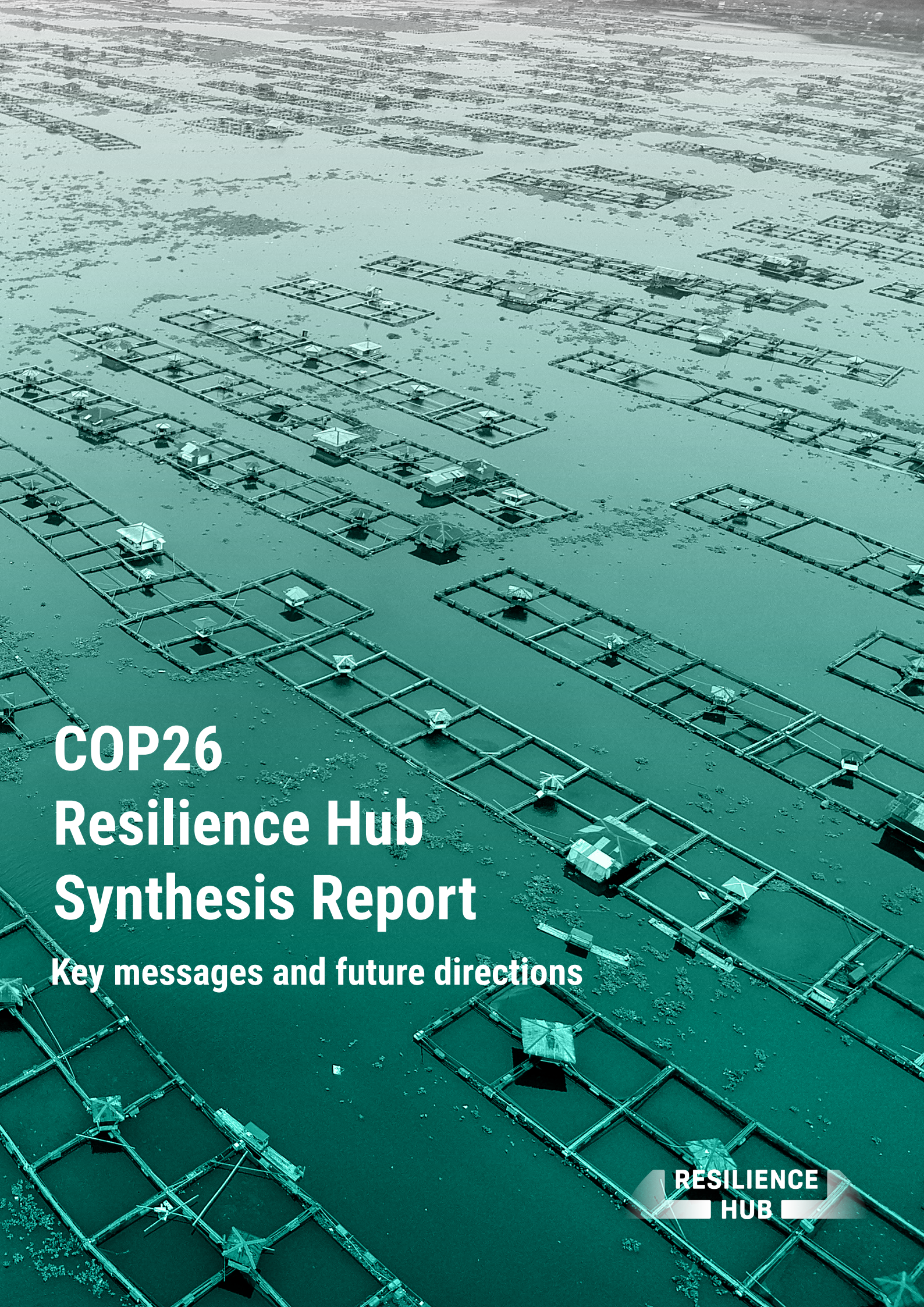

COP26 Resilience Hub Synthesis Report

Key messages and future directions

RESILIENCE HUB

ACKNOWLEDGEMENTS

UNPRECEDENTED COLLABORATION

The Resilience Hub is the home of the UNFCCC's Race to Resilience that is driving action by non-state actors, showcasing the partner initiatives.

The Resilience Hub Steering Committee includes the COP26 Presidency, FCDO, UNFCCC and the High Level Champions team. It is managed by the Adrienne Arsht-Rockefeller Foundation Resilience Center at the Atlantic Council, the Global Resilience Partnership and The Resilience Shift.

The programme was led by Hubs from around the globe – South Asia, Latin America, Africa, South East and East Asia, Pacific, and of course from the heart of Glasgow in the COP26 Blue Zone and at Glasgow Caledonian University. The COP26 programme was organised with the help of over 30 private and public organisations.

It is largely financed by private sector and philanthropy support. Thank you to our sponsors who include: FCDO, JPMorgan Chase, UNFCCC, Deloitte, Google, IBM, PWC, Arup, AXA XL, Jupiter Intelligence, Mott MacDonald, SPARC, Willis Towers Watson, WSP, Stockholm Hub on Environment, Climate and Security, Anglian Water, and the Climate Justice Resilience Fund.

With special thanks to the Government of Peru for their collaboration and support.

PROGRAMME PARTNERS

Finance and Investment

InsuResilience Global Partnership · Willis Towers Watson (WTW) · International Institute for Environment and Development (IIED)

Nature: Water

Anglian Water Services · Mott MacDonald

Water Pavilion partners working closely with Resilience Hub, including: Stockholm International Water Institute (SIWI) · Alliance for Global Water Adaptation (AGWA) · Carbon Disclosure Project (CDP) · The World Conservation Union (IUCN) · Global Water Partnership (GWP)

Food and Agriculture

Just Rural Transition (JRT) (Meridian Institute) · Avina · International Institute for Environment and Development (IIED) · Climate Change, Agriculture and Food Security – CGIAR (CCAFS)

Energy Access and Resilience

Efficiency for Access Coalition · ICF · International Energy Agency (IEA)

Cities, Regions, Built Environment

Arup · Build Change · Sniffer

Resilient Infrastructure

Infrastructure Operators Adaptation Forum (IOAF) · Strengthening Infrastructure Risk Management in the Atlantic Area (SIRMA) · Climate Sense · Coalition for Climate Resilient Investment (CCRI) · Coalition for Disaster Resilient Infrastructure (CDRI)

Early Warning Early Action & Disaster Risk Reduction

Global Network of Civil Society Organisations for Disaster Reduction (GNDR) · Risk-informed Early Action Partnership (REAP) · United Nations Office for Disaster Risk Reduction (UNDRR) · Willis Towers Watson (WTW)

Locally Led Adaptation and Just Transition

Bangladesh Rural Advancement Committee (BRAC) · International Centre for Climate Change and Development (ICCCAD) · International Institute for Environment and Development (IIED) · World Resources Institute (WRI)

Arts, Culture and Heritage

Climate Heritage Network · Coalition for Climate Resilient Investment (CCRI) · British Council · PRAXIS · Arts and Humanities Research Council · UKRI

Health and Wellbeing

Atlantic Council · Extreme Heat Resilience Alliance · Mott MacDonald

CROSS CUTTING CHAMPION ROLE

Getting Knowledge into Use

Resilience Knowledge Coalition: Global Resilience Partnership (GRP) · Climate and Development Knowledge Network (CDKN) · International Centre for Climate Change and Development (ICCCAD)

Climate Justice and Inequality

Centre for Climate Justice · Glasgow Caledonian University

Nature Based Solutions (NbS)

International Centre for Climate Change and Development (ICCCAD)

REGIONAL HUB LEADS

South Asia: International Centre for Climate Change and Development (ICCCAD)

South East and East Asia: Asian Development Bank (ADB)

Pacific: Asian Development Bank (ADB) · Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)

Africa: World Resources Institute (WRI)

PILLAR LEADS

Coastal Pillar

Van Oord · Ocean Risk and Resilience Action Alliance (ORRAA)

Rural Pillar

Feed the Future Innovation Lab for Markets, Risk and Resilience (MRR) at University of California, Davis

Urban Pillar

International Institute for Environmental Development (IIED) · Slum/Shack Dwellers International (SDI)

ABOUT THIS REPORT

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Cover image: Waduk Cirata, the Cirata reservoir, in West Java, Indonesia, one of many man-made reservoirs that aim to support sustainable fish farming. Photo Credit: Pramod Kanakath / Climate Visuals Countdown

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EXECUTIVE SUMMARY

The first Resilience Hub, the home of UNFCCC's Race to Resilience at COP26, sought to advance action on adaptation and resilience at COP26 and beyond, and to help provide a strong collective voice on resilience for all those globally who are working to build a more climate resilient world.

This report synthesises the main messages from the Resilience Hub and aims to help set the direction for future action towards COP27 and beyond. The report first provides an overview of the key adaptation and resilience decisions and announcements that took place during COP26; it then presents the key messages resulting from the events of the Resilience Hub and offers concluding remarks on next steps towards COP27 and beyond.

Five main messages emerged:

1. **Locally Led Adaptation is essential for transformative and equitable adaptation and is ripe for scaling, subject to finance access.**
2. **There is an urgent need to increase the overall availability of quality finance for adaptation and resilience, as well as to diversify financial instruments through emphasising grant-based rather than loan-based models.**
3. **Transformative adaptation and resilience require bridging the gaps between knowledge and implementation through knowledge brokering and advancing measurement and learning.**
4. **Nature based Solutions are key to transforming risk into resilience through integrated urban, coastal and rural climate actions.**
5. **Pragmatic and equitable adaptation and resilience action requires women, youth, disabled, displaced, and Indigenous peoples to be at the heart of design, decision-making, and implementation.**

Besides summarising the key overarching messages, the synthesis report presents findings and insights from the three pillars of Race to Resilience (urban, coastal, and rural), as well as from the ten themes explored in the Resilience Hub: Finance and Investment; Water; Food and Agriculture; Energy Access and Resilience; Cities, Regions, and Built Environment; Resilient Infrastructure; Early Warning Early Action and Disaster Risk Reduction; Locally Led Adaptation and Just Transition; Arts, Culture, and Heritage; and Health and Wellbeing.

The Ice Stupa Himalaya project: the purpose of these human-made glaciers is to help store water in ice form as they do not melt fast as an actual glacier. The water is used by local farmers for irrigation purposes throughout the year.

Photo credit: Ankit Tanwar / Climate Visuals Countdown

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Photo credits: Karwai Tang / UK Government

Photo credits: Karwai Tang / UK Government

ADAPTATION AND RESILIENCE AT COP26

Adaptation and resilience were a visible and prominent theme in a way not seen before in the climate COPs. Prior to COP26, adaptation only featured on the formal agenda under the technical reporting work of the Adaptation Committee. However, in the context of the ongoing COVID-19 pandemic and of the increasing and uneven effects of climate change, COP26 witnessed growing global consensus of the need for adaptation and resilience to be addressed on par with the mitigation agenda. Adaptation and resilience featured highly in both the formal negotiations, as well as in the campaign demands of non-state actors, with adaptation finance widely seen as a key priority. The Glasgow decision known as the Glasgow Climate Pact gives prominence to adaptation with sections II and III respectively on adaptation and adaptation finance, ahead of mitigation in the text. Relevant decisions endorsed by all Parties include:

- Setting up a two year Glasgow-Sharm el-Sheikh work programme on a global goal for adaptation;
- Setting a target of doubling climate finance (based on a 2019 baseline) by 2025 including a balance between adaptation and mitigation and a call for innovative financial instruments;
- Instructing the COP Subsidiary Body for Scientific and Technological Advice to prepare informal summary reports on both land and climate change adaptation, and on ways to integrate and strengthen ocean based actions.

The doubling of finance for adaptation alongside substantial commitments by several donors is significant. The Adaptation Fund has seen a record increase in pledges, from US$129m at COP24 to US$356m at COP26, while the Least Developed Countries Fund (which supports climate adaptation action) received a record US$413m in new pledges. The commitment of 450 banks, asset managers and others (with total asset value of US$130tn) to the Glasgow Finance Alliance to Net Zero (GFANZ) is an indication that financial institutions have grasped that climate resilience is about risk, security, and competitiveness. In an event at the Resilience Hub, the Champions Group on Adaptation Finance, an informal group of ten countries championing finance solutions for the Least Developed Countries, together with representatives from the UN Secretary-General's office, took stock of progress on adaptation finance and committed to further action heading into 2022. In addition, companies and investors are committing to becoming "nature positive", through initiatives such as the Natural Capital Investment Alliance, which pledged to invest US$10bn of private capital in nature based solutions, as well as through multi-stakeholder collaborations such as the Ocean Risk and Resilience Action Alliance (ORRAA), which aims to drive US$500 million of investment into coastal and marine nature based solutions, positively impacting the resilience of at least 250 million people in coastal areas around the world.

According to OECD analysis, by 2025, the mobilisation of adaptation finance is on track to raise US$40bn. However, the provision for developing countries is insufficient in view of worsening climate impacts. The UNEP 2021 Adaptation Gap Report (also launched during COP26) evidences that adaptation finance needs are five to ten times greater than current finance flows, and that the gap has been widening since the previous 2020 AGR due to an increase in adaptation costs and needs, while funding flows have remained stable or decreased. Indebtedness, which has only increased during the COVID-19 pandemic, presents an additional challenge, which has seen states and negotiation blocks as well as non-state actors expressing the need for grant-based rather than loan-based adaptation finance.

