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Executive Summary

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UNTAPPED

Collective Intelligence for Climate Action

Co-building the Accelerator Labs as a joint venture with:



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About the UNDP Accelerator Labs

The United Nations Development Programme (UNDP) Accelerator Labs is the world's largest and fastest learning network on wicked sustainable development challenges. Co-built as a joint venture with the Federal Ministry for Economic Cooperation and Development of Germany and the Qatar Fund for Development, along with Partners at Core for UNDP, the Italian Ministry of Environment and Energy Security as action partner, and the Japan Cabinet, the Network covers 115 countries, and taps into local innovations to create actionable intelligence and reimagine sustainable development for the 21st century. Learn more at acceleratorlabs.undp.org or follow us at @UNDPacclabs.

About Nesta's Centre for Collective Intelligence Design

Nesta's Centre for Collective Intelligence Design helps create new ways for communities to use technology to harness their insights, ideas and power to act on the problems that matter to them and create the futures they want. We design tools and projects that allow communities to respond collectively to challenges, and that help public and voluntary sector institutions strengthen trust and collaboration with citizens.

We use rigorous research methods to test, learn and evaluate each solution. Our flagship Collective Intelligence Design Playbook helped to define the field and is used by practitioners around the world. We have worked with organizations from the UN to the BBC.

To learn more, visit nesta.org.uk/project/centre-collective-intelligence-design or email the team at collective.intelligence@nesta.org.uk

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Image credits

Page 4, Carlos Arce, PNUD Bolivia

All photos featured in the report were obtained with participants' informed consent.

Executive Summary

Twenty-first century collective intelligence — combining people’s knowledge and skills, new forms of data and increasingly, technology — has the untapped potential to transform the way we understand and act on climate change.

Collective intelligence for climate action in the Global South takes many forms: from crowdsourcing of indigenous knowledge to preserve biodiversity to participatory monitoring of extreme heat and farmer experiments adapting crops to weather variability.

This research analyzes 100+ climate initiatives across 45 countries that tap into people’s participation and use new forms of data. This research illustrates the potential that exists in communities everywhere to contribute to climate adaptation and mitigation efforts. It also aims to shine a light on practical ways in which these initiatives could be designed and further developed so this potential can be fully unleashed.

Collective intelligence adds value to climate adaptation and mitigation efforts

Three-quarters of the collective intelligence initiatives that we analyzed for this report focus on adapting to the impacts of climate change which are already tangible in many countries. Collective intelligence helps farmers pool and share knowledge on climate resilient crops. It can help communities track the loss of species in rainforests and oceans. Collective intelligence is also used to monitor extreme heat, disease outbreaks and provide early warnings for floods and other disasters. Initiatives across the world are helping local health systems to adapt to new climate threats by facilitating groups of volunteers to map heat waves using sensors, or to carry out mosquito surveillance. What these initiatives have in common is that they localize data to understand climate change at a hyper granular

scale, generating insights in near-real-time. As such, collective intelligence is a promising resource for climate change adaptation efforts as it infuses high resolution data, builds on lived experience and generates local action.

There is less evidence that organizations in the Global South are tapping into collective intelligence to reduce carbon emissions. Where collective intelligence is being used for mitigation, case studies demonstrate how locally driven actions protect forests and marine areas so that they function as carbon sinks. Collective intelligence provides cheaper, faster and more granular information on forest degradation and restoration. It also helps keep track of the types, brands and scale of plastic and other waste, making it clear what

THE POTENTIAL RESERVOIR OF KNOWLEDGE AND SKILLS TO BE MOBILIZED FOR THE CLIMATE CRISIS IS HUGE.

needs doing in order to reduce the emissions caused by plastics and to better protect marine environments so they can continue to absorb carbon emissions. Initiatives highlighted in this report tap into the knowledge of Indigenous communities to report illegal logging, or provide new digital tools to help communities coordinate

and verify restoration activities. There are also initiatives which aim to reduce emissions by managing waste more effectively, through crowdsourced monitoring of plastic pollution, or by trying to coordinate householders and businesses for more efficient disposal and recycling of waste.

Collective intelligence can close important gaps in climate action:

Our analysis of existing practice showed that currently, collective intelligence advances climate action by bridging:

The Data Gap: the environmental and climate monitoring challenge is vast, and data gaps are still a barrier to effective action. Collective intelligence approaches are addressing this by mobilizing citizens to generate real-time localized data, and bringing together data sets to uncover new insights.

