

RESILIENCE FRONTIERS 2019

A Disruptive Brainstorming Conference on the Future of Climate Resilience

1. INTRODUCING RESILIENCE FRONTIERS

a. The purpose

Governments, organizations and individuals require a long-term outlook and a comprehensive approach to build resilience to the adverse effects of climate change. In practice, this raises numerous questions: how can we think long term without envisioning the challenges and opportunities associated with the fourth industrial revolution, including the evolution of frontier technologies and their ethical, social, political, and environmental implications? What will be the possible evolution of emerging social trends powered by a sustainability ethos, such as local and organic production and consumption practices, or the growing recognition of indigenous knowledge systems and practices? Can we merge climate change impacts scenarios with various scenarios of socially and economically transformed versions of today's world so as to inform climate change adaptation plans? Can we go beyond the extrapolation of current trends so as to best mitigate and/or preempt risks that could increase the vulnerability of various population groups to climate change? Can we consider that frontier

technologies and emerging social trends will play a major part in enhancing climate-resilience, if this is what society values, aims for, and undertakes?

The Resilience Frontiers brainstorming conference utilized strategic foresight methods, and mobilized innovative collective intelligence processes to bring answers to those questions. Imagining the multiplicity of possible future scenarios opened up a space to co-create visions of a desirable climate-resilient future, as well as discuss the underlying changes in values, institutions and complex support systems. Numerous risks that we need to address today could also be reduced by a change in trajectory towards a world economic system that would be regenerative by design instead of degenerative by default. Co-creating engaging visions of the future is thus critical to both designing ambitious, transformative and policy-relevant pathways towards climate-resilience, and to catalyzing action to foster their emergence.

b. The action pledge

Resilience Frontiers responds to an action pledge under the UNFCCC's Nairobi Work Programme on Impacts, Vulnerability and Adaptation. The action pledge was spearheaded by the secretariat of the United Nations Framework Convention on Climate Change (UNFCCC) in collaboration with Canada's International Development Research Centre (IDRC), EIT-Climate-KIC, the Food and Agriculture Organization of the United Nations (FAO), the Global Water Partnership (GWP), the United Nations Educational, Scientific and Cultural Organization (UNESCO), the United Nations Environment Programme (UN Environment), and the United Nations Office for Outer Space Affairs (UNOOSA).

The action pledge is a two-year collective intelligence process. It aims to maximize resilience to climate change beyond 2030, by addressing opportunities and challenges in harnessing the potential of paradigm-shifting frontier technologies and emerging social trends towards sustainability.

It contributes to fostering innovation and furthering the exploration of frontier issues launched by the United Nations Chief Executives Board for Coordination.

Resilience Frontiers strives to identify pathways that would enable the implementation of transformative approaches to climate-resilience and contribute to regenerating the global ecosystem. The design of pathways is supported by the definition of policy-relevant roadmaps for the next decade. This 'roadmapping exercise' will be spearheaded by intergovernmental organizations and other relevant entities. In parallel, a nexus of supporting experts, organizations and initiatives has been set up. The outcomes of the roadmapping exercise and of parallel activities undertaken by the nexus will feed into the work on enhancing ambition and implementation in relation to adaptation to climate change both within the UN system as well as in other institutions engaged in resilience.

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With this approach we are helping participants to play with different scenarios of the future, not just to think outside of the box but to imagine there is no box.

Loes Damhof

a. The brainstorming conference

The brainstorming conference Resilience Frontiers 2019 kick-started Resilience Frontiers. The Korean Government hosted this launchpad brainstorming conference during the Korea Global Adaptation Week, from 8 to 12 April, 2019. During the conference, over 100 visionary thinkers and interdisciplinary thought leaders from around the world applied a tailor-made foresight methodology to envision the contours of a climate-resilient world beyond 2030.

The brainstorming sessions and plenary discussions contributed to generating collective visions of a post-2030 world that fosters the climate

resilience of individuals, societies, economies and ecosystems. Those visions provided the raw material to define cross-cutting objectives and possible pathways as a basis for the roadmapping exercise.

