework of the 2030 global developments agendas. Other key frameworks adopted, including the Paris Agreement and the 17 SDGs, all acknowledge the importance of disaster risk management as an essential feature of sustainable development.

The inclusion of Loss and Damage into the Paris Agreement as an independent concept now provides us with a framework within which cooperation amongst the Parties can proceed in a more focused manner and also an opportunity for the climate change community to leverage on the actions carried out by countries in the implementation of the Sendai Framework.

The vast majority of major disasters are climate related and such events have doubled over the last 4 decades, stressing the importance that we work to ensure cohesion and coordination of the DRR and the CC agendas. One area UNISDR is focusing on to ensure this coordination happens are the 2020 targets which include the finalisation of the National Adaptation Plans (NAPs) as well as national and local disaster risk reduction strategies under Target E of the Sendai Framework (as already is the case in the Pacific with the development of JNAPs – Joint National Adaptation Plans). Another area is in the development of metrics for the Adaptation Goal in the Paris Agreement, contributing to ensure alignment with the indicators of the Sendai Framework, as has already been done with the SDG indicators, working towards an optimization in the number of indicators and forging synergies within and among sectors.

Regarding the NAP development process there is a need to identify opportunities for strengthening resilience, reducing vulnerabilities, and increasing the understanding and implementation of adaptation actions. In this regard UNISDR is finalising supplementary technical guidelines regarding the inclusion of DRR in the development of the NAPs (2020 Target). These supplementary technical guidelines were discussed at an Expert Meeting held last 27 – 28 November 2017 in Bonn (see photo) and will be launched at the NAP Expo next April 2018. Furthermore, over the 2018-2019 biennium UNISDR will work with countries (including SIDS countries) to ensure a closer coordination and coherence in the development of Target E and NAPs.

In our quest to ensure a closer working relationship between both agendas an emerging area to consider is the work carried out under the Loss and Damage. Indeed, there is a direct relationship between the Sendai Framework to Article 8 of the Paris Agreement which finally gives substance to the work of Loss and Damage including consideration for Early Warning Systems, Emergency Preparedness, slow onset disasters, risk transfer and national risk assessments and also resilience at the local level.

Regarding Loss and Damage, which some consider to be the "third pillar" of the climate action, alongside mitigation and adaptation, there is still the issue of funding, as unlike mitigation and adaptation – with their promised $100bn-a-year in climate finance – there are currently no sources of finance for loss and damage. This stresses even more the importance of the need to leverage on the work carried out in the implementation of the Sendai Framework, exploring DRR as a key common area, which includes:

a) The development of multi-hazard early warning systems (MHEWS) as agreed in Target G of the Sendai Framework as a contribution to Article 8's "Early Warning Systems";

b) Ensuring Enhancing Disaster Preparedness work already being carried out in line with Priority 4 of the Sendai Framework as a contribution to Article 8's "Emergency Preparedness";

c) The need to focus additionally on slow onset disasters, which is now part of the expanded mandate covered by the Sendai Framework, thus bringing the DRR community even closer to the CC Community;

d) The need to focus on Residual Risk, as further discussed below. This is the risk that cannot be reduced, retained or transferred and as we accumulate data on disasters we will have a better understanding of residual risk. Monitoring of the Sendai Framework will provide the necessary data in the national disaster loss accounting databases being developed to understand and measure this residual risk;

e) Leveraging on the work carried out by the DRR community regarding risk transfer as a contribution to Article 8's agreement to have in place risk insurance and other insurance solutions, such as the new InsuResilience Global Partnership launched during COP23;

f) The contribution of National and Local Risk Reduction Strategies as agreed in the 2020 Target E of the Sendai Framework to Article 8`s "National Risk Assessments", and;

g) Leveraging on UNISDR`s Making Resilient Cities Campaign which involves 3700 cities globally in the implementation of the Sendai Framework at the local level as a contribution to Article 8`s ensuring resilience at the community level.

Regarding "Residual Risk", the unfortunate reality is that there are some climate change impacts that cannot be adapted to, impacts that are so severe that they leave in their wake permanent or significantly damaging effects. Loss and damage of this kind within the climate change agenda can arise from extreme weather events, such as the loss of lives and property in a cyclone, as well as from slow onset events, like the complete disappearance of low-lying island nations. The intergenerational and trans-boundary aspects of the impacts of climate change brings a definite urgent need to ensure a political commitment in the implementation of the Sendai Framework to fulfil what has been agreed to by these same countries in Article 8 of the Paris Agreement and working towards ensuring that these residual risks are kept to the minimum possible.