During COP26, Loss and Damage, the term which refers to the impacts to climate change that we cannot adapt to, has emerged as a key focus of the negotiations. Alongside mitigation and adaptation, it had been recognised since the 2015 Paris Agreement as the 'third pillar' of climate policy and international cooperation, however to date no standalone funding mechanism has been agreed. Responding to the impacts of climate change requires joined-up and scaled-up action to enhance resilience across a spectrum of transformative adaptation and loss and damage support for the communities and regions facing impacts that cannot be adapted to. Securing Loss and Damage finance is key to tackling the permanent loss of lives and livelihoods, and the ensuing migration and displacement.

Beyond formal negotiations and decisions, there was a strong focus on recognising the different roles and capabilities that are required to adapt and deliver solutions locally. Non-state actors led this agenda through the Race to Resilience and the Marrakech Partnership on Global Climate Action. Adaptation and resilience are key climate justice issues and at COP26 this link was strengthened through the increasing recognition that women, youth, disabled, displaced, and Indigenous peoples must be at the heart of decision-making and implementation processes.

"The Race to Resilience allowed us to put mitigation at the level of urgency of adaptation and resilience – and not the other way around."

— Gonzalo Muñoz, High-Level Climate Action Champion of Chile for UN COP26, during the Resilience Hub Reflective Event at the end of week 2

"The Resilience Hub has been a real success and we hope that it goes from strength to strength to draw more attention and direct more resources."

— Nigel Topping, High Level Champion for Climate Action at COP26, during a High-level Plenary session at the end of week 2

"I want to acknowledge what an important milestone it was to be part of this journey with you [the Champions] and how it has given agency and voice to communities that felt they were the poster children of other people's agendas."

— Sheela Patel, Founder Director of the Society for the Promotion of Area Resource Centres (SPARC) India, during the Resilience Hub Reflective Event at the end of week 2

THE RESILIENCE HUB AT COP26

As the home of the Race to Resilience at COP26, the Resilience Hub played a key part in advancing dialogue and action on adaptation and resilience through demonstrating what non-state and state actors are doing to build a resilient future where people, communities, businesses, and cities thrive in the face of the impacts of climate change.

While previous COPs have seen an increase in focus on resilience and adaptation, it has been spread across different initiatives, spaces and events inside and outside the COP. Adaptation and resilience was "everywhere but nowhere", lacking a focal point. The Resilience Hub was designed to meet this challenge.

The Resilience Hub provided a unique convening, learning, and connecting platform. With six geographic hubs (five virtual, Africa, South Asia, South East and East Asia, Pacific, Latin America, as well as an in person one in Glasgow), 154 events from 80 event partners featuring 176 participating organisations, and 21 sponsors, the first ever COP Resilience Hub brought together a community of state and non-state actors.

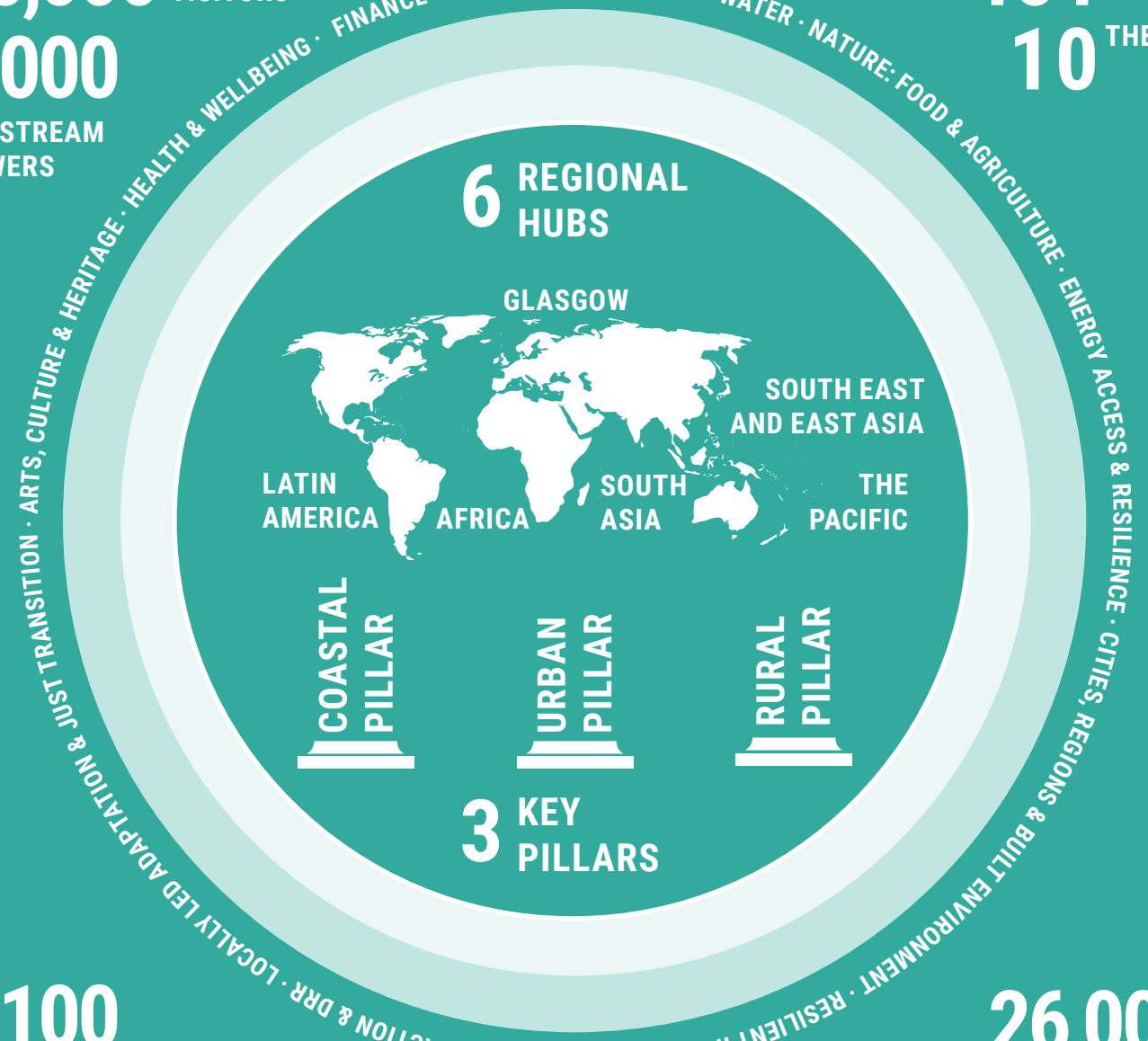
The following key messages and thematic summaries were developed through a qualitative analysis of 50 Resilience Hub event summaries produced by event leads, and through reflective conversations between the report authors, the Resilience Hub team, as well as pillar, theme, and regional leads.

10,000 PHYSICAL VISITORS

5,000 LIVESTREAM VIEWERS

154 EVENTS

10 THEMES



7,100 VIRTUAL PARTICIPANTS FROM 182 COUNTRIES

26,000 USERS FROM 185 COUNTRIES VISITED THE WEBSITE

KEY MESSAGES

1. Locally Led Adaptation is essential for transformative and equitable adaptation and is ripe for scaling subject to finance access.

2. There is an urgent need to increase the overall availability of quality finance for adaptation and resilience, as well as to diversify financial instruments through emphasising grant-based rather than loan-based models.

3. Transformative adaptation and resilience require bridging the gaps between knowledge and implementation through knowledge brokering and advancing measurement and learning.

For communities on the frontlines of climate change, resilience and adaptation are critical present needs that must be urgently addressed. Locally Led Adaptation (LLA) is an effective model to ensure that these communities have a voice in decisions that directly affect their lives and livelihoods. It has been successfully piloted in different contexts and it is ready for scaling. Scaling LLA requires the alignment of finance commitments to the eight Principles for Locally Led Adaptation, a widely endorsed codification of good practice to which over 70 governments, leading global institutions, and local and international NGOs have signed up. LLA requires: the integration of generational knowledge systems (local, traditional, and Indigenous) with technical and scientific insights to improve adaptation planning, investment, and learning.

In line with the Principles for Locally Led Adaptation, the needs of end users in local communities must be at the heart of designing financial solutions and policies. As the speed and accessibility of financial instruments needs to rapidly increase, the private sector, financial institutions, insurers, and asset managers need to integrate climate risk as a core part of risk management. Initiatives such as the Glasgow Finance Alliance to Net Zero (GFANZ) are demonstrating that this shift is materialising. Taking a holistic approach to finance requires connecting development, humanitarian, and climate finance to respond more effectively. Collaboration between academia, civil society, multilaterals and implementing programmes, as well as the private sector is required to learn from failure and scale successful financial approaches.

Capacity building initiatives such as knowledge brokering and communities of practice are key to strengthening knowledge-policy-practice-investment linkages. The importance of action research and transdisciplinarity has become increasingly recognised, as they can surface and integrate different knowledge systems. Progress is being made on the longstanding challenge of measuring resilience through the Race to Resilience Metrics Framework and the Sustainable Asset Valuation (SAVi). Digital tools, quantitative approaches, codes, and standards can inform better decision-making, however, their success relies on trust and communication. Integrating these successfully and equitably requires building new partnerships, mediating power dynamics, and strengthening South-South and South-North linkages.

4. Nature based Solutions provide a key opportunity to transform risk into resilience through integrated urban, coastal, and rural climate actions.

Increased investment in high-quality Nature based Solutions (NbS) needs to be implemented in partnership with and full respect of Indigenous peoples and local communities' rights and knowledge. NbS should aim to protect tangible and intangible heritage, avoid only focusing on one type of ecosystem, support or enhance biodiversity, and start from a measured baseline. Integrating NbS in agri-food systems needs to ensure that farmers are paid, reimbursed, and insured to transition towards resilient and regenerative practices. In urban areas, NbS can improve health and wellbeing while providing vital resilience buffers. Coastal and marine NbS, such as mangrove replanting or coral reef repair, can strengthen the food security and socio-economic resilience of coastal communities worldwide.

5. Pragmatic and equitable action requires women, youth, disabled, displaced, and Indigenous peoples to be at the heart of design, decision-making, and implementation processes.

Youth movements have been key in shaping the narrative of climate emergency and justice, through calls such as the Youth4Pacific Declaration on Climate Change, and now action must follow up ahead of COP27 and beyond. Cutting across the different Resilience Hub activities was a growing consensus of the need for pragmatic and equitable action to scale Locally Led Adaptation and Nature based Solutions, to scale and diversify adaptation and resilience finance, to advance knowledge brokering, to progress the development and application of the Race to Resilience Metrics Framework, and to use arts and culture to inspire change at all levels. Taking action through putting women, youth, disabled, displaced, and Indigenous peoples at the heart of decision-making is key for COP27 not to succumb to more "blah, blah, blah".

Opposite page: Seaweed farming in Zanzibar, Tanzania. Zanzibar is the world's third largest exporter of seaweed and 90% of the farmers are women.

Photo credit: Natalija Gormalova / Climate Visuals Countdown

This page: Rewilding initiative by Colombia Reserva Ambiental to recover the paramo of Guerrero, a special Andean ecosystem located 3.400 m above sea level and one of the most important water sources for the capital Bogota.

Photo credit: Ivan Camilo Ospina / Climate Visuals Countdown

Rural, urban, and coastal adaptation solutions

Top left: Clare Mukankusi, CIAT bean breeder in Kawanda, Uganda, leads breeding efforts to improve drought resilience and disease tolerance.

Photo credit: Georgina Smith / CIAT

Middle right: Nature based Solutions such as these urban wetlands in Colombo, Sri Lanka provide multiple benefits.

Photo credit: Martin Seemungal / IWMI

Bottom left: Artificial Reef installed at Mon Choisy Beach, Mauritius to combat soil erosion and enhance marine ecosystems.

Photo credit: Reuben Pillay / Climate Visuals Countdown

KEY RESILIENCE PILLARS: RURAL, URBAN, COASTAL

The overall focus of the Resilience Hub is on supporting communities, cities, and businesses from all countries to build their resilience to climate shocks and stresses. Three key pillars that were aligned with the Race to Resilience Campaign shaped the programming of the Resilience Hub activities:

Rural Pillar

Risk makes and keeps people poor. Effective climate risk management tools not only protect the current well-being of rural communities struggling in the face of climate change, but the implementation of these tools also underwrite improvements in future well-being.

There is no silver bullet when it comes to overcoming the climate risks rural communities face. Integrated approaches that build on thoughtful complementarities blending financial tools along with climate responsive agronomy and social safety nets, are essential to building rural resilience. Anticipatory action can help avert climate losses as interventions and policies that simultaneously address a person or community's assets, capacities, and risk exposure (including effects on their culture and heritage) have the best chance of creating lasting change for poor and climate vulnerable households.

Agriculture rural resilience must be built from the ground up. Locally led research is needed to understand the key constraints and inclusive stakeholder engagement is required to ensure just and effective policy. Inclusive engagement from fields to research labs to government offices is key to building the resilience of the agri-food systems around the world.

