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Summary Report of the Resilience Lab at the Glasgow Climate Change Conference (COP 26): 2-11 November 2021

Building on a “collective intelligence” exercise exploring the potential and options around human sustainability and expanding planetary boundaries towards regenerative prosperity, Resilience Frontiers hosted the Resilience Lab at the Glasgow Climate Change Conference (COP 26). The theme of Resilience Frontiers during the twenty-sixth session of the Conference of the Parties (COP 26) to the United Nations Framework Convention on Climate Change (UNFCCC) was “Shifting mindsets, shaping the future.” Exploring eight pathways into a future of permanent resilience, the Lab took participants on a contemplative journey to challenge thinking, change mindsets, and imagine a better world. Following an introduction of Resilience Frontiers and the Lab, participants engaged in daily sessions that addressed issues related to the eight pathways, namely:

- transforming humanity’s interface with nature, building on indigenous values;
- applying lifelong learning for environmental stewardship;
- ensuring universal equitable coverage of, and open-access to, (big) data and information, and related benefits to human wellbeing;
- managing water and other natural resources in a participatory and equitable way;
- managing transboundary considerations equitably;
- optimizing future health and wellbeing using a holistic and ecosystem-centered approach;
- mainstreaming regenerative food production; and
- developing transformative financial instruments.

Brief History

Resilience Frontiers began as a “collective intelligence” process to address long-term global resilience to climate change beyond 2030 by harnessing the potential of paradigm-shifting frontier technologies and emerging social trends. A number of events are important in its evolution as detailed below.

Key Turning Points

Songdo Brainstorming Conference: Convening in Songdo, Republic of Korea, from 8–12 April 2019, this event brought together 100 thought leaders from diverse backgrounds, whose expertise covered 15 different themes which were

clustered into three groups. The first, which addressed drivers of change, included artificial intelligence (AI), autonomous systems, biotechnology, satellite technology, and the emerging sustainability ethos. The second group considered the basic needs of human beings, including water, food, health, nature, and human security. The third dealt with institutional arrangements related to finance, education, law and governance, human habitats, and values. Using a foresight methodology which integrated the collective intelligence of all participants in a networked fashion, the meeting elaborated the eight pathways.

UN Interagency Meeting: In November 2019, a UN interagency meeting brought together representatives from UN organizations to contribute to a foresight-centered discussion and long-term visioning exercise on resilience. The meeting achieved four main outcomes: refining the eight transformational pathways; providing advice on the modalities for the road-

In This Issue

Brief History	1
Summary of the Resilience Lab Sessions at COP 26.....	2
Launch of the Resilience Lab at COP 26.....	2
Pathway 1: Transforming Humanity’s Relationship with Nature	3
Pathway 2: Lifelong Learning for Environmental Stewardship.....	4
Pathway 3: Universal, Equitable Coverage of, and Open Access to, (Big) Data and Information	5
Pathway 4: Managing Water and Other Natural Resources Equitably and Inclusively	6
Pathway 5: Managing Transboundary Issues Equitably.....	7
Pathway 6: Applying a Holistic, Ecosystem-centered Approach to Optimize Future Health and Wellbeing	8
Pathway 7: Regenerative Food Production	9
Pathway 8: Developing Transformative Financial Instruments	10
Closing the Resilience Lab at COP 26	12
Upcoming Meetings	12

mapping phase; identifying the most relevant entities and experts that could contribute to the road-mapping process; and reflecting on the post-road-mapping phase, as of the end of 2020.

Resilience Lab at COP 25: A Resilience Lab was set up on the margins of COP 25 in Madrid, Spain from 2-13 December 2019. During the Lab sessions, participants advanced the thinking on the Resilience Frontiers pathways. They identified and mapped entry points that would serve as building blocks for the transition to a resilient future as envisioned by the Frontier pathways.

Resilience Frontiers Dialogues: In October 2019, during the Asia Pacific Climate Week, Resilience Frontiers hosted a dialogue on indigenous values. In December, during COP 25, Resilience Frontiers held two open and interactive dialogues on “Ecosystems and Human Wellbeing” and “2050: A Vision of Transformed Food Systems for People and the Planet.” On the former, participants from diverse backgrounds explored pathways to uphold our responsibility for the stewardship of healthy ecosystems to ensure the wellbeing of all. The dialogue on “2050: A Vision of Transformed Food Systems for People and the Planet” discussed, among others, how transformation towards sustainable and regenerative food systems has contributed to a global culture of living in harmony with nature.

Roadmapping Meeting: In February 2020, the Resilience Frontiers Initiative met with the objective of fine tuning the methodology for identifying the top transformative actions for each of the eight pathways for the transformational decade 2021-2030.

Virtual Resilience Lab: Between July and September 2020, Resilience Frontiers convened a Virtual Resilience Lab series as a continuation of its effort to engage global thought leaders. The outputs from this series fed into the roadmapping phase of the initiative.

Summary of the Resilience Lab Sessions at COP 26

Launch of Resilience Lab at COP 26

Opening on Tuesday, 2 November, the Resilience Lab at COP 26 started on a journey to “break mental boundaries” and imagine a resilient world. With the theme of “Shifting mindsets, shaping the future,” the Lab was launched by Youssef Nassef, founder of Resilience Frontiers, and moderated by Tia Kansara, CEO, Replenish Earth.