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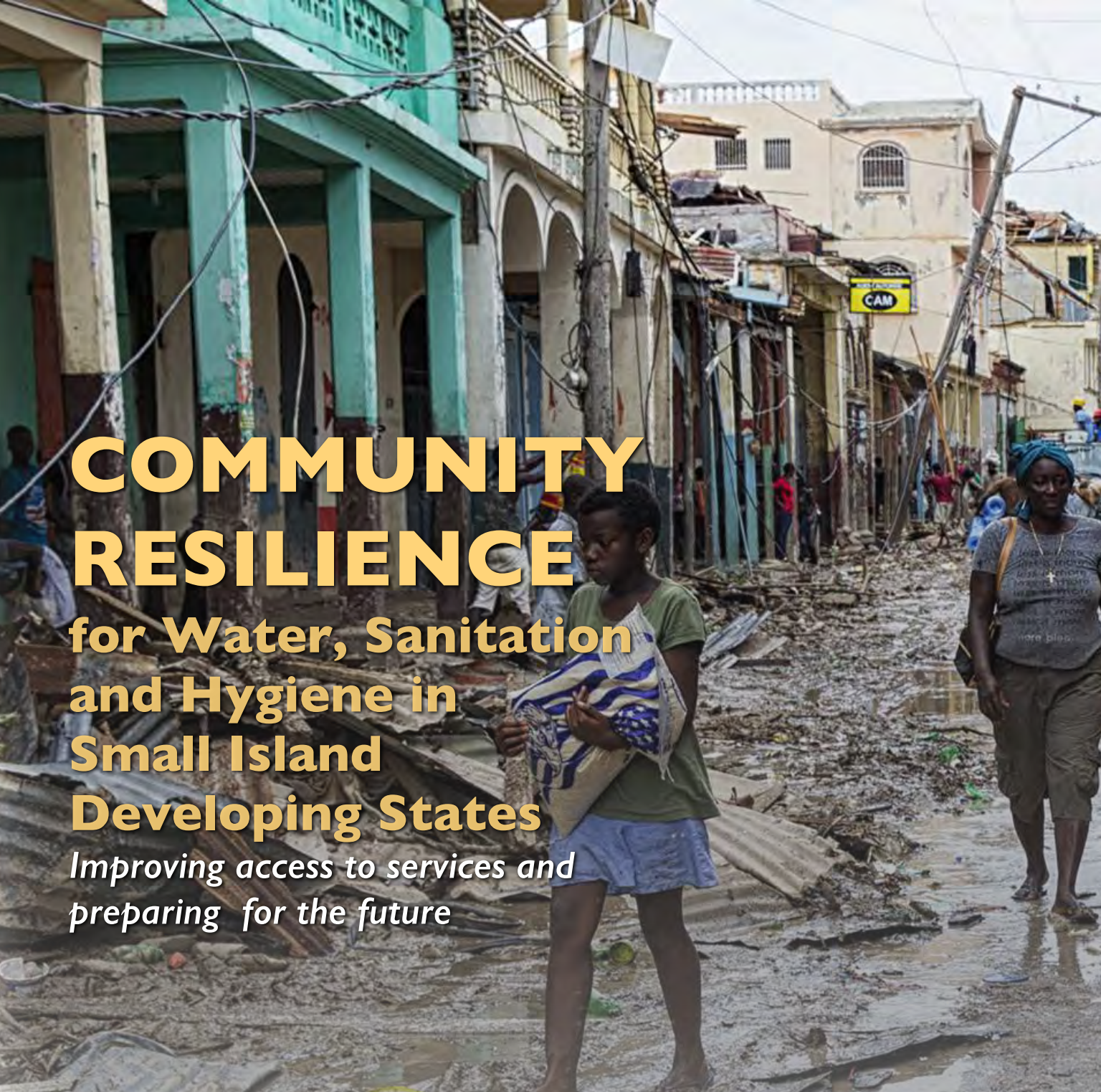

# COMMUNITY RESILIENCE

## for Water, Sanitation and Hygiene in Small Island Developing States

*Improving access to services and preparing for the future*

Pacific islanders in Fiji and Vanuatu are very familiar with the loss and damage associated with climate change. Within a period of eleven months, they experienced the full brunt of the two most powerful tropical cyclones recorded in the South Pacific Ocean.

Vanuatu was struck by Tropical Cyclone Pam in March 2015, then the most intense storm ever in the Southern Hemisphere, Tropical Cyclone Winston, struck Fiji in February 2016. The damage was extensive, resulting in the deaths of 60 people, and a combined cost of almost $2 billion USD over the two countries. To put this in perspective, the GDP for Vanuatu in 2017 was estimated at $773 million USD.

These devastating cyclones are only part of the increased struggles associated with climate change for small island developing states (SIDS). Rising temperatures, flooding, droughts, and rising sea levels will all have devastating impacts on the water resources that island communities depend on for their lives and livelihoods. As changes in climate will be amplified in the water environment, access to water, sanitation and hygiene (WASH) is increasingly at risk, as has been vividly demonstrated by Cyclones Pam and Winston.

*"If our global energy habits are the focus for mitigation, the way we use and manage our water must become the focus for adaptation"*

*Policy Brief 5, GWP, 2007*

UNICEF's latest publication "Thirsting for a Future: Water and Children in a Changing Climate [2]", highlights the critical impact of climate change on the health of children felt through additional risks upon the provision of WASH services. Changes in the water cycle not only impact the amount of water available to children for drinking and general wellbeing, but also impacts the quality of drinking water and restricts options for adequate sanitation.

SIDS are particularly vulnerable to these risks due to limited resources and lack of WASH services, especially in rural areas and remote outer islands. The WASH programme of UNICEF Pacific has been mainstreaming risk in their support to Pacific SIDS by increasing the resilience of communities to adapt to these changes whilst continuing to support increased access to basic water, sanitation and hygiene provision in the region. The 'WASH Resilience approach', which was initiated in Fiji and Vanuatu in the aftermath of the devastating tropical cyclones, focuses on increasing the capacity of the communities to manage risks and adapt to climate change. The programme aims to provide communities with appropriate knowledge and skills to prepare for and cope with disaster events, and supports the improvement of WASH infrastructure to satisfy daily requirements in communities and at schools and health care facilities.

The programme looks to achieve these goals by providing support to both national governments and community interventions. At the national level, UNICEF assists with the development of national implementation plans (NIPs), and national information systems to improve resource provision and monitoring. At the community level, the Technical Assistance Programme (TAP) builds capacity by training communities to use Drinking Water Safety and Security Planning (DWSSP). This training not only provides communities with the knowledge and skills to better manage their water and sanitation systems, but also generates a needs assessment that describes any infrastructure upgrades that are required to meet a community's water security. The completed DWSSP (and needs assessment) can then be used to apply for funds from a Capital Assistance Programme (CAP) to use for infrastructure upgrades. The approach has the dual benefits: improving the management of current water and sanitation systems by identifying, prioritizing, and treating existing risks (through the TAP); building a solid foundation for future infrastructure improvements (through the CAP).