Urban Pillar

Cities are leading the way on adaptation and resilience. Around the world, cities are putting in place ambitious processes and interventions to cope, adapt, and transform to the increasing effects of climate change. For action to scale, the support of national governments in accessing finance is key.

Tackling the climate-health nexus is key to addressing urban inequality and climate justice. Vulnerable populations, such as the elderly, women, informal workers, and those in informal settlements are the most impacted by climate change. Urban interventions need to prioritise action on the wider determinants of health.

The urban poor are the first responders in contexts where local government services are extremely limited. Informal settlements are often situated in areas prone to flooding, heavy winds, sea-level rise, fires, and forced relocation. As climate migrants move to informal settlements within cities, they become even more vulnerable. Urban solutions that centre social justice and anticipatory approaches that enable the preparedness of the residents of informal settlements are extremely important, however they need to build on the experiential knowledge of local communities.

Coastal Pillar

A healthy ocean and resilient coastal communities: two sides of the same coin. The ocean is the world's largest carbon sink, has absorbed the vast majority of heat from carbon emissions and is home to more than 80% of life on Earth. Lives and livelihoods in coastal communities are dependent on a healthy ocean and thriving marine ecosystems.

Coastal communities are on the frontline of climate change worldwide. Extreme weather events, sea level rises, adverse and significant ecosystem changes, pollution, overfishing, rising levels of acidity, increases in the salinity of freshwater and groundwater, all jeopardise the health of the Ocean and the people who depend on it. These systemic changes put at severe risk the social cohesion of coastal communities leading to migration and population displacement.

Driving positive action through collaborative action, data, and innovative finance mechanisms. Multi-stakeholder collaborative action can support the resilience of coastal communities. Innovative data collection technologies can stimulate awareness and grow ocean financial literacy, leading to public and private sector policy change. New investment approaches can identify and scale opportunities that will enable coastal communities to plot their own sustainable futures.

FINANCE AND INVESTMENT

Financing resilience requires taking a systemic approach. Resilience and adaptation require substantial investment support from public and private sector investors, putting finance at the heart of the climate-resilient transition and closing the financing gap for adaptation. In line with the Principles for Locally Led Adaptation, the needs of end users in local communities must be at the heart of designing financial solutions and policies.

Identifying and providing adequate support to scale adaptation and resilience solutions requires a landscape approach to funding. Grants, concessional funding, commercial capital are all needed to accelerate the development, scaling, and uptake of solutions. However, these require collaboration within the funding landscape – between banks, development finance institutions, asset holders, pension funds, insurers, corporate investors - to ensure the funding is integrated and supports the innovators, as well as the context in which they operate.

> *"We need to start financing adaptation solutions in the same way we did 15 years ago for mitigation."*
>
> — Jay Koh, Co-founder & Managing Director, The Lightsmith Group

There is a need to connect development, humanitarian, and climate finance to respond more effectively. Since the pandemic began, climate-related disasters have severely affected the lives of at least 139 million people worldwide. Of the 25 countries most vulnerable to climate change, 14 are also experiencing conflict. Connecting these three funding streams and corresponding agendas is of particular urgency in the context of fragile states or protracted conflict areas.

Loss and Damage finance is urgently required for communities and regions facing climate change impacts that they cannot adapt to. Permanent loss of lives and livelihoods due to climate change is already resulting in migration and displacement, and has huge economic and social implications especially for Indigenous people and local communities. For example, some villages have already relocated in Fiji, while the viability of many of the Pacific islands is in question as low-lying atoll islands are facing increasing tides, changes in rainfall, rising sea levels, as well as an increase in the salinity of freshwater and groundwater resources.

Public financial management must integrate adaptation and resilience instead of focusing exclusively on net zero. Even with ambitious net zero plans in place, our cities, regions, and societies require adapting to the increasing effects of climate change. Insurance plays a key role for both the public and private sector in integrating and aligning risk financing within wider policy agendas. The InsuResilience Global Partnership aims to accelerate a shift from ex-post financing (humanitarian and disaster reconstruction funds arranged after disasters) to prearranged risk finance (financial tools such as microinsurance that provide funds reliably and quickly when disasters occur) and is seeking to reach 500 million poor and vulnerable people by 2025. Mainstreaming adaptation and resilience into the finance and insurance systems needs to also see the inclusion of climate risk in all credit assessments.

A holistic learning culture based on solid relationships and trust can improve the finance and insurance systems. Transdisciplinary collaboration between academia, civil society, multilaterals and implementing programmes, as well as the private sector is required to learn what works and what doesn't. Current challenges include a lack of reliable and long-term impact data from climate and disaster risk finance and insurance (CDRFI) interventions, while gaps in evidence include a lack of gender based perspectives. Building trust and relationships is key in supporting fruitful collaboration between local governments, regulators, and corresponding market players. For example, a value added tax exemption was granted to the microinsurance product launched in Fiji under UNCDF's Pacific Insurance and Climate Adaptation Program. The exemption was granted by the Fijian government before the official launch of the product, proving that trust can accelerate action.

> *"There's a big disconnect between the international climate landscape and the people on the ground who want to receive the money and implement projects. There is a disconnect between the small-scale ideas and the large-scale ideas which the Green Climate Fund wants to fund."*
>
> — Caroline Fouvet, Climate finance analyst, Willis Towers Watson

Capturing the value of coastal wetlands through Blue Carbon Resilience Credits in the Bahamas.
Photo credit: Ocean Risk and Resilience Action Alliance (ORRAA)

Developing countries are suffering from a triple crisis of debt, climate change, and nature loss. Tackling indebtedness, which has only increased during the Covid-19 pandemic, requires grant-based rather than loan-based adaptation finance mechanisms. Debt for climate and nature swaps can provide fiscal space and help address the climate financing gap across developing countries. Through diminished debt service obligations, swaps can finance nature and climate policy commitments from Nationally Determined Contributions (NDCs) and National Biodiversity Strategy and Action Plans (NBSAPs). This could expand investment in renewable energy, marine and terrestrial conservation, and land restoration. These swaps need to be more large-scale and programmatic, with swap funds managed through debtor government budgets as with IMF macro programmes or World Bank Development Policy loans.

> *"People say the youth are our future, but it was very difficult to interest development partners and other funders to secure a serious and dedicated investment plan to resource the implementation of all of the good intentions set out in the Pacific Youth Development Framework. Political support wanes, personalities change, priorities change, but funding was and continues to be a challenge."*
>
> — Associate Professor Collin Tukuitonga, Associate Dean - Pacific, Faculty of Medical and Health Sciences, University of Auckland.

Deepening financial literacy and empowerment is key to the success of financial instruments such as microinsurance products. For financial instruments to be successful in meeting key needs on the ground, they need to be co-designed with their intended end users. Enabling the participation of youth or women's groups requires building financial literacy as a prerequisite. Successful examples from the Fiji include CCSLA (Cane-farmers' Cooperative Savings and Loans Association), which has seen a greater involvement of women in a parametric microinsurance product, or the case of the Pacific Island Warriors (PIW), a youth group who took part in the design process of the parametric microinsurance product.

Launches and announcements at COP26

- InsuResilience's Climate and Disaster Risk Finance and Insurance (CDRFI) Evidence Roadmap was launched at the Resilience Hub. The Evidence Roadmap is a community document which will guide research and evidence activities in the CDRFI space in the years to come.
- Launch of the Climate Transition Index (CTI) that aims to include more than one metric (carbon intensity) when assessing transition risk: LifeSight announces it is investing nearly US$1bn in new Climate Transition Index Fund on COP26 Finance Day
- The Lightsmith Group announced the launch of their partnership with Village Capital to accelerate twenty-four SMEs and startups in Africa, Asia, Latin America and the Caribbean that will each work closely with industry experts, investors, and ecosystem partners.
- The Global Innovation Fund and the Global Resilience Partnership announced the launch of the Innovating for Climate Resilience Fund invests, through grant, equity, and debt instruments, in innovations with the potential to scale and support the world's poorest to build resilience and adaptation.

Learn more...

- Restored reefs: A parametric insurance programme, underwritten by AXA Climate, supports recovery of the Mesoamerican Reef following hurricane impacts;
- Stronger cities: In Medellin, authorities are working closely with local and international partners on a Disaster Risk Management Strategy. The programme includes the development of a parametric flood and earthquake product, as well as an indemnity landslide protection.
- Protected forests: In California, wildfires have ravaged forests and communities. Partners have worked with The Nature Conservancy to quantify the impact that ecological forestry would have on reducing insurance premiums.
- The Pacific Insurance and Climate Adaptation Programme aims to improve the financial preparedness and resilience of Pacific people towards climate change and hazards.

NATURE: WATER

Water is at the very heart of the climate crisis, as crucial to adaptation as carbon is to mitigation. Our increasingly variable climate is profoundly altering the water cycle, jeopardising shared water resources and increasing flood and drought risk. We need to act right now to identify and accelerate collaborative, low carbon solutions to deliver water resilience – such as wetland restoration, protection of water sources and integrated management of water, energy and food supplies – if we are to deliver successful adaptation and a truly resilient future.

Historical North-South power relations need to be replaced with equitable South-South and South-North partnerships where knowledge exchange and co-creation are given equal priority. Sharing learning and knowledge between different geographies who share key water related challenges is vital. As low-lying landscapes are faced with the urgent need to adapt to the sea level rise already locked in, enabling learning and knowledge sharing between communities, businesses, and institutions based in these regions is key. For example, the Living Deltas initiative aims to connect delta science and research through collaboration and learning between Asian mega-delta regions such as the Mekong Delta, the Red River Delta, and the Ganges-Brahmaputra-Meghna Delta.

> *"As the climate emergency accelerates in the Global North as well as the South, this mutual learning and partnership becomes even more important. We are locked into sea level rise, so we need to adapt at pace, at scale, and in partnership."*
>
> — Emma Howard Boyd, Chair, Environment Agency, and UN Global Ambassador for Race to Zero and Race to Resilience

Taking an integrated approach to water can unlock wider community, environmental, and economic benefits. In taking a systems approach there is a need to address traditional binary choices and/or conflicts (e.g. urban versus agricultural land; conservation as opposed to development) and instead enable a whole landscape approach. There is a need to link macro-scale interventions with community-based and community-generated adaptation strategies. The Youth for Water and Climate Platform is a financing mechanism that allows young leaders from around the world to gain access to financial and technical support to implement water related locally-led adaptation. Such brokering initiatives provide innovative approaches to water resilience and they now require adequate financial resources to scale. The Integrated Water Resources Management (IWRM) framework can be instrumental in building urban water resilience and managing trade-offs in water management (for example between urban and agricultural uses) as it integrates urban landscapes as part of the water basin.

Digital tools can play a key role in building water resilience. They can help stakeholders better understand the risks and make better informed decisions about adaptation action and investment. Their success relies on building trust through engaging with local institutions, authorities, and individual users, as well as listening to user feedback. All these stakeholders need to be able to understand and act on data that is relevant to them, which highlights the importance of communications as well as the need for clear interfaces. As data sharing becomes more critical, ensuring trust and data privacy is key.

Financial risk management is a key approach in ensuring water security and supporting communities to recover post-disaster. The climate-water-insurance nexus needs to be integrated to support better decision making in water management. Insurance products (especially index-based) allow risk to be transferred and can protect populations against disaster events that endanger water supplies. However, there is a need for more and better quality data to design robust insurance products in low-resource settings. While private and public capital is needed to unlock scale for insurance products, institutional cooperation across departments is required to recognise water, sanitation, and hygiene as essential elements in climate change adaptation.

Young leaders in water resilience are driving practical solutions that can meet the level of the challenge. However, they need more support to build their technical capacities, as well as innovative financing mechanisms to implement their ideas. This technical and financial gap means youth are often excluded from funding opportunities and usually allocated observer roles rather than being able to actively participate in developing and implementing solutions.

> *"Pacific Islanders and communities, despite their frontline experience of the climate crisis, are stepping up to demonstrate that indigenous wisdom and*

traditional knowledge are key to solving this existential crisis. Indigenous people, women, and youth, are groups who have demonstrated through an enabling environment and the right support - that we are able to build resilient communities and peoples."

— Lavetanalagi Seru, Climate Justice Officer, Pacific Islands Climate Action Network

Addressing ocean and coastal resilience is key to the food security and socio-economic resilience of more than 3 billion people. As a stable climate is impossible without a healthy ocean, taking action to develop locally-led ocean and coastal resilience solutions is key. Initiatives such as the Ocean Risk and Resilience Action Alliance (ORRAA) aim to address ocean risk, adaptation, and resilience through pioneering innovative financial products and projects.