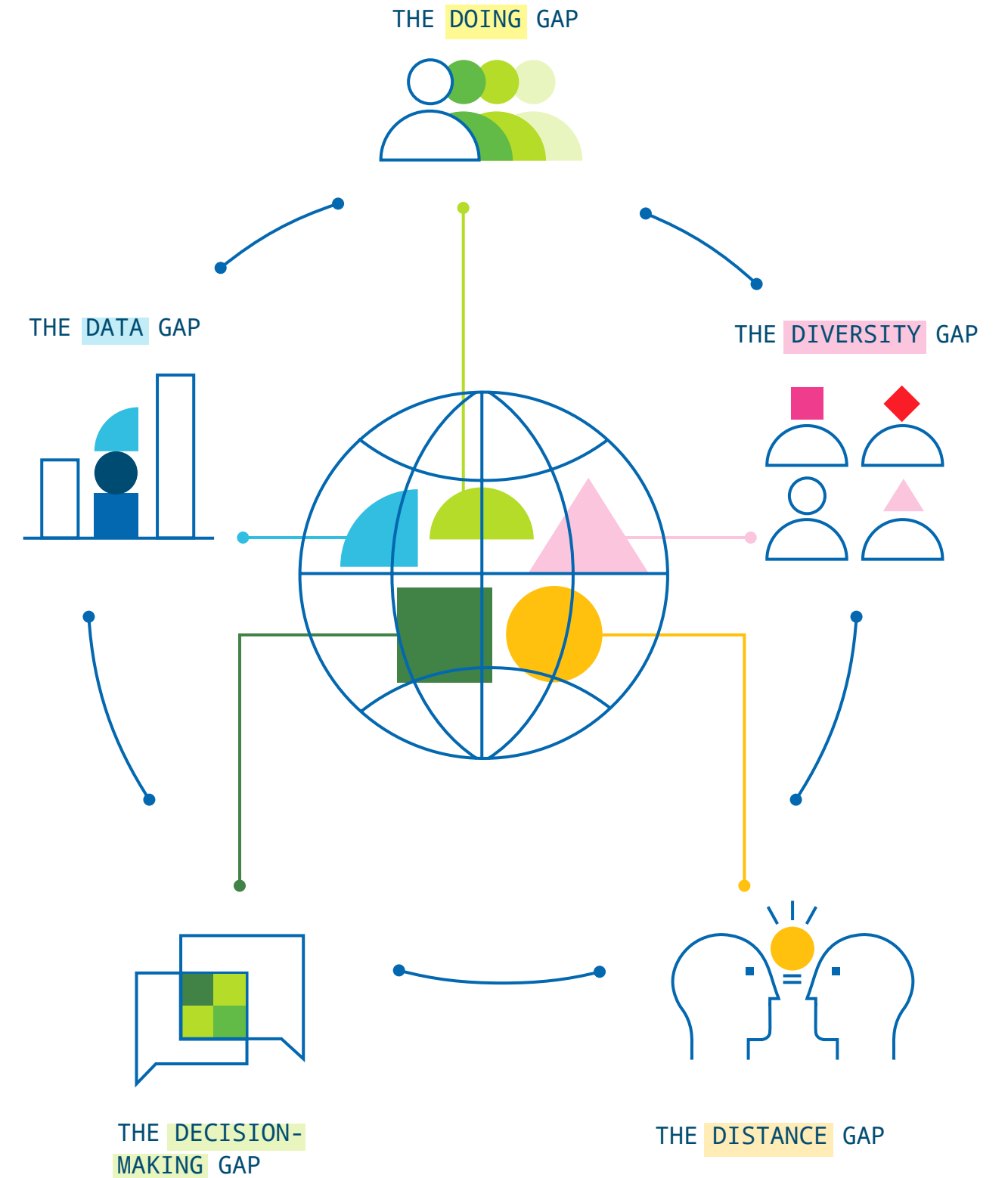
The Doing Gap: The IPCC has made clear that closing the gap between words and action on climate is imperative. Collective intelligence approaches enabled by new digital technologies are getting more people involved in taking climate action, and helping people monitor the follow-through of institutions.

The Diversity Gap: It is often the most marginalized groups who are most affected by climate change, yet they are frequently excluded from decision making. Collective intelligence initiatives are starting to address this, by bringing a wider range of people and perspectives into climate processes and data collection, including Indigenous communities.