Resilience Frontiers 2019 also enabled the building of a strong community of practice and intention among the 103 participants, many of whom do not work directly on the issue of climate-resilience. Participants were given the opportunity to enhance their understanding of the implications of future climate change impacts, as well as to build partnerships to address those impacts collaboratively.

b. Co-design in practice

The foresight methodology applied at Resilience Frontiers 2019 was co-designed by the UNFCCC secretariat, UNESCO, the foresight consultancy futur/io, as well as other advisory partners including, 4CF, the gannaca global think tank group, Exponential Minds, and the Hanze University of Applied Sciences.

The methodology was tailored to this brainstorming conference, with the objectives of building on participants' complementary expertise, and of maximizing collective capacity for strategic foresight, in order to:

- Ensure that the evolution of existing and upcoming frontier technologies (i.e. artificial intelligence, including autonomous systems, blockchain, the Internet of things; biotechnology; satellite technology), and their potential environmental, socio-political and ethical opportunities and risks, are addressed in envisioning long-term global resilience;
- Enable foresight-centred collective thinking among experts in those frontier technologies, purveyors and practitioners of the emerging sustainability ethos (including indigenous peoples) and experts who specialize in 'basic needs' (i.e. water, food, health, nature and human security);
- Deliberate on the most effective institutional setups to foster an optimal enabling environment for transformative and regenerative climate resilience beyond 2030, by addressing the necessary shifts, retooling and transformation of finance, education, international law and governance, human habitats, as well as values.

Elements of the UNESCO's well-established Futures Literacy Laboratory (FLL) action-learning framework and of futur/io's Moonshot approach

were combined to co-design a strategic foresight methodology that facilitated the expression of collective intelligence.

The UNESCO's FLL action-learning framework is based on anticipatory systems theory. The framework enables participants to discover and specify, by moving from tacit to explicit and from conventional to newly invented, the anticipatory assumptions and related narratives used to perceive and plan for the future. Since we live in a complex universe, we need to respond to phenomena that pop into our existence to usher in new possibilities that were previously unimaginable. The FLL action-learning framework helps build anticipatory systems to embrace this complexity, and to better 'use-the-future' in planning for it.

The futur/io's Moonshot approach uses different exercises and canvases to help participants define individual or collective long-term projects that will generate massive financial value, create positive social and environmental impacts aligned with the underlying objectives of the Sustainable Development Goals for millions of people, and mobilize emerging drivers of change, including breakthrough technology. The resulting Moonshot projects support visionary leadership by creating a bold vision of the future for a community built around common values.

Besides, in order to boost the 'out-of-the-box' or 'no-box' thinking of participants, as well as build a community, innovative features were introduced to produce a unique human experience. Inspired by the gannaca global think tank group's experiential formats, those features included evolving room set ups, singular aesthetics in communication products, facilitating online networking, enabling the participation of artists, projecting artwork in the conference room, and organizing guided mindfulness sessions and Zen meditation.

3. THE PARTICIPANTS

a. Three clusters of expertise

The Resilience Frontiers brainstorming conference brought together over 100 thought leaders of diverse backgrounds, whose expertise cover 14 different themes, which were clustered as follows:

- Drivers of change: artificial intelligence (including autonomous systems, blockchain, the Internet of things), biotechnology, satellite technology, and the emerging sustainability ethos;
- Basic needs: water, food, health, nature, and human security;
- Institutions and support systems: finance, education, international law and governance, human habitats, and values.

b. Distribution of participants

The 103 experts, facilitators and keynote speakers, who participated in Resilience Frontiers 2019 belonged to:

- United Nations and intergovernmental organizations: FAO, GCF, GWP, Nordic Council of Ministers, Ramsar Convention on Wetlands, United Nations Children's Fund, United Nations Development Programme, United Nations Economic and Social Commission for Asia and the Pacific, UN Environment, UNU, and World Bank.
- Universities: Hanze University of Applied Sciences, Hertie School of Governance, Imperial College London, Kyunghee University, Penn State University, University of Copenhagen, University of Ghent, and Yale University.
- International think tanks and research centers: CANEUS International, Center for Engaged Foresight, Center for Strategic Foresight, EIT Climate-KIC, Emerging Future Institute, Foundation for Research and Technology – Hellas, Futur/ io Institute, ICCCAD, International Institute for Sustainable Development, International Living Future Institute, the New Humanism Project, the Stockholm Environment Institute, and the World Benchmarking Alliance.
- Government-affiliated organizations: Centre for Climate Research Singapore, France's Centre

To enable transdisciplinary dialogue, each participant exhibited professional experience in at least two clusters of expertise. Participants were identified with the support of our advisory partners, and with recommendations from other partner organizations, which also provided valuable support for their attendance.

Experienced facilitators, as well as researchers from United Nations University (UNU), the International Centre for Climate Change and Development (ICCCAD) and Stratsearch Foundation, who took detailed notes of the deliberations, volunteered to support the event.

The full list of partner organizations and volunteers is available below in the acknowledgements section.

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In addition, two visual artists and a Zen teacher were present during the event.

Participants came from Africa, the Americas, the Arctic region, Asia and Europe. There was an important age diversity among the participants, which spanned over 50 years. Regarding gender balance, 45 out of 103 participants were women.

4. THE PROCESS

a. A four-step process

Over the course of five days, the foresight methodology applied at Resilience Frontiers 2019 led participants through a four-step process:

1 ■ Visualizing probable futures under the impact of the fourth industrial revolution:

Working groups envisioned the evolution and implications of emerging soft and hard technologies, as well as new social trends powered by a sustainability ethos, as drivers shaping our future by 2030 in a climate-changed world.

2 ■ Envisioning desirable futures in a climate-resilient world:

Through individual Moonshot exercises, working groups visualized and discussed desirable futures in a post-2030 climate-resilient world, which was defined as meeting the basic needs of the world population in a way that would strengthen the resilience to climate change of individuals, societies, economies and ecosystems. For that purpose, working groups deep-dived into the opportunities and challenges arising from the preceding discussions on drivers of change, insofar as they relate to meeting the basic needs of the world population beyond 2030

in a climate-resilient way. This step also included numerous exercises to disrupt general assumptions and biases about the future, in order to be more creative in generating ‘visions of desirable futures in a climate-resilient world’. Further, it opened up the collective intelligence exploration so as to include intellectual frameworks, institutional setups and support systems in conceiving of new desirable futures in a climate-resilient world.

3 ■ Reinventing the enabling environment for transformative resilience:

Through collective Moonshot exercises, working groups visualized transformed, reinvented or re-tooled intellectual frameworks, institutional setups and support systems which would constitute an optimal enabling environment for climate-resilience, with a particular focus on meeting basic needs.

4 ■ Refining visions, and formulating underlying questions:

Working groups refined their visions and raised underlying questions that would serve as a basis in the definition of cross-cutting objectives and possible pathways to be investigated through the roadmapping exercise.

b. Keynotes, facilitation and documentation of the results

The event consisted of a succession of brainstorming sessions and plenary discussions, interspersed with keynote contributions given by foresight experts. Further information on the keynote speakers is available the Resilience Frontiers website.

During the brainstorming sessions, the participants were broken down in groups of 7 to 9 experts each, so as to facilitate discussion and collective brainstorming. Group discussions were facilitated by experienced facilitators trained in

UNESCO’s FLL methodological approach and in futur/io’s Moonshot approach.

For each 7-to-9-person working group, a content integrator took detailed notes of the deliberations, to ensure traceability of the outcomes of the brainstorming conference process. Lastly, each working group shot short videos to present their last collective Moonshot ideas to the wider group, which contributed to further documenting the results of the deliberations.