Launches and announcements at COP26

- A first-of-a-kind meeting on Ocean Action Day was co-hosted by the UK COP26 Presidency and the Ocean Risk and Resilience Action Alliance (ORRAA) to convene the private sector, governments, and civil society to accelerate the finance essential for building resilience, protecting nature and tackling climate risk. Major commitments to ORRAA announced included: a CAD$9m commitment from the Government of Canada; a US$2m commitment on behalf of the Gordon and Betty Moore Foundation to develop an innovative risk assessment tool to help insurers combat illegal, unreported, and unregulated (IUU) fishing and more than US$500,000 from the UK and Swiss Re Foundation to support ORRAA's Ocean Resilience Innovation Challenge.
- ORRAA is leading an initiative to help design a blue resilience clearing house to grow the project pipeline for investment and provide a forum for those wishing to invest in verified marine and coastal natural capital, to find investment opportunities. It is hoped that this will provide the framework for millions of dollars of investment over the next decade. The design process is being led by ORRAA member, Palladium and in collaboration with WWF, Bank of America, and Convergence Finance.
- AXA, ORRAA's global lead insurance partner launched a new, publicly available Coastal Risk Index, which for the first time, showcases the importance of mangroves and coral reefs in reducing flood risk.
- Deutsche Bank announced the launch of the Deutsche Bank Ocean Resilience Philanthropy Fund dedicated to ocean conservation and coastal resilience and an initial committment of US$300,000.
- Willis Towers Watson, AXA and Palladium are all founder signatories of the BackBlue Ocean Finance Commitment, which is UN-backed and is designed to incorporate the Ocean in finance and insurance decisions.

Learn more...

- Mott Macdonald is tackling Bangkok's flooding issue by providing a consolidated platform which processes up to 20 billion data points each day to provide improved forecasts and early warning alarms.
- The IRWI app, developed by IWMI, provides smallholding farmers in Egypt with the right ICT tools required for them to carry out irrigation in an effective and more resilient way.
- The Climate Resilience Demonstrator (CReDo) is a connected digital twin which provides insight on how flooding affects interdependent infrastructure and assets across energy, water, and telecom networks in the UK.
- Moody's ESG digital tool uses science driven analytics to provide insights for understanding exposure to physical climate risks anywhere in the world, at an asset or portfolio scale.
- The Youth for Water and Climate Platform supports initiatives such as Keep Nati Clean (a Benin led project to protect and preserve the Fourigninkèrè River), the Mother Earth Project (an ecological restoration project in Zenú Nuevo Caribia Indigenous Ethnic Community of the municipality of Necoclí, Colombia), or the rural Alaska Native communities infrastructure adaptation project.
- The Transboundary Water In-Cooperation Network, TWIN, carries out diverse activities to facilitate cooperation and collaboration between grassroots organisations, communities, and scientific institutions, in areas such as the conflict prone Jordan river basin, the Kunar-Chitral-Kabul River Basin, or the Kali River.
- The Cultural Protection Fund project Melting Snow and Rivers in Flood, managed by the International National Trust Organisation and Cross-Cultural Foundation in Uganda, explores a community-led response to rapid glacial melt and extreme floods in the Rwenzori and West Nile region of Uganda.
- The Vietnam Academy for Water Resources is working closely with the national government to tackle the overlap between water resilience and food security through the use of the IWRM framework.

Experts from the Kenyan Water Resource Management Authority test river water samples to support farmers along the watershed to better manage their land and prevent soil erosion. The work is part of the CGIAR Research Program on Water, Land and Ecosystems (WLE).

Photo credit: Georgina Smith / CIAT

NATURE: FOOD AND AGRICULTURE

Although food systems are the primary driver of biodiversity loss and a significant contributor to climate change, working with nature and people to enhance the role of ecosystems can deliver both adaptation and mitigation outcomes, while also tackling biodiversity loss, inequality, and poverty.

Progressing issues related to the climate resilience of agri-food systems cannot happen without placing farmers at the centre of this conversation. Public policies and funding in the food and agriculture systems need to ensure that farmers are supported in transitioning to more sustainable, nature positive, and nutritious systems. While there is a need to scale up investment in research and innovation, farmers need to be supported to ensure that innovation is appropriately adopted on the ground.

> *"For innovation to be a success we need to be inclusive, we need to engage smallholder farmers, co-design programmes and projects, and make sure that we are inclusive and participatory. Smallholder farmers are some of the most innovative business people you will find".*
>
> — Susan Chomba, Director, Vital Landscapes, World Resources Institute Africa and Race to Resilience Ambassador

Proactive participation of Indigenous peoples and local communities in decision making is essential in addressing the underlying causes of biodiversity loss. While Indigenous peoples and local communities constitute only 5% of the global population, they manage more than 80% of the global biodiversity. However, only 1% of climate finance is directly reaching them due to top-down approaches, poor governance, and lack of recognition of their rights and stewardship. There is a need to ensure clear and strong rights of Indigenous peoples and local communities over land and natural resources, and to scale up reliable, flexible, and long-term funding initiatives such as payment for ecosystem services. Such examples include the Dedicated Grant Mechanism (DGM) under the Forest Investment Program of the Climate Investment Funds, which seeks to conserve biodiversity and promote carbon stocks while empowering Indigenous peoples and local communities.

Nature and people can no longer be viewed in isolation from one another. We must look to integrate nature within all systems, including food and agriculture, through implementing Nature-based Solutions (NbS), incorporating Indigenous knowledge, and facilitating peer to peer learning, for example between food producers on the ground. High-quality NbS can deliver significant benefits for climate, biodiversity, and people. Although they are not a silver bullet for solving the climate crisis, they are a powerful part of integrated climate solutions. However, poorly designed and implemented, NbS can be detrimental. Increased investment in high-quality NbS should be implemented in partnership and with full respect of Indigenous peoples and local communities' rights and knowledge, should avoid only focusing on one type of ecosystem, and support or enhance biodiversity.

> *"Farmers are first and foremost food producers and they are really proud of being food producers, whether that's to feed their families, their communities, and beyond. Their new challenge is that they are also natural capital asset managers."*
>
> — Jake Fiennes, Manager-Conservation, Holkham Estate

The private sector's role in catalysing transformation and climate resilience is vital in agri-food systems as well as in biodiversity landscapes and communities. Deploying climate risk sharing instruments and adaptive technologies at scale, as well as supporting those enacting this transition on the ground requires an enabling environment. This needs to enhance public trust and match climate-adaptive technologies to farmer needs. Building a strong business case for climate adaptation in diverse agri-food systems at scale remains a key challenge that requires greater investment as well as shifting policy incentives.

> *"Farming has to be one of the riskiest businesses in the world and people who depend on farming for a living tend to be risk averse. That's why shifting policy incentives to help farmers manage that transition are really critical to making the transition."*
>
> — Ann Tutwiler, Senior Advisor, Just Rural Transition

Enhancing the climate resilience of agri-food systems and biodiversity landscapes remains a key challenge in Asia and the Pacific due to a lack

of finance. Agri-food systems in the region are the most vulnerable to climate change. Despite requiring about US$180 billion in adaptation finance per year, they received only US$4 billion out of annual average global climate finance flows of US$632 billion in 2019 and 2020. Small-scale agriculture received only 1.7% of the total global climate finance. Agri-food systems in Asia received total climate finance of only US$39.5 billion over the period 2000-2018, and the share of agriculture out of total climate finance declined from 45% in 2000 to 24% in 2018.

Digital technologies have the potential to boost recovery of agri-food systems as well as to effectively monitor threats to biodiversity and support efforts to build the climate resilience of local communities. Scaling up investments in digital agriculture (through initiatives such as FAO's 1000 Digital Villages Initiative and Hand-in-Hand Initiative) is critical to enhance agricultural resource efficiency, safety and quality, and adaptation to climate change. The application of new technologies (such as satellite imagery, GIS, blockchain technologies, mobile phones, data systems) for effective monitoring of biodiversity threats (flora and fauna monitoring, wildlife trade, poaching) must be complemented with and build on traditional knowledge. Providing the right tools compatible with the needs and capacities of local communities is equally important to facilitate the easy adoption of such technologies.

Launches and announcements at COP26

- Sixteen countries have pledged support to the Policy Action Agenda, which sets out steps that governments, farmers, and others can take through policy reform and innovation transition to sustainable food systems.
- The Global Action Agenda for Innovation in Agriculture, supported by more than 160 governments and organisations, was launched. It aims to close the innovation gap in agriculture and food systems.
- The UK will launch a £65 million just rural transition support programme to help developing countries move towards more sustainable methods of agriculture and food production.
- The Glasgow Leaders' Declaration on Forests and Land Use adopted at COP26, which includes a pledge by 133 countries (covering 90% of global forest area) to end and reverse deforestation by 2030 commits US$19.2 billion of public and private finance.
- Thirty of the world's largest financial firms pledged to stop funding activities linked to deforestation. As part of Nature for Life Hub nine organisations committed US$5 billion over 10 years to protect nature, climate, and people. Under the Finance for Biodiversity Pledge, 75 financial institutions committed to protect biodiversity through their finance activities and investments.

Learn more...

- ADB is supporting Lao PDR through a matching grant scheme to the private sector in partnership with smallholder farmers, which provides up to 50-60% of the cost to promote climate-adaptive agriculture and agribusiness value chains.
- In Nepal and Bangladesh, IFC with support from the Pilot Program for Climate Resilience developed a sustainable and replicable climate-smart business model of private sector engagement with smallholder farmers that promoted resilience and increased productivity. The program impacted around 100,000 farmers and supported five agricultural commodities.
- This year, a major new Nature based Solutions (NbS) report launched by 15 environment and development organisations highlights successful NbS across a wide range of contexts and identifies common success factors and recommendations: Nature-based solutions in action: lessons from the frontline.
- In Ethiopa, Farm Africa's long term partnership with communities, businesses and government in the region to increase the value of forests, reduce the need to expand farmland and implement landscape-wide approaches to NbS resulted in a decrease in deforestation by 62%, fuelwood consumption by 50%, along with increased incomes, dietary scores, and water access.
- In Mali, funded by the Darwin Initiative, Tree Aid and local partner Sahel Eco worked with local communities to strengthen local forest management, sustainable land practice management and develop viable enterprises around non-timber forest products. There has been a 270% increase in average household income, a 34% reduction in people living below the poverty line, as well as an increase in biodiversity and in tree density and cover.
- China, Jinsha River Valley in Yunnan: Farmers' Seed Network's work setting up community seed banks and working with 14 farming communities to show how working with nature can help people cope better with and recover from crises like COVID-19 and climate change.
- Across the globe, momentum is building to ensure people are at the center of transforming food and land use systems. This Case Study Library aims to document these experiences. Read more here: Compendium of Country Case Studies: Accelerating Transition to Sustainable Agriculture.
- As of 2020, the World Food Programme's R4 scheme reached nearly 180,000 farming households (55% women), benefitting approximately 900,000 people in Bangladesh, Burkina Faso, Ethiopia, Kenya, Madagascar, Malawi, Mozambique, Senegal, Zambia, and Zimbabwe.
- The Just Rural Transition, with support from WBCSD and Meridian Institute, released an investment partnership Case Study Library, which showcases how agricultural production can be scaled to meet the demands of a growing global population, all while improving the livelihoods and resilience of farmers.

ENERGY ACCESS AND RESILIENCE

Currently, over 770 million people around the world lack access to electricity or appliances and technologies that can help them earn a living, irrigate crops, stay cool amid rising temperatures, and withstand shocks such as economic crises and pandemics. Building resilience in the energy sector will support global efforts to accelerate universal energy access, and provide reliable service to those already connected to the grid.

The energy sector is vulnerable to a range of climate impacts, and with increased electrification, climate risks will change. Climate events not only pose a substantial risk to the supply of clean, affordable, and reliable energy, but can also cause severe economic and social disruption. There is a critical need for the mainstreaming of climate resilience policy specifically within decarbonisation strategies and general energy planning. Building regional databases of high-quality energy data can support decision-making, increase stakeholder participation and improve the transparency of the process. Increased climate resilience can support the clean energy transition by addressing adverse climate impacts on renewable energy; promote sustainable development by ensuring reliable energy; boost energy security by mitigating climate impacts on supply; and protect vulnerable groups, especially children and the elderly, Indigenous communities, and women.

> *"The interconnectedness of our energy, economic, and social systems means we need to take seriously the opportunity to mainstream resilience in our planning, policies and infrastructure."*
>
> — Mollie Johnson, Assistant Deputy Minister for the Low Carbon Energy Sector, Natural Resources Canada

Climate resilience must be an integral part of clean energy transitions at every level, from international organisations' policies to government legislation to business strategy, and individual public action. Changes in climate are likely to pose a significant risk to the decarbonisation efforts such as clean energy transitions, directly affecting the availability of renewable energy sources and testing the physical resilience of energy networks. Encouragingly, half of the International Energy Agency member countries have a "good" level of policy preparedness to climate hazard; yet more must be done to align national energy and climate plans. Still, developing countries and emerging economies can face difficulty in mainstreaming resilience in policy planning and infrastructure development, especially with gaps in climate data and insufficient information on climate change impacts and risks. Sharing the latest information from climate modelling will greatly support infrastructure planning that withstands likely climate events, and help vulnerable countries develop policy measures to build climate resilience.

> *"After all, what good is clean energy if it's not there when you need it most?"*
>
> — Katie Jereza, Vice President of Corporate Affairs, Electric Power Research Institute (EPRI)

Energy resilience cannot be achieved without gender equality. When energy access is disrupted women are most impacted. To adopt gender based approaches in practice, it is important to include women in decision making processes and adopt practices such as gender action planning and gender impact monitoring, as well as gender disaggregated data collection. Rural Nepal pilots in household biogas plants demonstrate the positive gender impact of energy resilience, as adult women save up to 123 minutes a day usually spent on collecting fuelwood. This intervention offers a variety of co-benefits, such as improved indoor air pollution and improved sanitation.

