



Resilience: From Must-Know to Must-Do

What Resilience Science Means on the Ground

3 March 2026

On 3 March 2026, The Impact Trust convened the first in its 2026 Wax and Gold Open Dialogue series — a programme whose title draws on the ancient Ethiopian tradition of “sem ena werq” (wax and gold), a mode of speech in which a surface meaning (wax) conceals a deeper message (gold). This opening dialogue in the series invited participants to look beyond the familiar surface of resilience — a term now embedded in development, climate, and humanitarian discourse — to the deeper, sometimes uncomfortable questions about what resilience actually requires, who bears its weight, and what must change for it to become more than an expectation placed on those who are already most burdened.

The dialogue centred on the Nine Resilience Science Must-Knows, a landmark synthesis produced through a collaboration between the Stockholm Resilience Centre, the Global Resilience Partnership, and Future Earth. Facilitated without a formal chair by its panellists themselves, the conversation drew participants from across South Africa, India, Ethiopia, Uganda, Sweden, the United Kingdom, the United States, Australia, Japan, Belgium, and beyond.

Science at the Interface of Practice

Cibele Queiroz, Knowledge Director at the Global Resilience Partnership and Senior Researcher at the Stockholm Resilience Centre, opened the discussion by describing the motivation behind the Resilience Science Must-Knows: the demand, heard consistently from non-academic partners, for resilience knowledge in a form that was digestible and relevant for decision-makers. The nine principles emerged from a rigorous process: a global survey of resilience scientists and practitioners, editorial review by 20 scholars across 19 fields, regional dialogues with decision-makers in Africa, South America, and Asia, and iterative distillation into a form intended to be both evidence-based and practically useful.

“What we heard from non-academic partners was: we are doing this, we are working on resilience, but we are not sure if we are truly contributing to resilience or transformative change. A lot of research exists, but it is very difficult to grasp, or it is not in a format that is relevant to me as a decision maker.”

Cibele Queiroz, Knowledge Director, Global Resilience Partnership

Queiroz was careful to distinguish the Must-Knows from prescription: they are systemic in framing, broad enough to travel across scales and sectors, yet specific enough to be actionable. Decision-makers were defined broadly — from international policymakers to community and business leaders. She was candid about the tensions in the process.

The Nine Resilience Science Must-Knows

1	Resilience is critical for navigating accelerating risk
2	Resilience requires balancing the capacities to cope, adapt, and transform
3	Investing in resilience today reduces costs tomorrow
4	Resilience is a cycle of learning and innovation
5	Diversity is essential for resilience to thrive
6	Relationships among people and with nature build resilience
7	Governing and negotiating trade-offs is key to resilience
8	Empowering agency unlocks resilience
9	Address power imbalances to foster equitable resilience

Gina Ziervogel, Professor of Geography and Director of the African Climate and Development Initiative at the University of Cape Town, brought her perspective as a practitioner-researcher who had served on the Must-Knows editorial board. She grounded her reflections in concrete work: managing drought and flood in Cape Town, and a current project — Tuwe Pamoja (“Let’s Be Together”) — working with informal settlement dwellers across four African cities to surface community priorities and bringing them into dialogue with city climate and development processes.

Ziervogel offered two direct provocations to participants: first, which two or three Must-Knows would push your work boldly to the edge, beyond the status quo? And second, on Must-Know Nine (power imbalances), she named the core difficulty plainly:

“Sustaining power imbalances protects those who hold power. Shifting them requires taking risks, letting go, and pushing against the systems that cause vulnerability in the first place. How might we do that?”

Gina Ziervogel, Professor of Geography, University of Cape Town

Reflecting on 25 years in climate change adaptation, Ziervogel also named a tension that runs through the whole field — the shift from vulnerability thinking to resilience thinking, and what is gained and lost in that move:

“Resilience has emerged as something very attractive — it is a positive word. Vulnerability is more from a deficit mindset: what you don’t have. Resilience is what you have. But people interpret it in such different ways. There is so much lived resilience we need to learn from that is not captured in published literature — but is in those stories, in the experience, in our felt sense of: I really noticed resilience here.”

Gina Ziervogel, Professor of Geography, University of Cape Town

Resilience from the Ground — Communities at the Frontline

Manu Gupta, who heads a humanitarian nonprofit in India with three decades of experience in disaster-affected communities, brought the sharp edge of lived practice to the conversation. His account of communities on India’s coasts and floodplains — now experiencing on average three floods per year where previously there was one, and cyclones on coastlines that had never known them — was a direct illustration of Must-Know One: resilience is not optional in the Anthropocene.

“What we have noticed is that the kind of losses communities are experiencing are unimaginable when I compare them to what was the case three decades ago. Most of them are irrecoverable losses. And public assistance only meets about 30% of actual experienced losses — in a context where insurance penetration is less than 5%.”

Manu Gupta, SEEDS, India

Gupta’s framing of resilience built upward from community experience: from anticipation (knowing not just that a flood is coming, but what it means for you specifically — evacuate or stay?), through coping and recovery, to adaptation and the preservation of aspiration — the ability to send children to school without disruption, to maintain health, to remain in one’s livelihood. He introduced the concept of a “Plan B rooted in existing capacities” — not an externally designed intervention, but a locally viable option prepared before the shocks arrive.