Youssef Nassef, founder of Resilience Frontiers

In his address, Nassef emphasized the need to look at the future through a transformational lens. Following Nassef’s opening remarks, participants engaged in a sensory experience, triggering a creative flow of ideas. At this session, the panel comprised: Kotchakorn Voraakhom, CEO, Porous City Network; Kim Stanley Robinson, science fiction author; Hindou Oumarou Ibrahim, Local Communities and Indigenous Peoples Platform; and Andrew Zoli, Chief Impact Officer at Planet. The session allowed participants to assess their impact on the greater environment and recognize that human beings are usually missing from perspectives on nature.

During the Futur/io wake-up call session, panelists shared their thoughts on the shift towards resilience after 2030. The panel was chaired by Harald Neidhardt, Curator and CEO of Futur/io Institute, and included: Tia Kansara; Marc Buckley, United Nations Advisor and Sustainable Development Goals (SDG) Advocate; and Professor Dianne Dain, Chief Innovation and Initiatives Officer at the World Humanitarian Forum. They concentrated on the need to become conscious of the inner senses while still connecting with the surrounding nature.

A session on “awareness-acceptance-action” addressed the question of what is required to generate behavioral change. The panel was chaired by Professor Michael Weisberg from the University of Pennsylvania who welcomed to the stage: Kim Stanley Robinson; Vanessa Berlowitz, award-winning wildlife documentary producer; Wolfgang Blau, international journalist; and Kian Bakhtiari, Founder, The People. They addressed the challenges of underrepresented voices, and the fundamental disconnect between humans and nature, which hinder adequate action.

The final session explored how we can think in the present moment with the future in mind. It was chaired by Marc Buckley and featured Stephen Reicher, Psychology Professor at St Andrews University, and Kim Stanley Robinson. The session considered how society operates through an economic and psychological lens, and underscored how neoliberalism and an economic system, which is based on incorrect societal assumptions, dismantle community solidarity. The panel concluded that to move away from destroying the planet we live on, we need to fundamentally rethink our identity as humankind.



Kotchakorn Voraakhom, CEO, Porous City Network, at the event launch



Tia Kansara, CEO of Replenish Earth, at the opening session

Pathway 1: Transforming Humanity's Relationship with Nature

On Wednesday, 3 November, the Lab showcased the first pathway towards transforming humanity's relationship with nature. Renewing relationships with nature to reach symbiotic oneness is critical in securing the long-term wellbeing of people and the planet. During the day's events in the Lab, participants were urged to engage in activities that have a sustained net positive effect on nature, prioritizing holistic and relational approaches.

Opening the day with a brainstorming session, Kansara challenged participants' perception of "home." Participants discussed how people can connect to nature in a similar way to the way they do to their personal homes. They shared anecdotes about when they felt at one with nature, including stories of bitter-sweet gratitude towards experiencing sights that future generations might not, and enhanced intuition in the face of unexpected adversity. Kansara invited participants to share how they express their relationship with nature. The discussion dwelt on transgenerational connections, highlighting the need to respect our ancestral, evolutionary past, and protect our homes for the future.

Jyoti Mathur-Filipp, UN Convention on Biological Diversity (CBD) Secretariat, moderated a session on "transforming humanity's relationship with nature." She invited participants



Bremley Lyngdoh, Founder and CEO of Worldview Impact (right), showcasing his ideas for a resilient future with **Jyoti Mathur-Filipp**, CBD Secretariat (left).

to take part in a meditative journey backwards, from a resilient 2050 to the present day. She encouraged them to imagine a world where nature thrives, doom-and-gloom climate news is no longer a reality, and biodiversity is at the core of our cultures and livelihoods. In response to a question on how to attain a resilient future, Bremley Lyngdoh, Founder and CEO, Worldview Impact Foundation, shared his vision of a world that rewards the custodians of nature through technology-conservation methodologies, which quantify the carbon they sequester or protect, fueling a decarbonized world that supports people at the grassroots level.

Mathur-Filipp opened the discussion with the audience by asking participants what they need to implement in the present to get to the ideal future. Participants called for a transparent supply chain to disassemble the capitalist structures that weaken the right of consumers to informative choices. Some underscored the need to empower people at the bottom of the economic supply chain, linking this to social justice, which they said has a core role in a sustainable future. Others pushed for a shift in consciousness, highlighting the importance of recognizing that, on an interpersonal level, humans and non-humans are part of an intrinsically synced system that sees no borders or countries.

During the session on "three decades of transformation," Buckley asked the audience "what does a world that works for everyone look like for you?" He challenged the audience to imagine a collaborative, resilient world through the eye of the individual. The panel, composed of Bremley, Sandra Piesik, Architect and Technological Transfer Researcher, and Xiomara Andrea Acevedo Navarro, Climate Change Expert, Government of Nariño, shared their personal vision of a utopic 2050. They envisioned an inclusive, equitable world, and discussed how biocultural elements and a one-ecosystem framework were at the crux of the ideal world. They also underlined the need to reconnect to our roots, moving away from an extractive economy and towards a regenerative one. Participants envisaged a world which not only secures human wellbeing through enhanced social aid programmes, but also non-human rights through incorporating the rights of nature into political systems. Panelists noted that the challenge to systematically change our world is an opportunity to rethink the concept of "development." The ensuing discussion covered an array of issues, from the need to change our language to one which does not include anthropocentric subtext, to prioritizing a slow-paced life and simple pleasures.