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The WASH Resilience programme aims to improve the following outcomes:

1. Increase and improve community manag
– The Pacific region has one of the most highly dispersed populations in the world with rural co located on outer islands far away from capitals. This is compounded by highly complex water governance, due to a disconnect between traditional community and national administration practices and instruments. Management of resources are mostly undertaken at community level so appropriate investments must be made to enhance this capacity.

2. Inclusion of risk in national planning and management (NIP) – As shocks and climate change continuously stall the progress of WASH provision in the Pacific region, these effects must be considered and mitigated during interventions and support programmes. The WASH Resilience programme incorporates risk modelling to identify which communities are most at risk, focussing resource provision to those most in need, and undertake risk management of community water and wastewater systems through DWSSP.

3. Increased resources for building resilient communities at scale (CAP) – WASH in the Pacific is lagging far behind other regions in the world[3]. Addressing the current and future WASH challenges in the region requires significant scaling up, which will require funding. Relevant funding streams are becoming increasingly available through bilateral partners and global funding windows to tackle climate change (e.g. the Green Climate Fund).

During cyclone recovery efforts in Vanuatu and Fiji, UNICEF encouraged governments and humanitarian partners to adopt the DWSSP approach in order to build back better. Having proven the process, national governments are now keen to see a scaling of the programme. The approach facilitated prioritization of actions to assist those most in need and reach the most vulnerable. UNICEF Pacific is further aligning its programme to ensure communities get the support they need to adapt and achieve increased levels of resilience, as one of the most effective ways we can do that is by securing their access to safe water.

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*"It is far better to foresee even without certainty than not to foresee at all."*

*Henri Poincare in 'The Foundations of Science'*
*A pragmatic remark from one of the foundation builders of chaos theory*

*1 Both recorded as category 5 cyclones on the Saffir-Simpson scale.*
*2 Thirsting for a Future: Water and Children in a Changing Climate", UNICEF, 2017*
*3 At 30% for sanitation and 53% for drinking water, the Pacific population's access is lower than any other region in the world. A Snapshot of Water and Sanitation in the Pacific, UNICEF, 2016.*

# BETTER WASTE MANAGEMENT FOR MORE RESILIENT COMMUNITIES, LIVELIHOODS AND ECOSYSTEMS

## Debrief from UNDP COE's Technical Assistance Mission to Antigua

The loss and damage from the recent hurricanes in the Caribbean have intensified the sense of urgency for resilient communities, livelihoods and ecosystems of all SIDS. In short: to build back better.

The technical assistance missions offered to various SIDS by the UNDP Centre of Excellence for the Sustainable Development of SIDS is timely. The first mission, to Antigua & Barbuda, only one week after hurricane Irma had ravished the country, was welcomed rather than delayed. This series of missions to SIDS focus on building road maps for key areas of resilience from sustainable tourism to renewable energy, and in the case of Antigua: sustainable waste management. The COE has engaged sustainability experts from applied research firm TNO (www.tno.nl), Netherlands Organization for Applied Science Research to carry out the missions.

Antigua and Barbuda, like most islands, has a challenge with waste management as their landfill is overflowing and in need of a sustainable long-term solution. The TNO experts worked with local stakeholders to identify solutions and develop a roadmap towards addressing this challenge. The participants were inspired by case studies from other islands and the possibilities to collaborate with other islands in the region. The TNO team based the workshops on its experience and work in the broader Caribbean region. Mr. Kris Kats, Environmental and Waste Management Expert at TNO explained: "We have been working with islands over the past years to study solutions for waste management, business cases for re-use, and possible regional collaboration. The lessons learned from these efforts positioned us well to develop strategies that are sensitive to the island scale and cultural context."

Ruth Spencer, National Coordinator GEF in Antigua and key liaison for the mission explained the key challenges: "The focus of our discussions was on the Cooks Landfill, a location that started out as temporary 20 years ago for sewage disposal and storage, but is still used today. It is 15ft higher than it should be and located next to a wetland so that it has a negative impacts on watershed and the ecosystems."

Spencer continued: "Another challenge relates to the increasing number of illegal dump sites springing up all over the country which now requires an innovative approach relating to payments to truck owners for hauling waste. This is to ensure the waste does reach the designated areas and no shortcuts are being taken where it is dropped at illegal places. To solve this problem, payments should not be made in advance but only after, upon presentation of a stamped receipt. Thirdly, there is a challenge of reliable data. The experts advised us that the technology and approaches to manage our various types of waste depends on the size and scale of operations. This of course depends on the provision of often lacking accurate data."

Better waste management is one of the adaptation and mitigation goals in Antigua's NDC and it has committed to a Waste to Energy plant by 2025. The assistance from the COE helped to design a roadmap to reach these goals. One important paradigm shift to do so was that - upon reflection during the


*Figure 1*
*Kick-off COE's technical assistance mission to Antigua by TNO experts on waste management.*
*Figure 2*
*Field visit to recycling facilities in Antigua as part of the COE technical assistance mission.*

workshops - participants changed their perspective: waste should be seen as a resource, as having a value. One example is that all the organic and trees waste going to the landfill could be shredded and made into compost for building up degraded soils and providing more nutrients to increase water retention to mitigate the long dry and hot conditions. Many such opportunities are not being grasped and there is a need for supporting and scaling-up initiatives from the NGOs, local communities and the private sector in waste recycling and waste diversion driven by passionate and committed persons.

Antigua will now assess how best to obtain the necessary technical and financial support to roll out the resulting road map for sustainable waste management. With a committed group of stakeholders determined to make a difference and coming together to form a private sector group using their technical knowledge to push the process forward, Antigua will continue to seek expertise and guidance from technical experts and from practices on other islands. This will be one piece of the puzzle in making Antigua more resilient.

**About the UNDP Centre Of Excellence for Sustainable Development of SIDS**

The objective of the COE is to promote knowledge sharing among SIDS by identifying good practices in sustainable development and disseminating them through practical knowledge exchange mechanisms. One such mechanism is a series of technical assistance missions to SIDS, such as carried out in Antigua. Next missions will include Jamaica, Belize, Vanuatu, Seychelles and the Dominican Republic. Resilience is a core focus of the COE, and the announcement of additional funding for the COE by The Kingdom of The Netherlands at the recent CARICOM-UNDP pledging conference will help strengthen that focus. More information at www.SustainableSIDS.org.