> *"If we are going to achieve SDG7 in the most remote communities, local clean energy entrepreneurs will be crucial."*
>
> — Drew Corbyn, Head of Performance and Investment, GOGLA

Investing in local clean energy entrepreneurs and business is vital to driving SDG7 as they have local knowledge, in-depth understanding of the market and are able to reach last-mile customers. Innovative business models, such as pay-as-you-go, can address the affordability element of many off-grid solar appliances for end users, an important mechanism towards achieving universal energy access. Supporting local entrepreneurship must focus on capacity building and ensuring that there is a package of support mechanisms, from early-stage innovation to commercialisation. For example, solar water pumps are proving effective in supporting smallholder farmers in rural Sub-Saharan Africa as they can grow crops in the off-season and during droughts, which improves crop yields and livelihoods. However, the market is not scaling due to low levels of affordability, awareness, and availability of these appliances.

Launches and announcements at COP26

- Edison International will deliver 100% clean carbon-free energy to customers in California by 2045 and is working on ensuring resilience to climate risks through its Mind the Gap analysis.
- This year, the Inter-American Development Bank incorporated a "hurricane clause" into its financing in the Caribbean and Central America, meaning that principal payment will be postponed for 2 years for countries in these regions that are affected by a hurricane.
- The International Energy Agency (IEA) will release a report at the end of 2021 on the Climate impacts on South and Southeast Asian Hydropower including measures to enhance climate resilience, as done in the past for African and Latin American hydropower.
- The Nuclear Energy Agency (NEA) released a new report on Climate Change: Assessment of the Vulnerability of Nuclear Power Plants and Approaches for their Adaptation.
- The newly announced Global Energy Alliance for People and Planet aims to unlock US$100billion of public and private finance to help accelerate and scale a just, clean energy transition.
- USAID launched its new initiative, the Corporate Clean Energy Alliance (CCEA). CCEA's members, including business leaders and associations in Asia, are committed to working with USAID, host country governments, and like-minded partners to facilitate the rapid deployment of today's state-of-the-art clean energy technologies through identifying, informing, and implementing clean energy solutions and policies.

Learn more...

- Edison International has reoriented its reliability analysis and work to include resilience, stating that in the past, resilience issues were not considered, or even deliberately left out of analysis, and viewed as anomalies.
- The International Energy Agency (IEA) has incorporated the notion of resilience in the meaning of energy security, recognising it as a necessary part of planning for clean energy transitions, working also very specifically on climate resilience issues within the electricity sector.
- Costa Rica provides an inspirational example of aligning climate and energy planning. After the development of its National Decarbonisation Plan in 2019, Costa Rica revisited its National Energy Plan to ensure that both were aligned. This is mirrored by success in reducing energy demand from consumers and industry to increase resilience to climate-related supply shocks. It is currently designing requirements for climate risk-assessments in every new public sector project – mainstreaming resilient design.
- USAID provides an example of the role that international organisations can play in helping emerging economies effectively address the climate risks they are facing. In LAO PDR, it carried out an assessment to improve power sector climate-resilience, identifying actionable changes, especially to increase compliance with construction codes.
- The series of articles on Climate Resilience Policy Indicator for 38 IEA family countries demonstrates an initial effort to assess the level of climate resilience of each country by comparing the level of climate hazard that the country is facing against its policy preparedness.
- Bangladesh has one of the world's most extensive domestic solar energy programs. The Energy Access Model includes programmes such as the Solar Home System (SHS), the Solar Irrigation Program, and the Solar Rooftop Program. SHS started 1996 and has seen over 6 million Solar Home Systems installed in Bangladesh, benefitting 30 million people.

Dungarpur Renewable Energy Technologies Pvt. Limited (DURGA Energy) is a solar panel module manufacturing plant completely owned and operated by local tribal women of Dungarpur District, Rajasthan, India.

Photo credit: Kunal Gupta / Climate Visuals Countdown

CITIES, REGIONS, AND BUILT ENVIRONMENT

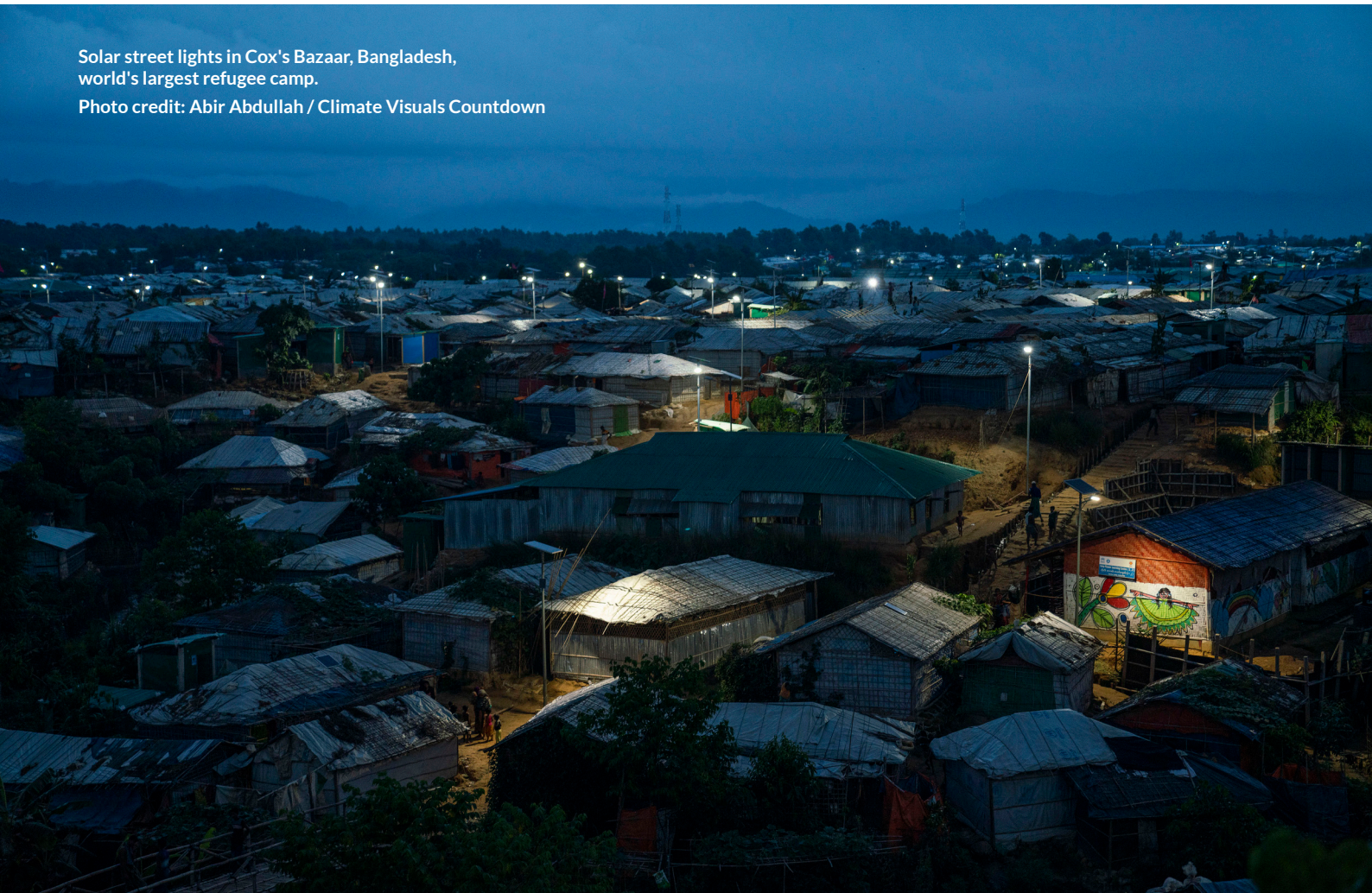
More than half the world lives in cities, and yet, if cities don't become more resilient by 2030, climate change alone could push 77 million people back into poverty. Cities and regions serve as the central hub for key aspects of human development - housing, livelihoods and economic growth, health, education, and as the primary geographies for strengthening resilience in the built environment.

In the fastest urbanising regions of the world, there is a critical gap between technological solutions suggested and whether they lead to inclusive, resilient responses that tackle inequality. This is of particular importance as the fastest urbanising regions are located in the Global South, where human rights, migration, and displacement are often missing from adaptation and resilience planning. As COVID-19 has exacerbated urban inequalities, there is a need to rapidly evolve monitoring and evaluation to measure progress against issues of injustice and inequality. Technological solutions, their governance models, and long-term maintenance strategies need to be adapted to context-specific criteria such as informality rather than being transferred through replication.

"Delivering successful community-driven resilience initiatives requires coordination across all governance levels, access to finance, setting up institutional networks, capacity development and awareness-building. Local authorities, and their respective Mayors, play a central role across these aspects."

— Srinivas Sampath, Director, Urban and Water Division, Southeast Asia Regional Department, ADB

Mayors are leading the way on climate adaptation and resilience, but scaling up action requires the support of national governments to access finance. Urban resilience and urban climate action planning processes need to be integrated at the local, regional, and national levels. Most Nationally Determined Contributions (NDCs) include urban climate action, as 113 out of 164 NDCs show strong or moderate



Solar street lights in Cox's Bazaar, Bangladesh, world's largest refugee camp.
Photo credit: Abir Abdullah / Climate Visuals Countdown

urban content. Urban resilience tools, methods, and approaches have supported the development of resilience plans for cities, however these are rarely integrated back into national planning and reporting processes. Scaling up action requires national governments to ramp up support to cities and other non-state actors to access finance. One way of linking national and local planning is through strategic masterplanning at a regional level to understand the effects of climate change on regional functions and systems beyond city boundaries.

The urban residents who are most affected by climate change need to play a central role in developing the strategies and actions to respond to it. Residents of low-income and informal settlements have demonstrated their capacity to map the issues facing their neighbourhoods, to develop appropriate plans for upgrading, to implement projects that improve their neighbourhoods, and to manage the financial elements of these processes. International, national, and municipal actors need to work with organised groups of low-income residents rather than imposing top-down and externally developed activities.

> *"As cities, we need to not just focus on large physical infrastructures to reduce risks such as flooding brought about by climate change, but invest our resources in developing people's awareness and skills so they can anticipate and prepare for disasters and also invest in technology."*
>
> — Sonia Fadrigo, National level grassroots leader, Homeless People's Federation, Philippines & Secretary of the SDI Management Committee

Urban investment planning must place climate change at the centre and avoid sector-driven approaches. The current design of investments in the pipeline is predominantly sector driven and should pivot to climate-responsive approaches that take into account the different scales – urban, regional, national. This requires going beyond project-based approaches to determine functions, ecosystem services, and benefits that can strengthen climate resilience. Investors need to consider regional spatial planning tools and methods, such as the Spatial Development Framework (SDF), which integrates territorial realities, climate change risks, and socio-economic projections to scale long-term adaptation and resilience through investment.

Play has been edged out of cities and needs to be reintegrated as a core design principle. Whilst children of previous generations enjoyed high degrees of autonomy in navigating urban spaces, children today are faced with rapid urbanisation, overzealous regulations, traffic, air pollution and a host of other challenges that erode their opportunities for play. The rapid expansion of cities has also encroached upon space for nature-based interventions. Nature based Solutions need to be integrated in planning processes to ensure resilient urban growth delivers both human wellbeing and ecosystem benefits. Focusing on play, and in particular nature-based play, can generate co-benefits for children's wellbeing as well as natural ecosystems and biodiversity.

Learn more...

- Urban resilience tools such as CityRap (developed by UN-Habitat) can highlight gaps in capacities and planning in most vulnerable areas. Such tools can identify climate risk priorities and ensure the integration of sustainable urban development and climate action.
- This WRI report on Seven Transformations for More Equitable and Sustainable Cities highlights the urban transformations needed in infrastructure design and delivery, service provision, data collection, urban employment, finance, land management and governance.
- The PEAK Urban Framework provides an approach to thinking through the trade-offs and tensions present in cities' development.
- The Spatial Development Framework (developed by UN-Habitat) integrates territorial realities, climate change risks, and socio-economic projections to scale long-term adaptation and resilience through investment. It has been used in Rwanda, Myanmar, and Nepal.
- African cities have limited access to financing and limited capacity to manage large bids. Five cities in Mozambique joined forces to access funding from the GEF. This regional approach aims to protect mangroves to increase the resilience of coastal cities.
- The World Resources Institute (WRI) has published a report on Water Resilience in a Changing Urban Context: Africa's Challenge and Pathways for Action that proposes a framework for building urban water resilience in African cities.
- Through 40 global case studies, 14 recommended interventions and 15 actions for city leaders, developers and investors and built environment professionals, Arup's Cities Alive: Designing for Urban Childhoods report shows how we can create healthier and more inclusive, resilient and competitive cities for us to live, work and grow up in.
- The Asian Development Bank (ADB) is providing resources for piloting approaches to integrate community-led projects into ongoing or planned ADB projects, and thereby contribute to resilience building at various scales in Bangladesh, India, Indonesia, Myanmar, Pakistan, Nepal, Philippines and Viet Nam. The methodology for supporting community-led planning can be found in the Community-Led Urban Resilience Planning practical guide.
- Revitalising Informal Settlements and their Environments (RISE) provides research-based evidence that a localised, water sensitive approach to revitalizing informal settlements can deliver sustainable, cost-effective health and environmental improvements, paving the way for further deployments in the region and globally.
- WIEGO and the Global Alliance of Waste Pickers have launched a methodology and calculator tool to estimate the GHG emissions that waste picker groups prevent, highlighting the key role they play in tackling urban waste.