The final session of the day looked at examples of best practices working in alignment with the future-focused values. For Resilience Frontiers, these innovative projects are called "Bright Lights." This session was co-chaired by Koko Warner, Adaptation Division, UNFCCC Secretariat, and Michael Weisberg. Jill Hamilton, Director, Conservation International, spoke about the hidden potential of mangrove forests. She emphasized that blue carbon capacity is underrepresented within the carbon sequestration dialogue and spoke about community projects at Conservation International, which combine traditional grey infrastructure with mangrove restoration initiatives. Tracey West, Poet and CEO and Co-Founder of The Word Forest

Organization, circled back to carbon sequestration initiatives on land, specifically those on the equatorial belt. She underscored the importance of safeguarding humanitarian wellbeing, highlighting that restoration projects go beyond planting trees. West said humans are all children of the soil but there is a need to shine a light on the people who are on the frontlines of climate conservation, which, she noted, her poetry aims to do.

During the day, the Resilience Lab engaged participants in tackling humans' relationship with nature. They heard the perspectives of different people from a multitude of backgrounds, with two consistent overarching themes emerging:

- justice and respect, not just towards neighbors, but also towards evolutionary lineage, future kin, and towards all life on earth are critical; and
- Oneness, as the biosphere sees no boundaries, be it geopolitical or taxonomic, with everyone connected through the greater symbiosis of the planet.

Pathway 2: Lifelong Learning for Environmental Stewardship

On Thursday, 4 November 2021, the Resilience Lab at COP 26 showcased its second pathway to a resilient future, tackling lifelong learning for environmental stewardship. This pathway asserts that for humans to live up to their collective responsibility as the custodians of a planet that sustains all, each must embark on a lifelong journey of learning, incorporating indigenous wisdom, to create a shift in global consciousness and reawaken the sense of belonging to nature. Kansara introduced the topic of environmental stewardship as the theme for the day. Encouraging participants to go beyond the traditional boundaries of education, she persuaded them to explore the different potential routes to an entirely novel way of thinking. To do so, she said, humans must let go of lifetimes of structured thinking and create a blank canvas on which to paint an entirely new mindset. She asked how humanity can accept that what they have learned in the past might not serve them for the future, and how a person can remain open to imagination, curious about new ways of living and unhindered by behavioral norms.

Kansara requested participants to personally examine what they felt they needed to unlearn and relearn to shift their thinking towards a more resilient frame of mind. During the discussion, some participants expressed the desire to identify the difference between wants and needs. Kansara then added the concept of scale, querying how one can move from an individual change of perspective, to a larger paradigm shift encompassing the "world's thinking." Participants also discussed society's definition of success linking this to challenges associated with values based on economic growth. Some shared that we need to challenge the flaws in thinking which have arisen from attributing monetary value within natural capital systems.

The next session was a workshop led by Kirsten Dunlop, CEO, Climate Knowledge and Innovation Community (Climate-KIC) and Barna Barath, Supervisory Director, Climate-KIC. The workshop focused on self-transformation towards environmental stewardship to tackle the challenge of adaptation resilience.



Kirsten Dunlop, CEO, Climate-KIC, addressing participants

Dunlop queried the way humans structure their thinking and how an unwillingness to be vulnerable limits their ability to plunge into the unknown. She opened the discussion by asking about how current systematic thinking restricts societies' capacity to expand their space of perception. Participants highlighted capitalist ideologies about humans having dominion over nature as being partly responsible for failed social environmental stewardship. Barath explored participants' perception of environmental stewardship, asking what it meant to them. Some defined it as a way to envision a sustainable, inclusive future: one which cannot divide the "stewards" from the "others." However, others queried the ownership of the vision, opining that a one-size-fits-all utopia cannot exist. Dunlop stated that our collective trauma inhibits us from thinking about our collective approach and promotes the "self" as a priority. She guided participants in group exercises to demonstrate that no matter how seemingly disconnected from the group individuals may be, their actions will always influence, as well as be influenced by, the collective.

Shu Liang, Leader and Team Member, Day of Adaptation, moderated the final session of the day which discussed environmental stewardship storytelling. The panel consisted



Left panel. L-R: **Shu Liang**, Leader and Team Member, Day of Adaptation; **Felicia Jackson**, University of London; **Joshua Amponsem**, climate activist; and **Sandra Piesik**, Architect and Technological Transfer Researcher.

of Felicia Jackson, University of London, Joshua Amponsem, Founder of Green Africa Youth Organization, and Sandra Piesik. They spoke about how vital storytelling is when understanding not just the greater global ecosystem, but also our inner microcosm. The panel also addressed the need to connect the individual to the cooperative, technology, nature, and science versus tradition. Amponsem stressed inclusive, representative narratives as being at the heart of environmental stewardship. The panel called for new methods of harvesting knowledge from the true stewards of the environment, referring to traditional and indigenous knowledge that is being lost over time.

In a subsequent question-and-answer session, participants spoke about shifting the narrative to one that penalizes the destruction of nature, and which reframes the current economic system. They strengthened this point by emphasizing that value is a bigger driving factor than money, and stories need to take on a more holistic approach to promote a supply chain that actually starts and ends with nature.

Numerous challenging questions were raised when addressing environmental stewardship, with some answered, and others leading to new questions. The organizers of the Resilience Lab noted that this counts as a successful day as it relates to a shift in everyday thinking. They welcomed a moment of reflection to investigate our inner and outer worlds, our present and past, and a new path to a better future.

Pathway 3: Universal, Equitable Coverage of, and Open Access to, (Big) Data and Information

On Friday, 5 November 2021, Resilience Frontiers introduced its third pathway, tackling universal, equitable coverage of, and open access to, data and information. Technologies like big data, AI, and supercomputing have created innovations that can ensure the wellbeing of humanity and the natural world. This pathway encourages societies to harness this potential and scale technologies in the collective interest of all.