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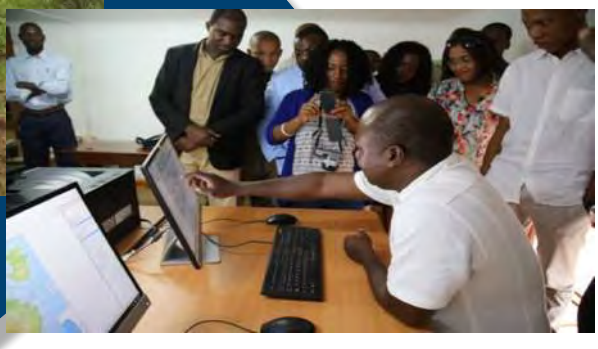

*Figure 1 Enhancing the capacity of national institutions to monitor extreme weather and produce weather forecasting. Figure 2., 3 and 4 Efficient and effective use of hydro-meteorological information for generating early warnings*

# Strengthening CLIMATE INFORMATION AND EARLY WARNING SYSTEMS

## in São Tomé and Príncipe

One of the adaptation measures to reduce the uncertainties of climate change impact in the Small Island of Sao tome and Principe is to strengthening climate information and early warning system (EWS) as it is expected that climate change will continue to unfold the frequency and intensity of climate related shocks and hazards. Therefore, developing project to improve climate and weather information and Early Warning Systems (EWS) is one way to adapt to a changing climate. Sao Tome and Principe is among the 11 countries that are part of the regional project on climate information for resilience development in Africa(CIRDA)

The objective of the project, "Strengthening climate information and EWS in São Tomé and Príncipe to support climate resilient development" aims at enhancing the capacity of national institutions to monitor extreme weather and produce weather forecasting and to establish an efficient and effective use of hydro-meteorological information for long term development plans and generating early warnings to end users e.g. institutions, farmers and fishermen

For São Tomé and Príncipe to improve the management of climate-related hazards it is necessary to improve the hydro-meteorological monitoring network and forecasting capacity; build skilled human resources to guarantee long-term sustainability of hydro-meteorological services; develop an efficient and targeted delivery system of climate information as well as the preparedness and responses capacity of CONPREC ( National Council for preparedness and responses to Natural disaster), the Coastal guards, the maritime environment sectors and Civil Protection sectors that includes the fire brigades. and improve ability of stakeholders to identify climate linked disaster risks/vulnerabilities to support decision making and sector planning. Therefore, overcoming barriers need pass through a realistic DRR assessment and establishment of an effective Early Warning System in São Tomé and Príncipe to respond to the existing: weak weather, climate and hydrological monitoring network to support Early Warning System; limited infrastructure, skills and

capacity to effectively produce accurate forecasts; weak capacity for warning issuing, dissemination and response; and absence of environmental databases and national framework for data sharing to support sectors development policies.

This responds to priorities and actions identified in the National Adaptation Programme of Action(NAPA) of São Tomé and Príncipe

As an adaptive measure the EWS project in Sao Tome and Principe also benefits vulnerable communities and the poorest segment of society, those who do not necessarily benefit from large protective infrastructure project.

Furthermore, improving the EWS also provides benefits for long term planning and helps NHMS and other institutions build capacity to service the EWS platforms of dissemination and responses

The project is focuses on strengthening the capacity of national and sub-national entities to monitor climate change, generate reliable hydro-meteorological information (including forecasts) and to be able to combine this information with other environmental and socio-economic data to improve evidence-based decision-making for early warning and adaptation responses as well as planning. The proposed project will be implemented at the country level by the lead Ministry, mandated to advance climate monitoring including management of climate data in full collaboration with other relevant line ministries who rely on the information for planning purposes (disaster management, fishery, agriculture, water, finance and planning etc). local authorities (district officers, municipalities, civil society (women and youth associations, NGOs, media, farmers' associations) and the private sector will all also be important stakeholders as end users and will be provided with the space and opportunity to contribute to the design of the project.

The enhanced capacity of national hydro-meteorological services (NHMS) and related environmental institutions to monitor extreme weather and climate change is an essential factor in adapting to changing conditions. Furthermore, these capacities will increase the ability of the national early warning network to forewarn of extreme climate events, strengthening both national and district capacities to complement other disaster preparedness systems that will ultimately help the most vulnerable populations. The goal is to have climate change information permeate the entire decision-making process. All components of an implemented EWS should eventually be able to function as an integrated system within—and sometimes between—countries. Finally, improving EWS will enhance the capacity of all appropriate national agencies to deliver early warnings in a timely and effective manner. The project is designed to help with risk reduction, improved safety, and increased awareness in disaster-prone and climate change-affected regions. The provision and enhancement of observation and monitoring technologies with data management center, EWS platforms and local committees for response to natural disasters will support vulnerable and equipment beneficiary communities in becoming more resilient. For this project, UNDP is the implementing agency and national partners of execution are the National Institute of Meteorology General Directorate of Natural Resources, National Council for Preparation and Responses to Disasters of São Tomé and Príncipe and Global Environment Facility (GEF). The finance of the project amounts to $4,000,000 and a total of $17,850,000 for co-financing and the source is Least Developed Countries Fund (LDCF).