RESILIENT INFRASTRUCTURE

The theme on infrastructure resilience focused on the urgency of implementing adaptation in the infrastructure sector as a means to drive economic growth and equitable access to infrastructure services.

Bridging the North-South capacity gap to address infrastructural resilience requires distinct strategies. While governments in Low- and Middle-Income countries (LMICs) are already investing around USD 1 trillion (3.4-5% of the respective GDPs) in infrastructure annually, disruptions in infrastructure systems are costing them a significant USD 391-647 billion annually. Infrastructure accounts for 88% of all adaptation costs, hence transformation in the prioritisation, planning, design, construction, and operation of resilient and inclusive infrastructure is urgently required, along with additional infrastructure investment to address new shocks and stresses in the face of our changing climate. This needs to be underpinned by prioritising strengthening institutional and human capacity in the Global South.

Infrastructure failure can lead to cascading risks to heavily interconnected systems. Besides economic losses, infrastructure failures have compounding impacts on supply chains and service delivery networks, often depriving communities of basic services during extreme events and bringing daily lives to a standstill. As we continue to operate infrastructural systems at close to maximum parameters, designing in buffers for infrastructural capacity needs to account for the interconnected nature of our systems.

While the urgency to climate-proof infrastructure is well acknowledged, its design in the face of climate-related uncertainties continues to be a challenge. As a resilient transport sector is key to achieving adaptation and resilience goals, codes and standards for transport need to take into account current and future climate change scenarios. New standards such as ISO14090 and BS8631 provide the mechanisms to update and improve adaptation plans in transport. However, there is an urgent need for older codes to be updated, as existing codes such as the Eurocodes do not cater for current or future climate change scenarios. Regulatory frameworks, such as land use, zoning regulations, or building codes, should be strengthened to support integrated and holistic approaches that provide risk-informed guidelines and standards.

Nature based Solutions (NbS) can provide a cost-effective approach that complements traditional grey infrastructure. They need to be integrated in planning processes to ensure sustainable and resilient urban growth that delivers both human well-being and ecosystem benefits. It is important that all benefits of NbS are included in the valuation of a project to increase their cost to benefit ratio compared to grey infrastructure. The value proposition needs to include environmental, social, and economic benefits as well as alternative value addition methods, such as tangible and intangible heritage.

> *"Transformational change is needed starting here at COP26 with real global commitments which can drive policy and financing, and then planning and delivery, and finally ongoing management and maintenance of our infrastructure in order that infrastructure is no longer the problem, but is the key to the solution."*
>
> — Karki Komal, UNOPS Country Manager of Nepal Project Office

Financing resilient infrastructure needs to go hand in hand with planning processes. The duration of climate finance must be lengthened to match the timelines of infrastructure planning and implementation. To meet the needs of communities and vulnerable groups, financial products need to increase the flexibility of their terms. Financing innovative pilots is required to generate a proof of concept of the 'resilience dividend'. Based on this, further leverage is then required to mobilise resources for scaling effective interventions.

Equality fomenting urban solutions, including infrastructure that meets local needs, emerge when we go beyond listening to community voices and make communities valued partners in planning and action. Urban data and methods allow us to predict, measure, and track progress, for example through measuring urban emissions (transport, buildings, etc.) more accurately and inexpensively than ever before. Solutions to difficult problems in resource-constrained contexts such as sustainable informal settlement upgrading, sanitation service provision, urban and transport planning are possible. However, a common factor in making them possible is the productive

knowledge exchange between urban stakeholders that recognises the validity of knowledge that has traditionally been dismissed as informal - that of communities, to bridge inequities that climate change exacerbates. A culture of collaboration and knowledge sharing among stakeholders – international development institutions, funding institutions, government, private sector, and communities – is crucial to learn from failures and build on successes.

Launches and announcements at COP26

- XDI has launched The Cross Dependency Initiative, their new analysis on 34 million UK addresses undertaken to support mortgage lenders. The research shows that there are half a million high risk properties today, increasing to 1.9 million by 2100. While many large banks now have the capability to identify and therefore avoid addresses where extreme weather and worsening insurance costs could give rise to default risk, without access to information small and medium size lenders are potentially at risk of absorbing these assets.
- The Resilience Shift with Arup and CDRI have launched the white paper Governance of Infrastructure for Resilience, which explores how to implement infrastructure governance for resilience.
- Infrastructure Pathways has been launched by The Resilience Shift giving end to end guidance for climate resilient infrastructure and providing a line of sight for resilience throughout the infrastructure value chain.

Learn more...

- The implementation of the ADB Coastal Towns Environmental Improvement Project in Bangladesh emphasised that climate risk and vulnerability analysis should include both historical and climate projections to inform the basis of which towns, subprojects, and sites for subprojects should be prioritised and selected. The Spatial Data Analysis Explorer (SPADE), a geospatial platform, was used to verify the location of planned cyclone shelters to ensure that it will not be flooded. The concept for the ADB Second Coastal Towns Environmental Improvement Project (SCTEIP) has adopted this approach for the infrastructure packages and shall also include non-physical interventions.
- In Laos, the Department of Housing and Urban Development (DHUP), is at the forefront of enhancing their regulatory frameworks for resilient infrastructure both in the rural and urban areas. For the rural areas, they have developed construction guidelines for low-cost and resilient housing, and for urban development, they have devised high rise building regulations including a code, and standards for green buildings.
- WSP's report, Interacting Risks in Infrastructure and the Built and Natural Environment illustrates the benefits of a data driven approach to visualise interacting risks and how risk analysis tools providing risk/cost/benefit analyses can in turn support a more holistic view of the cost of failure.

Grey infrastructure solutions, such as this seawall protecting Jarkata, Indonesia, are not resilient solutions to climate change. Sea-level rise and warming oceans are increasing storm surges, putting hundreds of millions of people at increased risk from flooding. Nature based Solutions, such as mangroves, offer cost effective alternatives that have mitigation, resilience, and adaptation benefits.

Photo credit: Irene Barlian / Climate Visuals Countdown

EARLY WARNING EARLY ACTION AND DISASTER RISK REDUCTION

Climate change impacts are linked to catastrophic events including poverty, food insecurity, disease, conflict and forced displacement, among others – often hitting the poorest hardest. The frequency, scale and costs of these impacts is increasing and forces attention on resilience. And while solutions exist and are already being implemented around the world, they now need to be scaled up and should better connect the management of, and response to, climate and disaster risks to broader development agendas.

Locally led anticipatory action helps those affected by extreme events to cope with the worst impacts. The humanitarian community urgently needs to scale up anticipatory action and connect this with development and climate action in a joined up approach. Development actors should move from a piloting phase to a full-on implementing phase, with the aim of making anticipatory action the norm. Locally-led anticipatory action requires the strengthening of operational capacities on the ground, improving early warning and forecasting systems, increasing the funding available for early action, developing frameworks that allow for a smooth operationalisation of anticipatory action and ensuring that M&E systems are in place to monitor its effectiveness. The Climate and Environment Charter for Humanitarian Organizations, which now has over 170 signatories, offers a set of principles to guide humanitarian action in response to the climate and environmental crises, however action must not be left to humanitarian organisations alone.

> *"Disaster becomes a disaster when we have failed in both short and long term mitigation. You can't save lives and livelihoods without combining DRR and climate action together."*
>
> — Mami Mizutori, Special Representative of the Secretary-General for Disaster Risk Reduction and Head of UNDRR

The interconnected issue of conflict and climate change requires tackling the 'conflict blindspot' in adaptation finance. Countries enduring conflict are less able to cope, adapt, and transform to the effects of climate change, with 14 out of the 25 countries deemed most vulnerable to climate change also dealing with conflict. Tackling climate resilience in conflict affected and fragile regions emphasises the need to understand and engage with interconnected climate and governance issues. Multilateral climate funds and donor agencies need to focus on how to better assist through climate funds, rather than short term humanitarian funding and support.

Disaster recovery requires a mix of financial products. For example, governments may need sovereign insurance for fiscal stability and humanitarian assistance, while individuals and businesses may need parametric microinsurance products and government support for immediate recovery. There is not one type of financing that works best, rather it is important to understand when and how different forms of disaster risk financing (DRF) instruments should be used. As communities and regions are already facing impacts they cannot adapt to, securing Loss and Damage finance is key to tackling the permanent loss of livelihoods, and the resulting migration and displacement.

> *"Humanitarians cannot alone bear the weight and consequences of climate change on our own shoulders."*
>
> — Francesco Rocca, President of The International Federation of Red Cross and Red Crescent Societies

The urban poor are the first responders in contexts where local government services are extremely limited. Informal settlements are often situated in areas prone to flooding, heavy winds, sea-level rise, fires, and forced relocation and therefore approaches that enable the preparedness of the residents of informal settlements are extremely important. Using existing social networks and communication systems in informal settlements can ensure inclusive reach and co-design. For example, in Nairobi, Kounkuey Design Initiative used participatory approaches to bridge the gaps between residents of informal settlements and the Kenya Meteorological Department. Forecast-based actions for residents of informal settlements included drain clearing, temporarily moving household items or vulnerable household members, protecting shops and private households against floods, and highlighting the role of clothing and hydration during extreme heat.

Co-design is critical to enabling forecast uptake. Co-design builds stakeholders' appreciation of the value of forecasts and ensures that forecasts are provided in relevant formats and through channels

ensuring inclusive reach, and addresses "needs based" issues for the local community. Directly engaging at-risk populations in co-design enables communication through trusted social networks and groups, community and local radio. This is exemplified by DARAJA, which means 'bridge' in Swahili, a service and partnership that aims to improve weather and climate information services, including early warnings of extreme weather, for urban users. The DARAJA Service has been piloted already in Nairobi and Dar es Salaam and demonstrated a 20:1 benefit cost ratio in enhanced productivity and avoided climate related damage and loss to users. Scaling up of the approach is not envisaged as replication, but rather transferability of learning tailored to context.

The spirit of "volunteerism" is key in disaster response and needs to be formally recognised and valued. This could be done through establishing governance mechanisms for resilience volunteerism to align actions and improve efficiency between faith-based organisations, volunteer-based organisations, and local communities. For example, COVID-19 has demonstrated the strength of traditional systems of land sharing and sharing of labour, or *solesolevaki* in Fiji, and how they contribute to building resilience. This relies on the spirit of volunteerism, collective action, and mobilisation of communities. Twitter groups such as Hakwa Gang (Nadroga/Navosa Province), YOBA (BA Province) & Manu Dui Tagi (Kadavu) have been instrumental in relocation support and coordination of relief supplies. Building on this momentum requires developing standards of resilience volunteerism and providing accredited training processes for volunteers.

Launches and announcements at COP26

- The START Network's START Ready service launched with commitments of £3 million, including £1 million from the UK Government, €250,000 from the French Government, €500,000 from the IKEA Foundation and US$2 million USD from Margaret A. Cargill Philanthropies."
- Finland announced a €30m funding package for new projects to develop weather and early warning services in developing countries.
- UN members have agreed to a new facility to tackle data gaps. The Systematic Observations Finance Facility (SOFF) by WMO, UNEP and UNDP will fill the data gaps that have diminished our understanding of the climate, including the prediction of extreme weather events. Over the next decade, it will build capacity in 75 countries — including in Small Island Developing States and Least-Developed Countries — supporting them as they generate and share data with the global observation system.
- The US announced the launch of the President's Emergency Plan for Adaptation and Resilience (PREPARE) to support frontline communities experiencing the disproportionate impacts of climate change. It includes a commitment to provide US$100 million over five years to strengthen the resilience of local communities, US$21.8 million to disaster risk financing in Africa, and investments to strengthen local forecasting capacities and early warning systems.
- US$1.2 billion of GCF's approved budget is going to climate information and early warning systems.
- Countries contributing to the Climate Risk and Early Warning Systems (CREWS) Initiative have announced commitments for new investments of US$20 million for early warning systems in Africa, and additional financing for the Caribbean region. The initiative has been widely lauded as a success story in terms of building resilience to extreme weather and saving lives and livelihoods.
- On the research side, the launch of the Climate Adaptation and Resilience (CLARE) partnership, a £100m initiative co-funded by the UK and Canada, includes a priority specifically on research to improve risk-informed anticipatory action.