Kansara, opening the first session, described data as being a curious form of customizable wisdom which is often too profound to grasp. She said the overwhelming complexity tends to lead to a state of commodified acceptance, where people



Tia Kansara, CEO, Replenish Earth, taking a question from a participant.

consent to the use of personal data with varying degrees of awareness. Participants were asked to discuss ways in which they consent to their information being stored and used, with many confirming that, for the sake of convenience, they tend to give away their online sovereignty without truly understanding the terms. They discussed the easy trade-off between being able to access convenient digital tools and safeguarding personal information, a trade-off which does not appear to impact their daily lives.

Participants also acknowledged that data risks appear to be less meaningful than the inconvenience of giving up access to digital tools. Admitting that a large part of their behavior is predictable, they further acknowledged that the digital footprint they leave online could easily be manipulated by pattern-detecting algorithms. When envisaging a resilient future for big data, participants said the first step is for people to want to regain their virtual sovereignty by understanding the terms of consent. However, they noted the individual's initiative must be coupled by international regulations which safeguard people and ensure transparency and clarity.

Steven Ramage, Chief Engagement Officer, Group on Earth Observations (GEO), chaired the session on inclusivity within data. The panel comprised: Mel Woods, University of Dundee; Neil Burgess, Chief Scientist, UN Environment Programme World Conservation Monitoring Centre (UNEP-WCMC); and Diana Nauriaq Mastracci, Consultant, GEO. Ramage opened the question-and-answer session by asking the panel how they would equitably manage data power. Panelists shared ideas about equal representation, where the voices of all communities were heard at the regional, national, and international levels.

Woods emphasized the need to empower people at the grassroots level, explaining that communities need the space to manage and create their own goals. Participants raised issues related to safety and security, with many speaking about the lack of traceability in global supply chains and how this endangers vulnerable people throughout the chain. In response to a question on what can be implemented to incorporate resilience within information systems and the greater environment, some participants suggested an increase in risk assessments, greater citizen ownership of data, and ways of codesigning tailor-made software for users.



L-R: **Diana Nauriaq Mastracci**, Consultant, GEO; **Mel Woods**, University of Dundee; and **Neil Burgess**, Chief Scientist, UNEP-WCMC.

Michal Nachmany, Founder and CEO of Climate Policy Radar, chaired the session on inclusive data sharing, comparing water to data, and highlighting the need to allow data to flow from community arenas all the way to decision makers. Liv Torc, Poet at Hot Poets, introduced the concept of the event by reciting her poem about sea-level rise. On the panel were Nathalie Seddon, University of Oxford, and Bryony Worthington, Co-Director of Quadrature Climate Foundation. The pair addressed the need to create collaborative spaces where people can share information and collectively prosper. To achieve this, they said that data needs to be shared more freely and utilized to educate both the consumer and the decision maker. Seddon addressed the gaps that exist between scientific data and policy developments.

Science alone cannot be a solution, she said, pointing towards the role of creating new disciplines which blend various knowledge sources. Participants then spoke about their vision for an inclusive, interconnected system. They discussed initiatives to keep local knowledge alive and inclusive, as well as to consult communities to ensure their representation online matches what they expect in real life. Participants promoted building technical capacity within local communities to enhance equitable data flows through empowering the people on the ground “who truly know their communities.”

Woods presented the final session. Focusing on the use of citizen science, she said this science has the potential to create a global, equitable network to share resources and address environmental issues for the common good. She shared her message that stakeholder inclusion, technical data hurdles, and limitations in policy systems can be redefined through exploring how we turn data into something people care about. Woods emphasized the need for a system that finds a balance between top-down and bottom-up approaches, and for co-creation between institutions and stakeholders.

Stephen McGowan, Creative Design Lead, Glasgow City Council, outlined a vision of unity where neighborhood-level participation could be achieved through the founding of local data hubs which safeguard community wellbeing. He considered the difficulties communities have experienced in the past as

an opportunity to rethink the future and create a functioning democratic system where residents have a say in the decisions that will affect them.

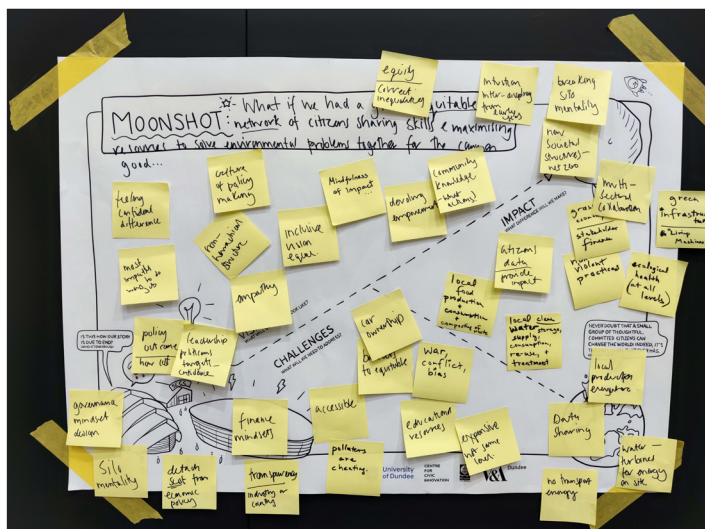
Jen Ballie, Research Manager at Scotland’s V&A Dundee design museum, introduced the “moonshot method” of creating an ambitious vision. She led an exercise to help people envision their own personal “moonshot” and how they can get there. Participants spoke about a world where empathy and mindfulness are core values, citizen data initiatives empower local communities, and technology is incorporated into other disciplines.