“It’s not just good enough to know how many millimetres of rainfall is going to happen in the next 24 hours. It’s equally important to know what’s going to happen to me. Am I going to drown? Am I just required to move my things to the upper level? Or do I need to evacuate entirely? We need to go beyond information to thresholds.”

Manu Gupta, SEEDS, India

He also surfaced a question that ran through the whole dialogue: the relationship between resilience and fragility. Anti-fragility, he suggested, may run counter to community resilience in certain contexts. A degree of fragility — acknowledged and shared — is precisely what allows communities to coexist, to lean on one another, and to make transformation possible.

“The lotus flower always blooms in a muddy pond. Resilience takes it as a given that there will be power imbalances, there will be no agency, there will be a very fragile governance structure. That is where it really emerges as the path to help people salvage their lives.”

Manu Gupta, SEEDS, India

The Underlying Psychology: What the Must-Knows Left Out

The dialogue’s most provocative thread was introduced by Susi Moser, an independent US-based researcher specialising in climate adaptation, the science-policy interface, and the psychosocial dimensions of the crises we now inhabit. Reading the Must-Knows in the week the US had begun bombing Iran, she named what she felt was a structural absence: the human psychology that makes us willing — or unwilling — to act on what resilience science tells us.

“These nine must-knows feel pretty fine. But to me, what is missing is an articulation of the deep psychology underlying and making us want to use our powers, our agency, toward the end of resilience. Without that, we will never do any of the other nine.”

Susi Moser, Independent Researcher, Massachusetts

Moser’s argument was not a call for individually-focused psychological resilience interventions — quite the opposite. She distinguished sharply between that discourse (which, she noted, is frequently weaponised to absolve systems of responsibility for the vulnerable) and what she was calling for: a named, central commitment to the psychological maturity required to prioritise life, the common good, and the wellbeing of all, including more-than-human beings, and the future. She proposed a tenth must-know:

“Resilience requires the psychological maturity to prioritise life and its necessities, the common good, the wellbeing of all, and the capacities to withstand the psychosocial demands of crises, traumas, and transformation.”

Susi Moser, Independent Researcher, Massachusetts

Cibele Queiroz acknowledged that a must-know on the importance of behavioural and emotional dynamics in the outcome of resilience interventions had been in an earlier version of the list and was dropped — a decision the core team found difficult. Her explanation was dual: the communicative need for a disciplined, short list, and the fact that, although a lot of literature exists on individual resilience, the cross-disciplinary literature connecting inner psychology to systemic social-ecological resilience outcomes was not as established as a field. Susi Moser challenged this on the grounds that liberation psychology and community psychology have existed since the 1960s — as old, she said, as the ecology at the heart of most modern resilience framing.

“It’s simply not articulated clearly enough that the psychology and mindset is where the source of the ultimate problem lies. We can talk about power imbalances and all the rest — but the deep driver is the mindset and psychology that drives people to do what they do. Otherwise, we’ll get more of the same system.”

Susi Moser, Independent Researcher, Massachusetts

Maxine Jaffit, a researcher whose doctoral work on Adaptive Resilience found collective problem-solving and collective sense-making to be the key drivers of systems that not only survive but improve under stress, added from the chat:

“My PhD research on Adaptive Resilience showed that resilience development is a collective endeavour with collective problem solving and collective sense-making as key drivers.”

— **Maxine Jaffit**, via chat

Gina Ziervogel connected this to the question of where the humanness in resilience science is located: “The must-knows have been based on scientific evidence and authority. But where’s the meaning and the storytelling? That’s what we need.”

IV. From Individual to Collective: The ‘Me’ to ‘We’ Shift

Stephen Marshall, a participant joining from Burlington, Vermont, introduced a concept he called “hyper-agent analysis” — the recognition that extreme concentrations of wealth and individual agency are structural drivers of the crises resilience is trying to address. His provocation: the most powerful individual act is to stop acting individually, and to build solidarity with groups that function as adaptive systems.

“Groups are adaptive systems. Once you have sufficient solidarity, you have joined an adaptive something. We need to move toward affinity groups — economic family affinities — because once we get there, we will have very powerful units for pushing back against the hyper-agents and the drive toward private wealth.”

Stephen Marshall, Participant, Burlington, Vermont

Mike Davice Bird of WIEGO (Women in Informal Employment: Globalizing and Organizing) built on this with a story from his work on the Mozambican border — the night an entire refugee population in Malawi decided it was time to go home, and went, regardless of the international system’s financial incentives to maintain their dependency.

“Agency — absolutely. And talk about resilience: a war-torn country coming back to life because people went home and did what they needed to do for themselves and their family. The Mozambican refugees didn’t agonise. They organised.”

Mike Davice Bird, WIEGO

Bird also introduced the concept of reciprocity in capacity building — the principle that any training or capacity programme for government officials should bring along, as a matter of course, the community representatives who will be on the other side of the table. This, he argued, is the structural expression of Must-Know Eight (agency) and Must-Know Nine (power imbalances) in practice.