Learn more…

- Active networks in the early warning early action agenda include the Risk-informed Early Action Partnership (REAP) and the Global Network of Civil Society Organisations for Disaster Reduction (GNDR), the InsuResilience Global Partnership, and the Anticipation Hub.
- The World Food Programme has developed a Hunger Map to anticipate droughts and floods. The UN High Commissioner for Refugees has several artificial intelligence projects that use climate data, such as the Predictive analytics in the Sahel initiative that links climate risks with displacement and food insecurity. UNEP and its partners developed the Strata: Earth Stress Monitor to help end-users identify where environmental and climate stresses are converging.
- With an increased ability to anticipate disasters, humanitarian actors are increasingly releasing humanitarian funds ahead of a disaster, such as through the UN's Central Emergency Response Fund (CERF), the Red Cross Red Crescent's Disaster Relief Emergency Fund (DREF) or the newly-launched START Ready fund for predictable crises. The launch of the CRISP-M tool in India offers an example of building on existing social protection mechanisms to expand existing cash distribution channels to release humanitarian funds ahead of a disaster.
- Experiences of community-led anticipatory action include examples from Bangladesh, where UNOCHA was able to act on a flood early warning received a week before the flooding took place, through releasing anticipatory action funding. When then OCHA activated its "normal" response funding (CERF), it found that the cost of it was half of previous similar interventions.
- Learn more about DARAJA's social approach to early warning through these films.

LOCALLY LED ADAPTATION AND JUST TRANSITION

Local people and communities – especially women, youth, disabled, displaced and Indigenous Peoples – must be at the heart of building resilience as deep rooted poverty, historical injustices, and marginalisation makes them most vulnerable to the climate crisis. The locally-led adaptation theme shone a light on actions from and to support adaptation from local actors across society. This built on the growing political momentum on locally led adaptation through the launch of eight Principles for Locally Led Adaptation and the recognition of the importance of local climate leadership by the COP26 Presidency.

Locally Led Adaptation is an effective vehicle for transformative and equitable adaptation and is ripe for scaling subject to finance access. For communities on the frontlines of climate change, resilience and adaptation are critical present needs that must be urgently addressed. Locally Led Adaptation (LLA) is a promising model to ensure that these communities have a voice in decisions that directly affect their lives and livelihoods. It has been successfully piloted in different contexts such as Zambia, Cambodia, Nepal, The Gambia, and Bangladesh, and is ready for scaling.

> *"We are making sure that every level and every sector—from the community up to the highest level of the government, the NGOs and private sector, as well as the women, youth, disabled and faith-based groups—are included and engaged in our climate change work."*
>
> — Luisa Tuiafitu Malolo, Director of Climate Change, Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communications, Tonga

Scaling LLA requires the alignment of finance commitments to the eight Principles for Locally Led Adaptation. This widely endorsed codification of good practice has seen over 70 governments, leading global institutions, and local and international NGOs signing up to it. Scaling LLA requires investment streams that build the capacities of communities and local government to understand risks, build the financial capacities of women's groups to manage more funds, enable communities and their networks to gather evidence and data, ensure that grassroots groups are able to access and navigate institutional mechanisms/arrangements to access resources, engage in planning and decision making.

> *"The world is obsessed with big data and quantitative evidence, but that has failed the Global South in the context of climate change. Storytelling tugs at the heartstrings of people and that's what we need – an appeal to the hearts rather than the minds."*
>
> — Prof. Saleemul Huq, ICCCAD

LLA requires the integration of generational knowledge systems (local, traditional, and Indigenous) with technical and scientific knowledge. Knowledge from local leaders and grassroots communities is critical to surface and scale adaptation and resilience measures. This knowledge sits in silos, and knowledge brokering to create linkages between South-South and South-North, research-policy-practice-investment and between disciplines is needed to deliver a resilient future. The networks that deliver these linkages have growing wealth of evidence, best practice and expertise that needs knowledge brokering between networks to synergise their collective wisdom and create a whole that is greater than the sum of its parts.

> *"We need capacity building support from the government and other partners. For grassroots women leaders to be able to address climate change risks, we should be economically empowered."*
>
> — Cherry Barnuevo, Secretary General of Solidarity of Oppressed Filipino People (SOFP) Philippines

Young people must be active stakeholders in the adaptation and resilience planning and implementation, particularly as we head into the COVID-19 response/recovery phase. However, they still face barriers of inclusion in key environment, climate, and health decision making and leadership roles. Funding to support their capacity and leadership development is discontinuous. For policies and interventions to be successful, youth need to be engaged in their co-design and implementation.

> *As youth of the Pacific we are resilient and where the negotiations fail, we will not. We refuse to. We will continue to organise and amplify our voices and the voices of our communities. We will continue to lead and in the face of the escalating climate crisis continue to rise up and show that we are not drowning, we are fighting!"*
>
> — Brianna Fruean, Pacific Climate Warrior

The relationship between a just transition and decent work needs to be a key consideration when developing sectoral climate action. Just Transition is a multidimensional issue that requires looking at various themes (such as climate, labour, governance, social protection, gender) and sectors (such as tourism, agriculture, fisheries, transport, forestry) together through one lens. This process needs to be locally driven, as for example, existing literature does not account for the Pacific context. Just Transition should look beyond green jobs, and consider the impacts on healthcare workers, educators, caregivers and those working on small-scale agriculture—key workers for the Pacific who are mostly women.

Launches and announcements at COP26

- The Principles for LLA were endorsed by new donor agencies at the Resilience Hub: USAID, SIDA and the Danish Ministry of Foreign Affairs. Others also endorsed including the Dutch Ministry of Foreign Affairs, CADPI, Fundecooperacion, IUCN, NEF, Fund Avina, Fauna and Flora International, and youth organisations: Clima de Eleição (Election Climate), GAYO, Youth Climate Lab.
- The Adaptation Research Alliance, which is now convening over 100 organisations with more than half from the Global South, had its high-level launch at COP26.
- The Voices from the Frontline initiative by CDKN, ICCCAD and GRP, which launched during COP26, weaves 50 stories and hundreds of contributors into a series of lessons learnt from Covid-19 about achieving the Sustainable Development Goals (SDGs) at community level.
- CDKN, ODI, SNV, CARE, and Mercy Corps have launched a new guide, entitled Advancing gender equality and climate action: A practical guide to setting targets and monitoring progress. A new report by CDKN and WEDO also focusses on Strengthening gender integration in climate finance projects. These publications complement CDKN's training materials on gender and social inclusion in climate projects, available at: www.cdkn.org/gendertraining
- The Kenyan Ministry of Environment and Forestry and the World Bank, with funding from Denmark and Sweden, introduced a new national level programme for Locally Led Adaptation in Kenya, called 'Financing Locally Led Adaptation' (FLLoCA), establishing the first national level devolved climate finance mechanism.
- The Asian Development Bank and Nordic Development Fund launched a new initiative called the 'Community Resilience Partnership Programme', focusing on supporting resilient solutions at the nexus of climate and poverty.

Learn more...

- The Resilience Knowledge Coalition, a network of networks with over 450 members, aims to support translating knowledge into use through its three functions - Collaborate, Connect and Apply. It has seeded activities such as the Global South Talent Pool and Catalytic Grants.
- The Adaptation Action Coalition (AAC) aims to advance adaptation globally. AAC membership is open to all UN member states, as well as the European Union, who have signed the 2019 UNCAS Call to Action on Raising Ambition on Adaptation and Resilience. Eligible countries are encouraged to become a member of the AAC and join the coalition in its mission to accelerate global action on adaptation to achieve a climate resilient world by 2030.
- The Climate Investment Funds (CIF) launched a new report, called Lessons On Local Stakeholder Engagement From The Pilot Program For Climate Resilience: A Case Study Of Projects In Eight Countries, which identifies good practices in the means, process, and principles of local stakeholder engagement for climate resilience and adaptation through in-depth case study of projects from Cambodia, Jamaica, Nepal, Papua New Guinea, Samoa, St. Lucia, St. Vincent and the Grenadines, and Zambia.
- The Near East Foundation's piloted decentralised climate finance (DCF) model is a viable, effective, and potentially transformative model to help local communities build resilience. In both Mali and Senegal, it led to building capacity for public procurement; creating processes that were more inclusive/participatory; strengthening infrastructure; and supporting local communities through 150 investments that reached over one million people.

Mahalia Housing Trust (MHT) works with women to solve housing related issues and transform the slums of their cities. This photo shows MHT meeting with women community leaders.

Photo credit: Mahalia Housing Trust

ARTS, CULTURE, AND HERITAGE

Between technological innovation and individual choice lies the communal realm, a social world of remembering, creating, sharing, and belonging that binds people to places and to each other. Through community centred approaches, culture-based strategies strengthen resilience by supporting social networks and diverse knowledge systems and practices and linking them to place.

> *"Without nature, our culture would be dead."*
>
> — Shaq Koyok, artist and activist from Temuan tribe, Malaysia

Indigenous knowledge of biocultural heritage (including religion and values) is vital for developing adaptation and resilience solutions. Indigenous Peoples should be recognised as environmental experts and custodians of territories at risk, and their biocultural Indigenous solutions, land rights and cultural rights must be protected. Arts and cultural approaches can give voice to these issues, however stakeholders in land reform, food and agriculture, deforestation, and climate resilience must recognise the vital role and rights of Indigenous Peoples.

> *"Initiatives to improve the sustainability of human activities, and our natural environment, require cultural-based strategies."*
>
> — HRH Princess Dana Firas, Petra National Trust President and UNESCO Goodwill Ambassador for Cultural Heritage

Cultural heritage plays an integral role in the resilience of our cities, regions, the built and natural environment. Cultural heritage puts people and their (hi)stories at the heart of climate resilience and adaptation. For example, exploring coastal heritage and histories can help contextualise the changes we are currently experiencing. The 'climate stories' of places and communities from the past through to the future can be told by historic environment experts working with local communities, artists and scientists. Collaboration is essential to respond to the challenges of coastal change, particularly when the goal is to empower local people to help make their places more resilient.

> *"Film-making is a very important tool for our community to tell our message to the leaders and to the world about our cultures, our rituals, our stories."*
>
> — Takuma Kuikuro, Indigenous researcher and film-maker, Xingu Indigenous Territory, Mato Grosso, Brazil

The arts and culture play a vital yet overlooked role in creatively modelling different futures and helping us explore alternative pathways. Creativity is a key enabler of adaptation, as we need to imagine and reimagine alternative future pathways and navigate trade-offs and difficult societal conversations. Theatre, dance, music, film, photography, design can all help bring to life what these alternatives could look and feel like, enabling societal conversations about our preferred futures. These approaches are a key counterpart to the process of developing technological solutions to adaptation and resilience, and cannot be explored in isolation.

> *"Cultural resources are vital tools to enable our struggle in addressing the climate crisis and enabling societal transformation to achieve 1.5 degrees."*
>
> — Karima Bennoune, Former UN Special Rapporteur for Cultural Rights, Visiting Professor, University of Michigan Law School

There is a key need to mobilise the cultural sector itself to articulate the value of arts, culture, and heritage approaches in adaptation and resilience. Arts and culture are a powerful way to raise different voices, to reflect on the world around us, and inspire change at all levels. The cultural sector plays a key role in creating new social norms and behaviours through exploring alternative values and mindsets. In the past, this potential has often gone untapped in climate adaptation and resilience, but this is changing as evidenced by the inclusion of culture-based strategies in the updated Marrakesh Partnership Resilience Pathway and the new Race to Resilience.

Launches and announcements at COP26

- The Culture Initiative of the Race to Resilience (led by the UN High-Level Climate Champions for Climate Action) has been launched, recognising the importance of arts, culture, and heritage in helping 200 million people by 2030 from vulnerable groups and communities to be more resilient through culture-based strategies. With the ambition to involve 200 cities and regions around the world, the initiative aims to catalyse a step-change in global ambition for climate resilience, including committing to expanding, adding, and scaling up new and existing culture-based resilience strategies.

- INSPIRE OR EXPIRE: 18 Art+Climate Co-Creations for COP26 showcased creative responses submitted by Resilience Hub participants during an opening session on November 1 and completed in time for presentation eight days later. They were created by invited artists from around the world (Argentina to Vanuatu and UK to Togo), working on a range of artforms from batik to Bach and from ephemeral beach art to video games or cartoons. You can watch a video summary here.
- Julie's Bicycle COP26 Call to Action calls for Culture to play a fundamental role in planning and promoting environmental transformation, developed from international research and policy roundtables conducted in partnership with the British Council.

Learn more...

- The British Council's Creative Commissions for climate action explore climate change through art, science, and digital technology. Funded projects bring together artists, climate scientists, and activists from 48 countries to address a variety of climate themes such as rising sea levels, deforestation, plastic waste, consumption, and our carbon footprint.
- The British Council Cultural Heritage for Inclusive Growth programme, known in Colombia as "Sembrando Nuestros Saberes/Sowing Our Knowledge", develops strategies to foster the cultural heritage of indigenous people , by collaboratively planning actions that promote their wellbeing and the preservation of their worldview, identity and land. Learn more through this series of short films.
- The Resilience Hub partnered with WaterBear, the first video-on-demand platform dedicated to the future of our planet, to present a COP26 showcase of selected WaterBear titles with resilience in mind. You can watch them here.
- The Hub also showcased a series of films by BBC Media Action, the BBC's international charity, which address climate- and environment-related challenges and connect communities with experts to find practical solutions.
- BBC Arabic's documentary team have spent the past year filming in 10 of the hottest locations on earth. Life at 50°C is a witness statement from people on the front line, raising the alarm on the climate change that has already happened.