Throughout the different sessions, panelists and participants stressed three key themes: inclusivity, transparency, and knowledge. Many underlined that a resilient world is a diverse one and that the interconnected nature of technology is an opportunity to harness diversity from every corner of the world. However, they conceded that to do so, the current system requires a transformation, a metamorphosis into one which protects the ecosystem and does not exploit it.

Pathway 4: Managing Water and Other Natural Resources Equitably and Inclusively

On Saturday, 6 November, the Resilience Lab focused on equitable and inclusive resource management to secure a climate-resilient and water-secure world. Introducing this pathway, Kansara said that before questioning what it means to have an equitable civilization, one must understand what it means to be “civil.” She underscored the differences between justice, equity, and equality, saying that unjust supply chains are seldom linked to personal demands, and sometimes reveal subconscious colonial bias.

Linking equity and scarcity, Kansara opened the discussion on what needs to change in order to give everyone the agency to participate at all levels. Participants pointed out that the tragedy of the commons often stems from capitalist ideologies which promote anthropocentric notions of dominion over nature and encourage the cherry-picking of global resources with no consideration for the supply chain or the greater impact this has on communities. Others spoke of hope and celebrated the increasing momentum towards collective, collaborative behavior.



The ‘moonshot exercise’ from the final session of the day



Tia Kansara, CEO, Replenish Earth, addressing participants



Chris Redmond, Hot Poets

Some suggested the first step in ensuring equitable resource management is to address systemic inequality, and create the social infrastructure needed for people to connect to their community in meaningful ways.

Liv Torc and Chris Redmond, Hot Poets, performed songs and recited poems about finding self-sovereignty and reflecting on feelings on the climate crisis and on discovering resilience even during the darkest of times. They explained that through Hot Poets, they explore the role of arts in environmental dialogue and attempt to counter the narrative of doom and despair. They highlighted the need to restructure our definition of success and make it synonymous with service, linking this to prior discussions on creating a just world that fuels mutual cooperation.

Redmond and Torc raised questions relating to the role of arts on the path towards resilience. As a field which communicates with emotion and not just information, they said the arts offer a new mode of thinking, one which can create holistic mindsets. To create a fresh perspective in the audience, they asked participants to write a haiku about a resilient world. The short poems drafted by the participants revealed messages of longing towards mindful co-existence with nature and a world where poetry and science are interconnected.

At the end of the day, the organizers highlighted that Resilience Frontiers allowed creativity to flourish, both through performing arts and throughout explorative conversations. They expressed hope that panelists and participants had discovered new pathways for thought and action, aligning with the Resilience Lab's overarching goal of envisioning a regenerative world. Merging emotion through art, with dialogue about global resource management, the organizers welcomed the creation of novel, multi-sensory experiences unlocking new mental avenues for positive change.

Pathway 5: Managing Transboundary Issues Equitably

On Monday, 8 November, the Lab focused on its fifth pathway addressing transboundary issues. This pathway imagines a world where cooperation is promoted over competition, aiming to establish effective transboundary relationships that prioritize the regeneration of ecosystems spanning borders.

Introducing the pathway, Kansara said humanity requires a conscious shift to recognize and restructure the boundaries which affect both the individual and the planet. She used game theory, which analyzes interactive behavioral strategies, to explain how societies transition from promoting individual gain to promoting planetary gain, which is crucial for impactful climate action. She asked participants how one can ensure that, in the competing forces of life, the planet always “wins.” Participants stressed the need to break the borders between different groups and collaborate. Using the tragedy of the commons as an illustration of boundary-related issues, she queried what it would take to be able to equitably govern communal spaces. Participants spoke about shifting self-centric mentalities to mutual thinking and including all stakeholders when managing resources.

The following session was a youth-led event moderated by Gail Sant, United Nations Association Climate and Ocean Youth Ambassador. The interactive event featured four stories from: Daniel Cáceres Bartra, Latin American Representative for the Sustainable Ocean Alliance; Dominica Una, Coordinator for the Women in Renewable Energy Association; Luciana Verastegui, Coordinator for the United Nation's Youth Constituency's Ocean Group; and Alexandria Villaseñor, Founder of Earth Uprising. They shared personal stories about how political borders, which are invisible in reality, have restricted them by complicating immigration statuses. They also highlighted the effects of unjust, extractive resource use. A storytelling segment was followed by a group discussion on the role of boundaries in a resilient world. Participants debated whether a world without boundaries could exist, with some suggesting they should exist to restrict excessive privilege, such as through wage caps, but stressing boundaries should be eliminated where they restrict vulnerable communities. The general discussions revolved around the need to create space for collaboration at a regional, national, and international level.

Vositha Wijenayake, Executive Director, Sri Lankan Youth Climate Action Network (SLYCAN) Trust, moderated a session exploring opportunities for transboundary collaboration. The panel consisted of: Adessou Kossivi, Regional Coordinator for the Global Network of Civil Society Organizations for Disaster



Youth speakers sharing their stories



The Panel discussing opportunities for transboundary collaboration. L-R: **Adessou Kossivi**, Regional Coordinator, GNRD; **Nigel Brook**, Partner at Clyde and Co LLP; **Kit Vaughan**, Senior Climate Adviser, Save the Children UK; and **Stephen Reicher**, University of St Andrews.