Our analysis also shows that collective intelligence has the potential to decrease:

The Distance Gap: Addressing the gap between scientific knowledge and public understanding is critical in building public support for policies, tackling mis- and disinformation and making sure that scientists' research builds on local knowledge and addresses local needs. Collective intelligence initiatives foster a two-way exchange between scientists and local communities — enhancing scientific understanding and public knowledge, as well as creating mutual trust.

The Decision-making Gap: Taking effective climate action relies on being able to navigate between conflicting viewpoints, values and beliefs. The difficulty of closing gaps between opposing views and interests continues to be a major barrier to the scale and speed of climate action that is needed. Collective intelligence initiatives can help to do this by soliciting contributions from a diverse range of people, creating collective understanding of a problem, and supporting decision-making processes through structured deliberation. However, we found few examples of these approaches being applied in the Global South.



Collective intelligence for climate decisions is the next frontier for innovation

Making decisions for climate policy and action can be fraught and divisive, and compounded by the spread of mis- and disinformation. There is emerging evidence from elsewhere in the world that applying collective intelligence methods can help. Deliberative methods like climate assemblies or digital games which enable people to identify shared priorities for action, have been found to reduce polarization and increase satisfaction with policy outcomes. While methods like participatory modeling and simulations have been used to enable diverse stakeholders to explore different policy options together, and crowdsourced community moderation and checking has been used to tackle mis- and disinformation, more investment in innovation and research is needed.

Collective intelligence is, of course, not a solution to all aspects of the climate crisis. But making progress in how we understand, think, decide and act together would help us curb emissions and help communities adapt while we still have time to avoid the worst climate impacts. The case studies in this report have shown that collective intelligence enabled by new digital technologies can amplify local participation and take this to scale. The potential reservoir of knowledge and skills to be mobilized for the climate crisis is huge. Our research points to the still-untapped potential of collective intelligence as a method to help us do this.

Making the most of collective intelligence for the climate crisis

Challenges in the field do remain. This research finds that in order for collective intelligence initiatives to have impact, three factors are critical: sustaining volunteer participation, ensuring citizen-generated data fills known evidence gaps, and getting policy makers to act on the basis of new data. It suggests how collective intelligence initiatives can be designed to increase the likelihood of impact on national decision making and beyond.

Governments, donors, international organizations, academic institutions and innovators can invest in research and development activities that would help advance and accelerate collective climate intelligence initiatives in these ways:

Increase the utility of citizen data for climate issues

- Apply methods from citizen-led experiments in agriculture to other climate issues: biodiversity and health surveillance.
- Learn from human rights and other agendas to enhance the evidentiary value of crowdsourced data in climate adaptation.
- Enhance hyper-local data with remote sensing and supervised machine learning to compensate for sparse data in disaster risk and biodiversity management.

Focus investment on better collective intelligence for climate decisions and action

- Innovate beyond climate assemblies to develop other accessible, creative tools and methods that bring people together to make tough climate decisions.
- Build on transparency efforts to involve more diverse groups of people in oversight of government climate commitments.
- Create tools that help people take collective action, not just collect data, particularly to improve resilience to climate disasters.

Design collective intelligence tools that are multi-functional and scalable

- Invest in the creation of crisis intelligence tools that track multiple hazards to improve resilience of climate crisis-affected communities.
- Develop and use data standards for qualitative and citizen-generated data to accelerate transferability and learning from one collective intelligence initiative to another.
- Connect hyperlocal knowledge into global models and efforts. For example, by launching dedicated calls for local data used in AI models and more open and responsible digital technology relevant to the Global South to help grow community efforts to adapt to the realities of the climate crisis.



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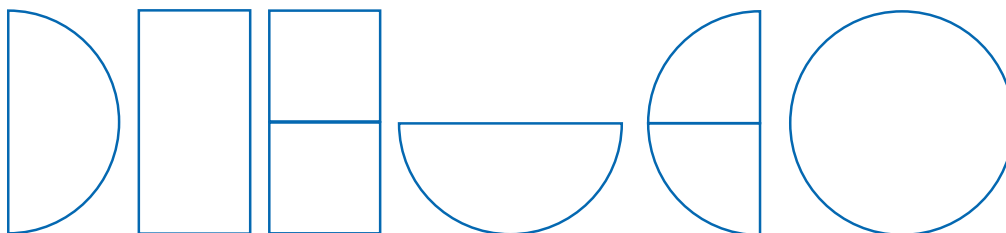


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