As of 30th of June of 2017 Adasa, the providing services company to procuring and installing the equipment in the project at the closing of warranty period, has completed the supply of over 30 weather and hydrological stations system, as part of the early warning system being developed in São Tomé and Príncipe. This included the supply and commissioning of 2 synoptic weather stations, 14 agrometeorological stations, 12 hydrological automatic stations, two ceilometers, three data management centers, 3 lightning detectors, a sadis system and trainings of meteorologists, hydrologists, observers in Spain, Senegal, Mozambique and Portugal.. Mr. Laurent-Mascar NGOMA, Head of Unit of Environment & Sustainable Development of the United Nations Development Programme said "The project has increased the coverage of the national territory from 20% to 60%, being a decisive factor to provide the country with the necessary tools to face climate change and enhance the resilience of local farming and fishing communities."

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# MANAGING CLIMATE RISKS

## to reduce loss and damage in agriculture and food insecurity in Small Island Developing States

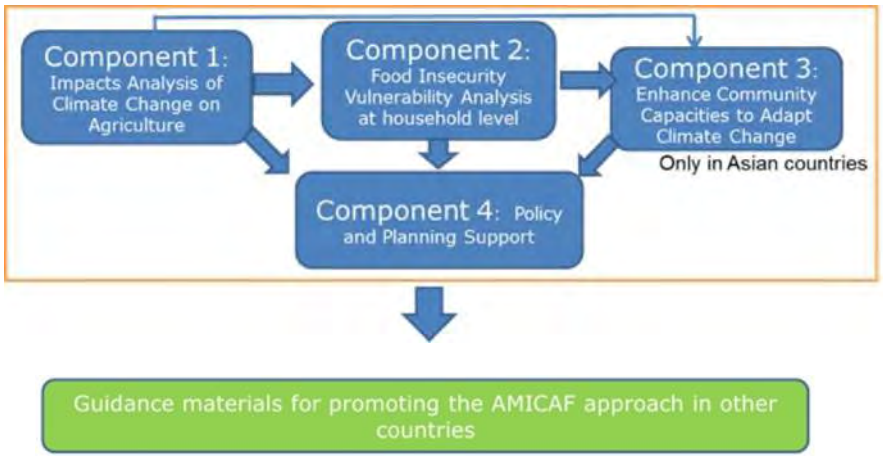
As last month's UN climate change conference, known as 'COP23', drew to a close, Prime Minister of Fiji and incoming COP23 President, Frank Bainimarama, laid out his vision to advance the Paris Agreement so that collectively, the international community speeds up climate action and increases ambition. He highlighted the particular vulnerabilities of Small Island Developing States (SIDS), made even more relevant in light of recent extreme weather events – from hurricanes and cyclones to erupting volcanoes - that hit islands from the Caribbean to the Pacific. Urgent action is needed to secure the future and food security of SIDS against the disproportionate effects of climate change.

The link between climate change's effects and FAO's mandate of achieving global food security and nutrition, and sustainable development, has never been so clear nor so urgent. Climate change undermines progress made towards zero hunger and climate variability raises the risk of disruptions to food supply and distribution. Addressing food security and inequalities in climate-sensitive areas and sustainable agricultural development are central to building resilient livelihoods of SIDS. Extreme events and food insecurity are directly interconnected and floods, droughts, hurricanes, cyclones and other hazards destroy agricultural, livestock and fisheries infrastructures, assets, inputs and production capacity, and affect markets impacting livelihoods.

The Global Action Programme on Food Security and Nutrition in Small Island Developing States proposes a twin-track approach is combining short and long term risks management in the broad context of sustainable development in SIDS. Numerous approaches and tools are available that could be assessed if applicable and feasible to be replicated in SIDS in both the short and long term. FAO, in partnership with the European research institutes, developed a web-based tool, Modelling System for Agricultural Impacts o f Climate Change (MOSAICC), to assess crop production systems, water and forest resources and the national economy under changing climatic conditions.

Of MOSAICC's five modules: Climate, Crops, Forestry, Hydro and Economy, three (Climate, Crops and Hydro) have been used in a FAO project, the "Analysis and Mapping of Impacts under Climate Change for Adaptation and Food Security (AMICAF)", which assesses climate change impacts on agriculture. AMICAF employs a multi-disciplinary assessment approach and its outputs support strategic planning, investments and decisions by national policy makers. The AMICAF framework consists of four components: assessment of climate change impact on agriculture; vulnerability analysis; enhanced capacities of vulnerable communities to adapt to climate change; and guidance in support of managing of climate risks and adaptation planning. All of which are part of the important comprehensive risks management approaches to reduce loss and damage and they can support recipient

*Figure 1. AMICAF Components*




MICAF started in the Philippines and Peru in early 2012. FAO partnered with the Department of Agriculture, other government agencies and academic institutions. Activities were completed in March 2015 and are currently replicated in Indonesia and Paraguay. The AMICAF Project evaluated the impact of climate change on rice (irrigated and rainfed) in 14 basins (3 GCMs and 3CC Scenarios) in the Philippines and analyzed the vulnerability factors of food security in rural households up until 2050 and found that[2]:

• Seasonal rainfall will increase in the Philippines with warming or increase in mean temperature is projected for all seasons. Extreme events are likely to increase in the period 2011-2040 (Component 1: Climate down scaling); there will be a positive net change in the yields from irrigated and rainfed rice (Component 1: Crop model);

• There will be an expected decrease in the yield of white corn (Jul-Dec) (Component 1: Crop model); regarding the discharge from basins in Luzon, an overall increase in baseflow and variability was found. In some areas of Mindanao and Eastern Philippines a decrease was found (Component 1: Hydro model);

• A general increase in variability due to higher peak flows was found for all seasons across GCMs and scenarios (Component 1: Hydro model);

• The increase in maximum temperature decreases income from farming and gardening (Component 2: Vulnerability analysis by CBMS);

• An extreme increase in rainfall decreases income (Component 2:Vulnerability analysis by CBMS);

• And no significant linear relationship was found between caloric intake and climate shocks (Component 2: Vulnerability analysis by FNRI).

The evaluation of the MOSAICC through the AMICAF shows its huge potential to build resilience, help countries plan for adaptation and manage climate related risks to reduce loss and damage. The MOSSAIC is strongly focused on capacity development through the dissemination of the tool that is installed and used in the countries by the countries.