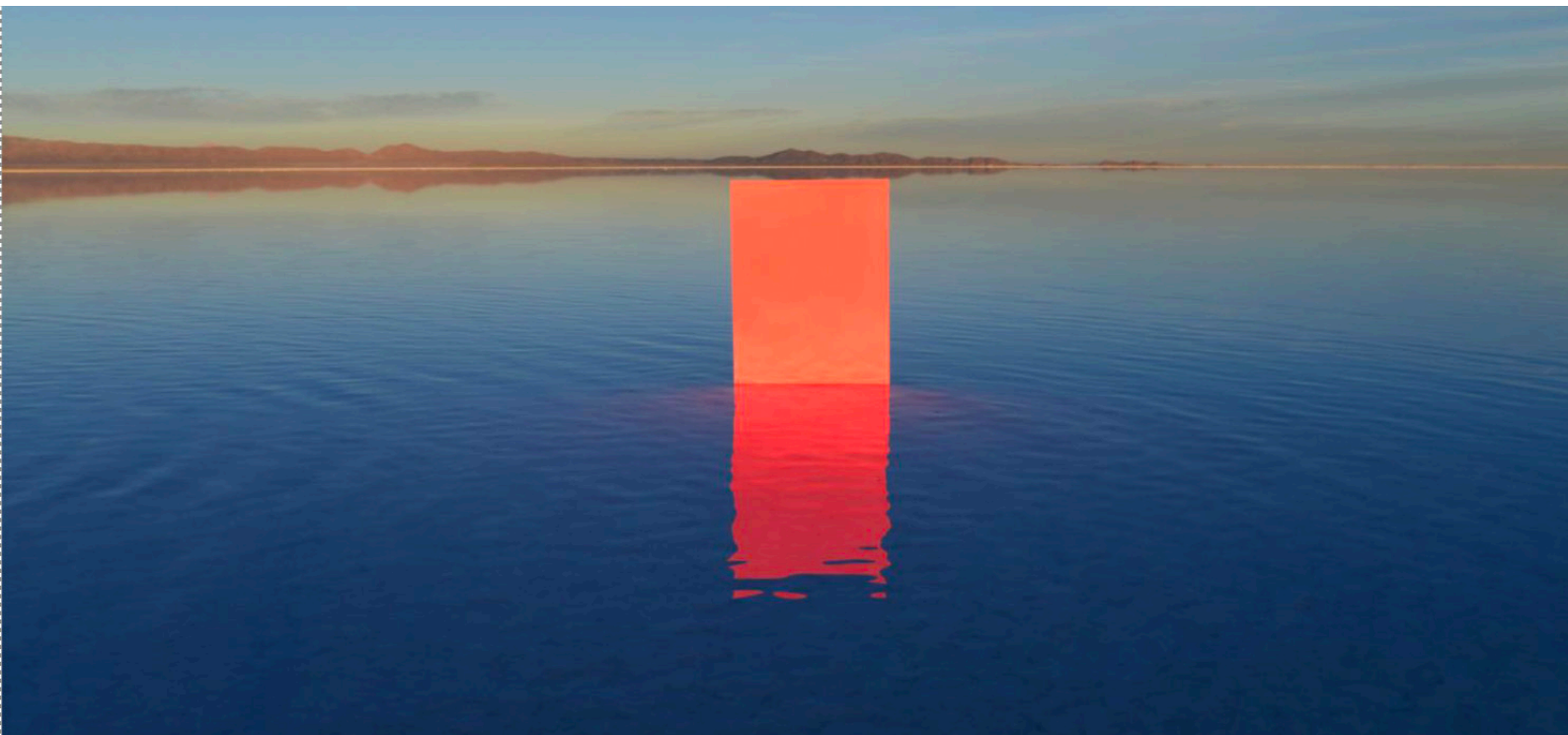
Art + Resilience, the official COP26 art exhibition

Above: Country and Rockholes Near the Olga, 2008, by Bill Whiskey Tjapaltjarri

The paintings of Bill Whiskey Tjapaltjarri (1920- 2008), a Pitjantjatjara artist from the Western Desert, depict Aboriginal Creation mythology and the creation of significant sites. Intimate knowledge of the landscape, documented and passed down by its traditional owners, is vital to understanding land and its management, including the prevention and control of wildfires.

Below: Orange 2014 by Gaston Ugalde, Bolivia

Ugalde creates contemporary collages by situating fabrics inherent to Andean cultural traditions in the Bolivian landscape. This image depicts the Salar de Uyuni saltpan, a location that is an important indicator of rainfall fluctuations in the region.



HEALTH AND WELLBEING

The impacts of climate change, from blistering heat waves to floods and droughts, are devastating the health and well-being of people around the world and disrupting efforts to maintain global health.

Tackling the climate-health nexus is key to addressing justice and inequality. The impacts of climate change are disproportionately felt by those that suffer from ill health or health inequalities, with challenges such as air pollution and urban heat posing a tangible threat to the lives and livelihoods of the most vulnerable. There is significant urgency to act now to incorporate health as a priority within climate action to accelerate progress towards both climate and health goals. This requires collaborative engagement with the vulnerable and those most affected, tackling both health and climate in a joined-up manner. For example, the city of Quito, Ecuador is implementing solutions that address several problems simultaneously, seeking to improve health through access to food and nutrition. These interventions aim to lift the urban poor out of poverty, thereby making them less vulnerable to the impacts of climate change.

> *"There is a growing realisation of the interplay between climate change and health, and a growing recognition that the healthier a society is the more resilient it will be to deal with the effects of climate change."*
>
> — Clare Wildfire, Global Practice Lead, Cities, Mott Macdonald

Scaling the prevention agenda requires focusing on the wider determinants of health. Socio-economic factors play a key role in shaping people's health, with a demonstrated strong and persistent link between social inequalities and disparities in health outcomes. For example, the US study Tree Equity found that in urban areas tree cover is inversely correlated to poverty and poor health. Lowest income neighborhoods in the US have, on average, 41% less tree cover than the most affluent. Neighborhoods with a majority of people of color have 33% less tree cover than majority white neighborhoods. As trees can cool the area underneath by as much as 7.5°C, the extra heat is borne most often by communities of color and lower-income communities.

Climate change is increasing the existing vulnerabilities of informal workers. Two billion people globally are involved in informal work that exposes them to extreme conditions such as heat, drought, or pollution. As many rely on daily earnings, they often lack savings or healthcare, and COVID-19 has only heightened health risks and precarious livelihoods. Women informal workers face additional challenges due to care responsibilities and gender-based violence. Approaches to tackle this include the partnership between the Zimbabwe Chamber of Informal Economy Associations (ZCIEA) and the International institute for Environment and Development (IIED) to undertake research into how the informal economy is affected by climate in Zimbabwe, and how the creation of strong civil society partnerships coupled with responsive local government have helped to change health and livelihoods through actions addressing food security, recycling and tree planting.

> *"Climate change is happening all around the world and people are losing their lives and livelihoods based on the impacts of extreme heat"*
>
> — Eugenia Kargbo, Chief Heat Officer, Freetown, Sierra Leone.

Extreme heat is one of the most dangerous health and wellbeing threats in the world, impacting every area of society. Vulnerable populations, such as the elderly, women, labourers, and those in informal settlements are often the most impacted by this threat. Urbanisation is further exacerbating the impact extreme heat has, as urban heat islands lead to challenges such as a lack of productivity, the inability to spend time outdoors, increased levels of disease, excess deaths, as well as episodic disasters such as power outages. Tackling these requires gathering accurate evidence, deploying multi-channel communications campaigns, as well as strengthening institutional responses to extreme heat, community vulnerability, and infrastructure performance.

Tackling air pollution requires integrating air quality as a key indicator for climate action. Air pollution is responsible for 4.2million deaths, however there is a lack of integrated approaches to tackle it across the energy and mobility sectors. Addressing air pollution requires cross-sectoral responses, such as addressing transport policy through a public health lens, or addressing the need to scale clean fuels (such as biogas) to tackle indoor air pollution, resulting in structured, long term and sustainable policy actions.

Pilot heatwave anticipatory action in Dhaka organised by the Bangladesh Red Crescent, with support from German Red Cross partners.
Photo credit: BDRCS

Nature based Solutions provide key health and wellbeing benefits as well as strengthening climate resilience. Regenerative design, an approach to landscape and urban design that seeks to harmonise urban ecologies and biodiversity, can create opportunities for people and nature to thrive. As well as promoting indigenous insights on the use of nature to thrive, these approaches include rewilding 'leftover' spaces and reducing lawn cover, creating blue/green corridors, and setting standards for implementation of green walls and roofs. Such interventions create new spaces for leisure and play, improving mental health and wellbeing, and also create important buffer spaces during heat waves or storms.

Launches and announcements at COP26

- The Atlantic Council's Adrienne Arsht-Rockefeller Foundation Resilience Center (Arsht-Rock) launched the City Champions for Heat Action (CCHA) initiative. Miami-Dade County, USA, Athens, Greece, and Freetown, Sierra Leone, became founding members of the initiative and made a commitment to appoint a "Chief Heat Officer," a government position focused on the threat extreme heat poses to city and county residents. The #HeatSeason Campaign and the accompanying toolkit aims to raise awareness around the impacts of extreme heat and provide solutions-focused guidance. Seville and Athens will name and categorise heatwaves, while Miami-Dade County will declare an annual heat season.

Learn more...

- The Wellbeing of Future Generations Act in Wales was the first of its kind globally to require all public bodies to consider the long-term impact of their decisions. The Act, which sets out seven long term wellbeing goals recognises the need to shift towards prevention and the need to fund these interventions.
- Urban tree planting is a potent form of climate mitigation and adaptation. However, in the US tree coverage disproportionately favours those of higher socio-economic background, meaning that those that are more vulnerable to ill-health are also less protected from climate change impacts. By quantifying the climate mitigation impact of more tree cover in cities, Tree Equity Score has influenced policy at a regional and national level, recently securing the inclusion of $3 billion of the government's Build Back Better investment.
- Since 2018, the International Institute for Environment and Development (IIED) has partnered with informal workers and residents of informal settlements in Indore, India and Harare and Masvingo in Zimbabwe to highlight key challenges and explore solutions.
- The Queensland Human Health Climate Adaptation Plan is the first of its kind to focus on climate and health in an Australian jurisdiction.
- WIEGO has developed a series of resource documents on the impact of COVID-19 on the four main categories of informal workers: domestic workers, home based workers (including garment workers), street vendors, and waste pickers.

REFLECTIONS AND NEXT STEPS TOWARDS COP27 AND BEYOND

COP26 has seen the adaptation and resilience agenda coming to the fore. The first Resilience Hub provided a physical and virtual space for the global adaptation and resilience community to take stock, strengthen our collective voice, and identify our shared next steps as we keep building momentum towards COP27 and beyond. The Resilience Hub, as the home of the Race to Resilience, will build on the UK COP26 Glasgow Imperative on Closing the adaptation gap and responding to climate impacts on the pathway to Sharm el-Sheikh. Cutting across the Glasgow Imperative as well as the different Resilience Hub themes, pillar, and activities is a growing consensus of the need for pragmatic and equitable action to scale Locally Led Adaptation and Nature based Solutions, to scale and diversify adaptation and resilience finance, to advance knowledge brokering initiatives, to progress the development and application of the Race to Resilience Metrics Framework, and to use arts and culture to inspire change at all levels.

We all have a part to play in putting this into practice. Whether we are funders of adaptation and resilience (donors, financial institutions, asset owners, investors, trusts, and foundations), regulators and policy makers (international, national, subnational, and local level), private sector organisations (technology providers, innovators, business and service providers), practitioners (civil society organisations, community-based organisations, faith organisations, subject-matter experts), or researchers (academic institutions, think tanks, policy institutes), it is upon all of us to ensure that adaptation and resilience action follows at pace.

> *"We're really just at the beginning and we have a lot more work to do. Resilience is a key theme under the Egyptian presidency and a huge theme for the African continent. I'm excited to put more emphasis on the Race to Resilience next year, especially as one of our commitments to the future of the Marrakech partnership is to regionalise and bring in local voices and work with partners on local solutions."*
>
> — Nigel Topping, High Level Champion for Climate Action at COP26, during the Resilience Hub Reflective Event at the end of week 2

The Resilience Hub will continue its work to advance action on adaptation and resilience at COP27 and beyond. This will be demonstrated by sharing what non-state and state actors are doing to build a resilient future where people, communities, businesses, and cities thrive in the face of the impacts of climate change. The Resilience Hub will continue to bring together global voices both physically and virtually, will build collaboration and momentum, help identify opportunities, strengthen regional and global networks during COP, as well as help amplify learning and action throughout the year.

Taking action through putting women, youth, disabled, displaced, and Indigenous peoples at the heart of decision-making is key for COP27 not to succumb to more "blah, blah, blah". As youth movements around the world have been key in shaping the narrative of climate emergency and justice, now action must follow.

A ONE WORD TAKEAWAY FROM THE RESILIENCE HUB...

GLOBAL RESILIENCE PARTNERSHIP

Atlantic Council

Adrienne Arsht-Rockefeller Foundation Resilience Center

THE RESILIENCE SHIFT

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