Reduction; Nigel Brook, Partner at Clyde and Co LLP; Stephen Reicher, and Kit Vaughan, Senior Climate Adviser at Save the Children UK.

Discussing boundaries in a resilient world, panelists said the capacity for solidarity should not be limited to geographic boundaries, lamenting this is too often the case. Reicher highlighted the need for inclusion, pointing out that the ability to think of communities as a collective in an extended space is critical for global climate action. Panelists spoke about ways to build narratives around cooperation rather than competition, and the fundamental connection between human beings. Kossivi stressed the Resilience Lab's core aim which underlines the need to fundamentally rethink our systems and find new ways of living where everyone has the space to contribute to the collective capacity to co-exist. Panelists spoke about addressing political division through scaling up transboundary partnerships and creating global democratic spaces where everyone feels able and safe to participate in solidarity.

The final session considered an example of best practice aligned with the future-focused values. Gayle Schueller, Chief Sustainability Officer at 3M, shared her organization's pledge to apply sustainable production methods throughout the company's international production and market bases.

Pathway 6: Applying a Holistic, Ecosystem-centered Approach to Optimize Future Health and Wellbeing

On Tuesday, 9 November, the Lab showcased the sixth pathway, exploring how ecosystem-based approaches can optimize health and wellbeing in the future. The pathway urges communities, architects, designers, ecologists, and urban planners to collectively brainstorm approaches to ensure the ecosystem embodies optimal health, nutrition, and wellbeing for every citizen, so as to reconnect society to the natural world.

Introducing the pathway, Tia Kansara stressed the application of an ecosystem-based approach that engenders planetary

wellbeing, which requires reflection on the true meaning of wellbeing. Participants shared that wellbeing is often felt through multi-sensory experiences in nature which, they said, is the basis of all life. They described wellbeing as a timeless awareness encompassing presence and beauty through natural surroundings. Reflecting on these ideas, Kansara said that once basic needs are met, a secondary layer of connection to community and nature emerges. Circling back to the concept of ecosystem-based approaches, she expanded on surrounding habitats and asked what elements create an ideal habitat. Participants suggested incorporating green spaces in whatever way possible, from natural formations into the city's infrastructure, to growing a tomato plant on an apartment windowsill.

Sean Bradley, Clever Cities Programme Manager at Groundwork London, moderated this session, which focused on how ecosystem-based approaches can be applied to urban design. He was joined by Ocian Hamel-Smith, Innovation Architect and Sustainability Driver at Futur/io, and Marc Buckley. The panel considered ecosystem connections that inspire nature-based urban planning and how these can be scaled up to a global level. They said innovation is the heartbeat of the planet, comparing it to planetary systems, and that harnessing this can be used for the benefit of humanity. They also cited the need to reclaim the city and its connection with nature. Using the COVID-19 lockdown as an example of a radical change which gave communities a taste of life without noise or air pollution, they noted this could be normalized through reimagined urban design. Panelists said a core element of resilient city planning is inter-professional collaboration and a mindset that can condense timescales and build cities for the future. Hamel-Smith said those working on current projects must shift their mindsets to dream and go beyond what currently exists. During a brainstorming session, participants spoke about the importance of considering surrounding microclimates when planning, using systems thinking to incorporate a multiple-benefit design, and allowing for input from communities during the planning process.

During the next session, chaired by Bradley, participants re-imagined what neighborhoods would look like in a regenerative world. Bradley was joined by Marc Buckley and



Participants during a discussion session



A brainstorming session to “re-imagine neighborhoods”

Herald Voorneveld, Country Director for ReGen Villages, the Netherlands. Bradley highlighted that most futuristic scenarios feature dystopian cities with an abundance of metal skyscrapers that are devoid of life. He said that we need to rethink how social dynamics will be impacted by built structures. Responding to a question on what creates a good neighborhood, participants mentioned incorporating places that promote social cohesion such as cafés or green spaces, access to healthcare, and facilitating places which enable people to use their skills and talents. Panelists suggested creating ways for different modes of transport to co-exist within cities. The dialogue shifted towards the role of technology in an ecosystem-based city plan, with panelists and participants underlining that technology hinders the process when personal data is abused. They noted, however, it can enhance community collaboration if used well. Buckley suggested communities need to shift away from limiting mindsets to a resilient future, highlighting countless “re”-imperatives like “regenerative,” “recycle,” or “reuse.”

The final session looked at an example of best practices working in alignment with future-focused values. Michal Nachmany recalled the importance of acknowledging our neighbors, both the ones in our immediate surroundings and those further away. She introduced the two “Bright Lights” of the session: Herald Voorneveld and Yunus Arikan, Head of Global Policy and Advocacy, ICLEI – Local Governments for Sustainability. Voorneveld shared a vision of a concept city with a self-sustaining village that is metabolically integrated with its digital infrastructure. Arikan spoke about the network and its aim to promote local sustainable action in regional governments. Nachmany then asked participants to discuss ways to bridge community interactions and governance institutions. Participants spoke about innovative urban design which facilitates decentralized community interaction. Some mentioned methods to involve communities in meaningful, actionable policy making, while others emphasized that different institutions also need to collaborate to form multilevel action.

As they explored the day’s pathway, participants discussed different applied ecosystem-centered approaches, using them as beacons of hope towards a more resilient future. Throughout the

day, participants pointed out that the technological shift towards resilient cities is within reach, and what is needed is an effort to rethink global planning systems and ensure nature-based solutions are at the forefront of urban design throughout the world.