FAO has been providing series of technical training workshops to develop local experts' capacities to run the model. In fact, MOSAICC is suitable for any country with data for 20 to 30 years of the historical crop yield (main crops), which is required to calibrate the model and to simulate crop yield. National and sub-national statistics for agricultural production should be sufficient. Building on the success of approaches and tools developed by FAO on building climate resilience and managing risks of communities through the MOSAICC in the Philippines and Indonesia, it is well worth assessing its suitability and feasibility to be replicated in Small Island Developing States.

*FAO*
*Contributors: Sile Obroin (OCC), Malia Talakai (CBC), Tina Farmer (DDN), Samson Fare (DDN), Ana Ocampo (ESP), Hiroki Sasaki (CBC) and Mariko Fujisawa (CBC)*

*1 FAO information on the MOSAICC. Accessed at http://www.fao.org/in-action/mosaicc/en/*

*2 FAO summary of AMICAF Project. Accessed at http://www.fao.org/in-action/amicaf/en/*

# The resilience of water supply - solar and rapid compact desalination

The majority of SIDS face a lack of natural fresh water resources. Being at the fore-front of climate change, combined with an increase on the demand side through population growth and the rise of tourism, results in potential water scarcity. Desalination is implemented to solve the water shortages, with its operational expenses driven by the tariffs of energy and with the general perception that desalination is only feasible at a large scale. With the high energy tariffs on our precious islands, desalination of seawater often becomes an expensive exercise. At the same time, SIDS often enjoy the natural soundtrack of the wind, an abundance of sunshine and 360-degree ocean views. This makes desalination powered directly by renewable energy a topic of increased interest, with a great potential for decentralized and small-scale island applications.

The British Virgin Islands were one of the islands hit by Irma, leaving the islands without power or water, like many surrounding islands. Fortunately, on the Outer island of Great Camanoe, the owner of a solar energy driven desalination solution had followed procedures by removing the solar panels of the frame and safely storing

*Figure 1 Founders at the solar panels of the installation on the Virgin Islands*


*Figure 2 The desalination system of Elemental Water Makers on the BVI*

them. This meant that within a short amount of time, the sun could once again be utilized to desalinate the seawater to potable water, without the need to wait for restored power or the arrival of generators.

An example of a supplier of the solar energy powered desalination solutions on several SIDS is the Dutch company Elemental Water Makers, who are active to secure fresh water today, without limiting tomorrow. They have projects in the BVI, Cape Verde, Lanzarote, Mozambique, Belize, Indonesia and the Philippines, focusing on coastal projects where tariffs of energy are high. Solutions can be deployed starting at 5 $m^3$ of potable water per day, ranging up to a million liters of potable water.

Elemental Water Makers is proud to be involved with emergency relief and rebuilding to provide access to fresh water through desalination on the Virgin Islands and St Maarten. For these situations, compact, plug & play, easy to use desalination solutions are available that can generate sufficient potable water from seawater using a generator for locations cut-off from main water and energy supply. As water is essential for rebuilding, these units can be shipped or flown in within a week.

During the COP23 in Bonn, the managing director Sid Vollebregt presented a roadmap for desalination driven by renewable energy for Cape Verde on behalf of the Global Clean Water Desalination Alliance at the IRENA pavilion. The company has received the first prize of the MBR Global Water Award from the Ruler of Dubai this year, out of 138 international organizations. Their solutions are also featured as a Bright Spot on the GLISPA partnership.

As island electricity grids are often limited in size, there are limits to the penetration of renewable energy generation due to their fluctuating nature. By getting the energy intensive desalination facilities off-grid it is possible to harvest more renewable sources available and turn them into easily stored fresh water create an opportunity for many SIDS to realize their water, energy, resilience and sustainability goals.

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# LOSS AND DAMAGE AT COP 23

## Goals, roadblocks and detours

Let's just say that there was some progress, but that there is ample room for improvement. The vulnerable countries' push to move Loss and Damage beyond the current, very narrow focus on an annual report was blocked by developed countries. The issue of finance for Loss and Damage remains contentious. The goal of securing support for countries battered by climate change might not be out of sight but long detours are taken – there will be a broad expert dialogue on support (including finance) for Loss and Damage at the meeting of the UNFCCC Subsidiary Bodies in May 2018.

To recap, vulnerable developing countries, including those represented by the LDCs and AOSIS, had – in their opening statements – called for a permanent agenda item for Subsidiary Bodies to consider Loss and Damage at each of its sessions. They echoed earlier calls by the group of G77 plus China.

The basic underlying question is whether Loss and Damage should be addressed at a purely technical level or whether it belongs on the political agenda.

At the moment Loss and Damage is considered only once a year when the Executive Committee of the Warsaw International Mechanism on Loss and Damage (WIM) presents its annual report. The work of the WIM Excom is considered to be technical, rather than political.

The Subsidiary Bodies (SBs), on the other hand, are the technical arm of the UNFCCC negotiations. Having a regular agenda item on Loss and Damage under the SBs would amount to a political consideration of the issue, increase its visibility and thus - hopefully - progress.

The (WIM Excom) consists of 20 members, who met twice last year and who recently agreed on their next five-year rolling workplan. The workplan lists activities for each meeting of the Committee, ranging from invitations to other bodies, such as the Paris Committee on Capacity Building, to consider Loss and Damage in their work, to holding consultations with relevant actors. Concrete outcomes of the WIM Excom´s work include the launch of the Fiji clearing house for risk transfer (launched at COP23), the establishment of a Task Force on Displacement and an expert group on non-economic losses.

This, most developing countries felt, is not enough. Under the lead of Joel Suárez, a young Cuban negotiator, they formed a strong coalition of the G77 plus China set on raising the profile of Loss and Damage, especially in light this year's many climate-related disasters that broke records all around the world.