5. THE OUTCOMES

a. Highlights of the visions

The 2030 visions for future resilience co-created at Resilience Frontiers 2019 break away from traditional approaches to adaptation to climate change, by introducing a transformative and regenerative approach to climate resilience. In those visions, a global change in consciousness towards a 'nature-first' culture fosters a (re-) connection to the global ecosystem, which drives individuals and societies to assume their responsibility in the stewardship of nature. The health of ecosystems, including all living beings,

is understood as both a central condition and core criterion for human resilience to climate change, and thus for human security worldwide. A global system change translating into new forms of habitats, as well as social and economic practices enables the continuous regeneration of societies, economies and ecosystems. This takes place against the backdrop of a wide application of frontier technologies and of a retooled financial system. Equitable access to data becomes a global public good and fosters inclusive public dialogues.

b. Three cross-cutting objectives and eight possible pathways

The following cross-cutting objectives and possible interrelated pathways to achieve the visions were identified:

1.

Fostering a 'nature-first' global culture to ensure environmental stewardship

- Building on local and indigenous practices and knowledge, as well as inclusive public dialogues, to foster a 'nature-first' global culture
- Enabling life-long learning in environmental stewardship

2.

Retooling global cooperation to effectively respond to future climate risks

- Ensuring universal equitable coverage of, and open-access to, (big) data and information relevant to climate resilience
- Facilitating conservation, restoration and equitable management of natural resources, particularly in regard to water resources and biodiversity
- Facilitating the equitable governance and multilevel co-ordination of both intra-national and international human mobility associated with the adverse effects of climate change

3.

Transforming sectoral approaches to sustain long-term regenerative resilience

- Countering climate impacts on public health and wellbeing through a holistic ecosystem approach to health
- Mainstreaming regenerative food production capabilities, including precision agriculture, especially among smallholders, to generate nutritious food for all
- Developing innovative financial instruments (including fiscal incentives) to regenerate nature and ensure the sustainable use of resources at the local level

6. CONCLUDING WITH THE NEXT STEPS

a. The roadmapping exercise

The roadmapping exercise will be undertaken by intergovernmental organizations and other relevant entities, so as to articulate, by 2020, preliminary policy-relevant roadmaps up to 2030.

The roadmapping exercise will contribute to refining policy-relevant pathways and defining milestones towards attaining the cross-cutting objectives identified above. The roadmap will be reviewed every 3 to 5 years, with possibility of minor adjustments every year.

The roadmapping exercise will be carried out in a decentralized, coordinated and iterative manner, and will mobilize innovative methods, including transdisciplinary dialogues involving public and private partners as well as civil society. This iterative and inclusive process will be facilitated by the Adaptation Programme of the UNFCCC secretariat.

b. Parallel actions and initiatives undertaken by partners and participants

In parallel, participants in Resilience Frontiers 2019 and other relevant experts who are part of the Resilience Frontiers nexus are welcome to undertake complementary actions to achieve the articulated visions, within the purview of their respective entities. Such actions are indicated and monitored on an online platform that facilitates ongoing engagement. Open communication on those actions, and on their contribution to the objectives of Resilience Frontiers, is also encouraged.

Insofar as those complementary actions relate to knowledge production for resilience, organizations are encouraged to register them as "action pledges" under the UNFCCC Nairobi Work Programme on Impacts, Vulnerability and Adaptation to Climate Change, and share the outcomes of their work via the Adaptation Knowledge Portal.

c. Resilience Frontiers 2020

Resilience Frontiers 2020, the next edition of the brainstorming conference, will contribute to the iterative process of the roadmapping exercise by providing a live platform to discuss progress. It will also enable to take stock and review the outcomes of complementary actions implemented by experts and organizations from the nexus.

d. Your possible contribution

All actions count to achieve the cross cutting objectives towards a climate-resilient world defined on page 11. Besides, if your expertise spans across two of the clusters of expertise mentioned on page 6, and you who would like to be part of the Resilience Frontiers nexus, please contact the UNFCCC secretariat via the Resilience Frontiers website.

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