Pathway 7: Regenerative Food Production

On Wednesday, 10 November, the Resilience Lab considered enabling access to quality nutritious food for all through regenerative food systems.

Kansara introduced the day’s pathway by reflecting on the linear nature of global food systems. She said switching to a circular economy model is not enough to establish resilience, stressing constant evolution within both the design and the functioning of the system is needed. She encouraged participants to reflect on the multitude of countries, businesses, and people involved in the production of their morning’s breakfast. This led to a discussion on how food systems can become regenerative systems and the role of both the individual and the community in this process. Participants shared thoughts on consumer sovereignty and the need for industries to provide empowering tools and information for people to make informed purchases. Additionally, they highlighted the need for transparency within supply chains and for coherent and accurate food labelling.

The next session, on the future of food systems, was moderated by Vositha Wijenayake. The panel included: Solomon Yamoah, Strategic Youth Network for Development (SYND) Ghana; Daniel Zimmer, Director of Sustainable Land Use at European Institute of Innovation and Technology (EIT) Climate-KIC; Raphael Podselver, Head of UN Advocacy,



Participants during the session



L-R: **Tania Martinez Cruz**, High-Level Expert on Indigenous Food Systems, FAO; **Virginia Marshall**, Australian National University; **Sheila Ochugboju**, Lead Consultant, Network for African Women Environmentalists; and **Richard Bramley**, Chairperson, National Farmers Union Environment Forum

ProVeg International; Shweta Sood, Head of Programmes at 50by40; Richard Bramley, Chairperson at National Farmers Union Environment Forum; and Clea Kaske-Kuck, Director of Policy and Advocacy for Food and Nature at the World Business Council for Sustainable Development.

Panelists spoke about the disconnects that exist within food structures, between producers and consumers, production methods and nature, and farmers and other people. They highlighted both the differences and interlinkages between the Global North and Global South. In this regard, some drew attention to the fact that western countries access year-long supplies of seasonal foods which are produced using exploitative methods on the other side of the world. Responding to a question on what resilient food systems would require, participants shared ideas about revolutionizing government subsidies to support projects which protect the people and nature. They also discussed educating farmers on the effects of climate change and working with them to create shock-responsive food systems, thus enabling them to work together and empowering their economic influence within the system.

The third event was moderated by Sheila Ochugboju, Lead Consultant at the Network for African Women Environmentalists. Panelists included: Tania Martinez Cruz, High-Level Expert on Indigenous Food Systems at the Food and Agriculture Organization of the UN (FAO); Virginia Marshall, Australian National University; and Richard Bramley. Panelists discussed concepts and remedies from their indigenous communities, saying knowledge should be understood to holistically incorporate different systems, such as science and traditional knowledge. Martinez Cruz introduced indigenous food systems as game changers for resilient food production. Marshall described her community's relationship with nature and their desire to protect their traditional remedies from being appropriated and exploited. Bramley spoke about finding creative, regenerative farm systems in the Global North which would not only provide food to their local community, but also harness resilience by using circular nutrient systems which can improve the



L-R: **Ana Gloria Guzmán Mora**, Executive Director, Conservation International, Costa Rica; **Lou Cooperhouse**, CEO, Blue Nalu; **James Dalton**, Director of the Global Water Programme, IUCN; **Lee Recht**, Vice President Sustainability, **Aleph Farms**; and **Zitouni Ould-Dada**, Deputy Director, Climate and Environment Division, FAO.

environmental status of an area. Ochugboju asked the panel how humanity can attain a resilient food system in the future. Panelists mentioned the need to: decommodify water and safeguard it as a basic right; include Indigenous Peoples and traditional knowledge within academia; and ensure research, which focuses on indigenous communities, centers their needs.

The final session, moderated by Zitouni Ould-Dada, Deputy Director in the Climate and Environment Division, FAO, considered examples of best practices working with future-focused values. These were: Conservation International, represented by Executive Director Ana Gloria Guzmán Mora; Blue Nalu, represented by CEO Lou Cooperhouse; and Aleph Farms, represented by Vice President Sustainability Lee Recht. James Dalton, Director of the Global Water Programme at the International Union for Conservation of Nature (IUCN), was also on the panel. Despite coming from different backgrounds, panelists shared similar opinions about incorporating innovation in food production systems in an inclusive manner that considers all stakeholders' needs. They underlined that to lead a transformational transition to sustainable aquaculture and agriculture, industries must complement each other to collectively cater to various global nutritional needs.

Throughout the day, participants noted the disconnect between food systems in the Global North and Global South. However, the discussions sparked conversations about how the transition towards resilience can be achieved in a collaborative and inclusive manner and proved numerous initiatives and innovations towards resilient food systems exist.

Pathway 8: Developing Transformative Financial Instruments

On Thursday, 11 November, participants considered the final pathway which focused on developing transformative financial instruments. Its goal was rethinking prosperity, growth, and value, and nurturing human wellbeing and the environment, while harnessing emerging technologies to transform financial networks and instruments.



Tia Kansara, CEO, Replenish Earth, addressing participants

Kansara introduced the pathway, calling on participants to define “wealth.” They shared ideas about the subjective nature of the definition of the term, but also recognized that general ideas of wealth are normally based on financial status. Some said wealth can be linked to a person’s happiness. Others linked it to the privilege that comes with being able to plan things in advance, noting people who lack financial security struggle to pay for future resources and must survive on a day-by-day basis. Kansara further explained the limitations of using gross domestic product as an index for accounting for personal and global prosperity. She challenged participants regarding their perceptions of what planetary prosperity means. They responded suggesting prosperity can be enhanced through living in a way that increases the planet’s carrying capacity. They also discussed the linearity of the current economic model with many preferring a model that flows through “resilient circularity.” Others also pointed to the importance of shifting tax systems and government subsidies to incentivize working for social good.