They called for a permanent agenda item beyond the report of the WIM that would allow Parties to voice their challenges and needs, and to trigger effective solutions. They felt that Loss and Damage needed to be mainstreamed into

other relevant processes: capacity building, technology transfer and financial support. In the context of the Paris Agreement, Parties are also devising reporting guidelines on climate-related needs and actions. All these processes are anchored at the political level, where Loss and Damage needed to be integrated. In short, the technical work could inform practical implementation on the ground but questions of support and responsibilities demanded political attention.

Did the vulnerable countries succeed? Not really. Every effort to call for a new agenda item to consider Loss and Damage beyond the report of the WIM Excom was met with objections – that now was not the time for having this debate or that Loss and Damage ought not to be "politicised". Ironically, the call for establishing a new agenda item to discuss Loss and Damage at broader scale, that is to broaden the mandate of Loss and Damage negotiations, was objected on the basis that this would be beyond the mandate of current negotiations.

The compromise is to hold an expert dialogue "to explore a wide range of information, inputs and views on ways for facilitating the mobilization and securing of expertise, and enhancement of support, including finance, technology and capacity-building, for averting, minimizing and addressing loss and damage" during the next meeting of the SBs in May 2018. The outcomes of the expert dialogue will inform a technical paper on financial resources for Loss and Damage that will be prepared as part of the review of the WIM in 2019.

The wording of the scope of this expert dialogue hints at the issue of finance. The G77 plus China suggested that an expert group on Action and Support be established within the frameworks of the WIM Excom. This call met heavy and persistent objections, and, unsurprisingly, no expert group was established nor the Excom requested to establish one. Instead, a window was opened for such an expert group to potentially be formed in the future.

So perhaps there is reason for hope. The issue of support for Loss and Damage is alive (even if not kicking) under the expert dialogue in May next year. A number of recommendations to the Excom also have the potential to make a difference. For example, the Excom has been asked to ensure that the knowledge it generates will be transformed into user-friendly tools and products. This could become helpful on the ground, for example when countries assess their risks. Relevant research institutions and organizations are invited to share key findings on slow onset events. Through stronger collaboration with the science community, an important gap could be closed: How to address irreversible processes that are certain to happen, such as sea level rise?

Finally, the preamble to the decision on the WIM Excom report "notes the concern expressed by Parties on the increasing frequency and severity of climate-related disasters that have affected many countries," demonstrating at least some common understanding that there really is a problem. Acknowledging that a problem exists is an important step in every crisis. Perhaps in the future we can turn towards dedicated and adequate solutions. For this, we will need all hands on deck. Submissions on the type and nature of activities to address Loss and Damage, which can serve as a basis for the expert dialogue, are due by 15 February 2018. ■

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## UN DESA -High- Level Breakfast Event

Photo taken by William Bly(DESA)

The SIDS Unit on behalf UNDESA, in collaboration with OHRLLS co-hosted a High-Level Breakfast Event on the margins of the General Debate of the 72nd Session of the UN General Assembly, focusing on how to harness synergies between the implementation of the 2030 Agenda and the Paris Agreement, with a special emphasis on countries in special situation. The Event provided a platform for an insightful dialogue among world leaders and for mobilizing and further enhancing political will and momentum towards a coherent and coordinated universal implementation of the 2030 Agenda and the Paris Agreement. Speakers included the Prime Minister of Fiji (President of COP23), the Under-Secretary of State in the Ministry of Polish Affairs of Poland (incoming COP24 President), the Minister of Environment & Energy, Maldives (AOSIS), and the Minister for Environment, Zambia (LDC) amongst others. USG OHRLLS made an opening remark, the Event was moderated by USG DESA, Mr. Liu Zhenmin. For pictures refer to: https://sustainabledevelopment.un.org/?page=view&nr=2481&type=13&menu=1634

## UNDESA- SIDS Retreat


Photo taken by William Bly(DESA)

*Participants of the SIDS Retreat*

The SIDS Unit organised a two days SIDS Retreat at the Glen Cove Mansion, Long Island on 29 and 30 September respectively. The Retreat provided SIDS with a platform for peer learning and sharing of best practices on how the mainstreaming of the SDGs and of the SAMOA Pathway into national development plans and the building of national institutional frameworks can contribute to successful implementation of the 2030 Agenda; space for exchange of experiences on presenting voluntary national reviews at HLPF and to encourage more VNRS from SIDS and identify areas of assistance in this regard. It also provided an opportunity for SIDS to discuss and identify priority areas including those highlighted in the "Our Ocean, our Future: Call for Action", outcome document of the UN Ocean Conference, and issues pertaining to Climate and disaster risks resilience. SIDS discussed avenues around how international development partners and the UN System engage to better support SIDS efforts to pursue meaningful implementation of the SDGs, including through partnerships and identified challenges and opportunities and priorities to build strategies for successful implementation of the 2030 Agenda as well as effective follow-up.

## UNDESA - Side event during COP23: on "Loss and Damage and the 2030 Agenda: Building Strong Linkages"

*Speakers at the event*

On 15th November 2017, UN DESA co-organized a High-Level side event on "Loss and Damage and the 2030 Agenda: Building Strong Linkages" in the margins of COP23 in collaboration with Fiji, President of COP23, Poland, the incoming President of COP24, and the Maldives, Chair of the Alliance of Small Island States (AOSIS) at the Fiji Pavilion, Bonn Zone. It was moderated by the Under-Secretary General of UN DESA, Mr. Zhenmin Liu. The objective of the event was to demonstrate the co-organizer's commitment, focus and continued political emphasis on the issue of Loss and Damage. It highlighted the need for and serves to encourage all stakeholders, in the spirit of the Paris Agreement, to address the issue of Loss and Damage in a more focused and coherent manner. Furthermore, the event also intended to underscore the potential adverse impacts of Loss and Damage on the implementation and achievement of the Agenda 2030 including its relevant Sustainable Development Goals. The event was participated by over 70 number of participants.