The next session was chaired by Robert Filipp, Founder and President of Innovative Finance Foundation, with a panel featuring: Kim Stanley Robinson; Elena Lopez-Gunn, Director of ICATALIST; Alex Gordon-Brander, CEO of Teratree; and Adam Rockefeller-Growald, Co-Founder of Teratree. Robinson recited passages from his book, “The Ministry for the Future,” opening a space for participants to imagine potential future monetary systems. Both Gordon-Brander and Rockefeller-Growald spoke about global problems which stem from economic systems that value material goods and personal wealth instead of planetary wellbeing. They promoted new decentralized financial mechanisms which they believed could be used to safeguard, not exploit, nature.

Lopez-Gunn addressed the existential planetary risks human beings are facing and said the economic system has failed at being equitable. She stressed that natural systems cannot and should not be monetized, because their value is intrinsic to life. Calling for a disruptive shift within economic systems, she highlighted the need for systems that promote long-term collaboration instead of competition, even at the risk of short-term monetary losses. Robinson opined that private-sector



L-R: **Adam Rockefeller-Growald**, Co-Founder, Teratree; **Elena Lopez-Gunn**, Director, ICATALIST; **Alex Gordon-Brander**, CEO, Teratree; **Kim Stanley Robinson**, science fiction author; and **Robert Filipp**, Founder and President, Innovative Finance Foundation

systems have rejected radical reform, preferring to only work towards the highest rates of return, even if that means making profit through extractive means. Responding to participants, panelists discussed equity concerns within financial mechanisms, the economic path towards transparency, and private sector regulation through government intervention.

The final session at the Resilience Lab at COP 26, moderated by Filipp, featured the following panelists: Kim Stanley Robinson; Alex Gordon-Brander; Valerie Tchuante, Forest Engineer at Central African Forests Commission; and Olly Hicks, Ocean Rower and Explorer. Robinson read extracts from his book, sharing narratives related to economic systems. Gordon-Brander expounded on ideas around creating monetary assets from safeguarding nature, admitting nature’s value is lost when using current tools and metrics. Tchuante said forest-sequestered carbon is worth billions of dollars, and the economic aspect of conservation should be considered to incentivize investors into supporting nature-protecting projects. Panelists also discussed the ocean as a “blank canvas” resource, with some wondering whether opportunities to explore financial mechanisms to optimize this potential exist. During the discussion, participants



Kim Stanley Robinson reading an extract from his book

drew attention to the lack of diversity within cryptocurrency systems and imbalanced power structures. The final pathway sparked a dialogue on equity, collaboration, and how we value nature.

Closing the Resilience Lab at COP 26

Through group discussions, reflection exercises, and expert panel conversations, participants at the Lab contributed to global foresight thinking on human sustainability and on expanding planetary boundaries towards regenerative prosperity. At a reception celebrating the discussions held at the Lab at COP 26 on Thursday, 11 November, Youssef Nassef, Founder of Resilience Frontiers, thanked all participants who had engaged with the themes during the two weeks, welcoming them to the growing Resilience Frontiers community.

Upcoming Meetings

World Congress on Water, Agriculture and Climate:

The World Congress on Water, Agriculture and Climate is taking place on the theme: Building climate change resilience through ecosystem restoration. It will provide an opportunity for participants to discuss approaches for food and water security in a changing climate, and explore a climate-resilient future through technology intervention and adoption, with the aim of suggesting a policy framework for meeting the SDGs. The Congress, which is being hosted by the International River-Basin Foundation-India, is a bi-annual meeting of all associates of the

World Council of Professionals and Industries, and global experts. **dates:** 24-28 November 2021 **location:** virtual **www:** iribaf.org/worldcongress21/

Resumed Fifth Session of the UN Environment Assembly (UNEA 5.2): UNEA 5.2 will take place under the theme “Strengthening Actions for Nature to Achieve the SDGs.” Its aim is to connect and consolidate environmental actions within the context of sustainable development and motivate the sharing and implementation of successful approaches. UNEA will also discuss whether to establish an intergovernmental negotiating committee towards a new agreement on marine litter and plastic pollution. UNEA-5.2 will be followed by a Special Session of the UNEA, on 3-4 March 2022, to commemorate UNEP’s 50th anniversary. **date:** 28 February – 2 March 2022 **location:** Nairobi, Kenya **www:** unep.org/environmentassembly/unea5

STI Forum 2022: The seventh annual UN Multi-stakeholder Forum on Science, Technology and Innovation for the SDGs (STI Forum) will take place in May 2022, during the 2022 session of the UN Economic and Social Council (ECOSOC). The collaborative STI Forum is convened annually by the ECOSOC President and is expected to discuss science, technology and innovation cooperation around thematic areas for the implementation of the SDGs, congregating all relevant stakeholders to actively contribute in their area of expertise. **dates:** 5-6 May 2022 **location:** New York City, US **www:** undocs.org/en/E/2021/L.34 and www.un.org/ecosoc/en/events/2022/multi-stakeholder-forum-science-technology-and-innovation-sustainable-development-goals



Youssef Nassef, Founder of Resilience Frontiers, during the closing reception