## CARICOM-UN High-level Pledging Conference (by UNDP)

The Caribbean Community (CARICOM), with support from the United Nations Development Programme (UNDP), held the CARICOM-UN High-level Pledging Conference: Building a more Climate-Resilient Community" from 20-21 November at UN Headquarters in New York to mobilise support for Caribbean countries devastated by Hurricanes Irma and Maria. This initiative was aimed at rebuilding the devastated countries as the first climate-resilient countries in the world and helping the wider CARICOM Region improve its resilience. Heads of Government from the Caribbean and beyond, Secretaries-General of CARICOM and the United Nations as well as International Development Partners, partner countries, NGOs, prominent personalities, private sector entities and Foundations participated. For more information: http://resilientcaribbean.caricom.org/caribbean-can-only-build-back-better-with-international-support-and-urgent-climate-action-un-caricom-chiefs-and-heads-of-government/ To download Conference documents: http://resilientcaribbean.caricom.org

## Estimated amounts of Pledges are as follows: (descending order)

$702 million from The Netherlands

$352 million from the European Union

$140 million from the World Bank

$ 78 million from Canada

$30million from China

$27 million from Mexico

$12 million from Italy

$4.3 million from the United States

$4 million from Japan

$1 million from Kuwait

$2 million from India

$1 million from Venezuela

$1.2 million from Belgium

$1 million from Chile

$500,000 from Denmark

$300,000 from Colombia

$250,000 from Haiti

US$ 250,000 from New Zealand

$200,000 from Brazil

$150,000 from Kazakhstan

$100,000 from Romania

$100,000 from Portugal

$20,000 from Serbia

## PIDF Side Event- Climate-Induced Human Mobility


The Pacific Islands Development Forum (PIDF) hosted an event on Climate-Induced Displacement and Migration on the occasion of the International Civil Society Week (ICSW) in Suva Fiji, a key global gathering for civil society and other stakeholders engaging constructively in finding common solutions to global challenges.

This event on climate-induced Human Mobility brought together a wide range of panelists from Pacific island communities presenting on their experience and perspectives, with responses and concerns from international organizations such as UNOCHA, OXFAM, UNHRHC, and UNESCAP. It was a time of exchange of experiences, sharing insights and discussion on how the adverse effects of climate change are expected to profoundly affect human rights and social justice forcing relocation and displacement.

The side-event provided a unique opportunity to highlight the importance of this issue of human mobility in the context of climate change and disasters in the Pacific. And in order to build momentum on the matter, the side-event launched a Declaration on climate-induced displacement that can be found and signed on: http://www.civicus.org/icsw/documents/Declaration-on-Climate-Induced-Displacement.pdf. For more information on the side-event: http://pacificidf.org/climate-induced-displacement/

## Regional parliamentarian retreat on "Building Caribbean Resilience"

On 8th and 9th November 2017, the Parliament of Trinidad and Tobago, UNDP and FAO hosted a regional parliamentarian retreat on "Building Caribbean Resilience" at the Hyatt Regency Hotel, Port of Spain. Twenty-two representatives of the legislative arm of government from fifteen territories participated including the four countries affected by Hurricanes Irma and Maria. Speakers included the Food and Agriculture Organisation, World Food Programme, the Pan American Health Organization, the United Nations International Strategy for Disaster Reduction as well as the Caribbean Development Bank, the Caribbean Catastrophe Risk Insurance Facility and the Association of Caribbean States.

The retreat focused on resilience in three topics including food and nutrition security, health security and budgeting, as well as, the Sendai Framework and its applicability to SIDS; to deepen the knowledge of parliamentarians and the policy strategy and guidelines necessary for building national and regional level resilience. By the end of the retreat, parliamentarians further appreciated the need for community level responses and involvement of the private sector in disaster risk management; the initiatives that could be taken to budget and plan for disasters despite the vulnerabilities of SIDS; and the different challenges faced by at-risk persons in society.

## GLIPSA's high level event during COP 23: Leaders in Island Resilience (by GLIPSA)

(15 Nov 2017) Leaders in island resilience came together at the Castle Godesberg in Bonn, Germany to support strong outcomes for the UNFCCC COP 23 and Fiji as COP President by showcasing their solutions at the forefront of the island resilience movement and united in strong partnerships. The event, , showcased how integrated island solutions are addressing climate adaptation, preparedness for extreme events, early warning systems, women's empowerment and mobilizing and leveraging resources to support action.

**H.E. Tommy E. Remengesau Jr.**, President of Palau, reflected on how members and friends of the Partnership are leading and working collaboratively, and stated that resilience cannot be achieved if certain members of society are excluded, emphasizing the role of the women **H.E. Hilda Heine**, President of the Marshall Islands, - outlined challenges relating to basic socio-economic development aside from climate change. .

The stage was also shared by The Hon. Semi Koroilavaesau, Minister of Fisheries, Fiji, Dr. Albert Martis, and Ravind Kumar from Meteorological Services, , Anna Mendiola, President and CEO, Federated States of Micronesia Development Bank, and Mary Power of WMO.

- WATCH the "Leaders in Island Resilience" IISD video coverage here

- See IISD report and photos on the event here

- Go to the GLISPA website to learn more about getting involved: www.glispa.org

## Palau becomes the latest member of PIDF at COP23 (by PIDF)

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## Caribbean Leaders Launch Ambitious Plan to Create the World's First "Climate-Smart Zone" (by World Bank)

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# Editorial

**The Cowrie**
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**Design**
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**Photos**
Cover page: Haiti Hit by Hurricane Matthew - UN Photo Logan Abassi;
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Page 6 and 7: UN Photo; Page 8: UN Photo - Eskinder Debebe;
Pages 12-13: Hurricane Tomas Floods Gonaives - UNICEF Marco Dormino;
Pages 20-21: Haiti Hit by Hurricane Matthew - UN Photo Logan Abassi;
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