Manu Gupta reinforced the collective finding from the ground up:

“Resilience is very unsustainable at the individual level. It actually comes into play when there is a small group or a collective. It could be a household and its neighbour — that relationship is where the whole thing can start.”

Manu Gupta, SEEDS, India

Gerry Salole drew on work in Vietnam to introduce the concept of positive deviance — the small number of families in malnutrition contexts who, with exactly the same resources, produced different outcomes because they broke the rules, combining what they had in unusual ways. The question he posed: what makes the difference? What is the driver of that exceptional response?

Cibele Queiroz pressed on the me-to-we question with a critical nuance: collective processes are not automatically pluralistic, and the shift from individualism to collectivism does not itself resolve the problem of power concentration:

“Having collective processes does not mean that those processes are truly pluralistic. Power appropriation is the key thing. Ensuring that processes are as

pluralistic as possible — that is more the key issue than whether something is individual or collective.

Cibele Queiroz, Knowledge Director, Global Resilience Partnership

V. Language, Story, and the Patterns That Bind Us

Nicola Robins, joining from Cape Town, introduced one of the dialogue’s most generative threads: the power of pattern recognition through shared story. Her argument was not abstract — it was an account of a fundamental human capability that, she suggested, we are systematically losing through optimisation cultures and the outsourcing of pattern recognition to artificial intelligence.

“When we begin to look at patterns across stories, we are starting to access what is a deeply intuitive human capability. Pattern recognition is how we become resilient. We recognise what works over time. This is why collective systems work very well. We’ve largely been dumbed down by forcing ourselves into optimisation careers, and now we outsource patterns to AI. We’ve got to take it back.”

Nicola Robins, Cape Town, South Africa

Gerry Salole recognised this pattern dynamic in the rotating credit associations and burial societies that run from Cape to Cairo — Ethiopia’s iqub and idir, Senegal’s tontines, parallel structures across the continent. These, he argued, are not survivalist artefacts. They are evidence of communities throwing up resilient structures that solve their own problems, precisely through the kind of collective pattern recognition Robins described.

“From Cape to Cairo, from Addis to Senegal, you will find rotating credit and burial associations — resilient structures that communities throw together to solve problems on their own. We have been dismissing these as survivalist things for too long.”

Gerry Salole, The Impact Trust / IFRC TDT

Maxine Jaffit made the epistemological claim directly: “Resilience is constituted in language. The way we frame things, the way we talk about them, the kind of zero-sum game we create or refuse to create — for me, that is the beginning point.” Susi Moser extended this: “That is the language that is in and of itself counter to the dominant extractive paradigms.”

Gina Ziervogel put it with quiet force: “If we can respond out of love rather than fear — if our language takes something and we can respond out of love when we see so many around us speaking out of fear — it can really shift things.”

“Principles help us discuss resilience, but don’t necessarily act to inform it. To increase their agency, we often need heuristics — directional impulses that give rise to different actions in different contexts. e.g. ‘Return to Place’ (recurring pattern in SA Ngoma cultures); ‘Make people healthier’ (purpose statement of a SA health insurer). What might these look like for resilience?”

— Nicola Robins, via chat

VI. The Dangerous Word: Resilience as Burden and Imposition

Ellen Ehmke introduced a critical counterweight: the risk that celebrating psychological and communal resilience becomes a structural alibi for failing to build or maintain the social protection systems, health systems, and governance structures that are rights, not gifts.

“I am worried that a focus on community resilience will shift attention away from the meta-structures that make people so reliant on resilience in the first place. The biggest structures — social protection systems, health systems — are not in place and actually ask so much of people what should be given as a right.”

Ellen Ehmke, Participant

In support of this, she shared four voices collected from civil society at a G20-adjacent event in South Africa — a set of testimonies that stopped the room:

“Resilience — is that about the bare minimum to survive, or is it about thriving? I can imagine much that fits under the idea of a resilient society, but it depends on how you fill it.”

— Think tank leader (quoted by Ellen Ehmke)

“When I hear resilience, I think of the persistence of people to claim a space for their difference. It is a fight for a future in which they are included. But don’t applaud people for a capacity they never wanted to have, and which they have acquired through much pain. I wouldn’t want to be known for my ability to suffer.”

— Disability activist (quoted by Ellen Ehmke)

“I don’t want to be your resilience, which is just a pretty word for suffering.”

— Feminist activist (quoted by Ellen Ehmke)

Nicola Robins sharpened this in the South African context:

“A common statement amongst liberal South Africans is ‘We must make the youth more resilient.’ In fact, South African youth are amongst the most resilient people in the world. They survive rupture on a daily basis.”

— Nicola Robins, via chat

Susi Moser clarified that her call for attention to the underlying psychology and related values and belief systems was never about this misuse of resilience language. The orientation she named — toward life, the common good, and the wellbeing of all — is precisely the orientation that would build the structures Ellen described, rather than use community resilience to justify their absence.

“What I mean is a mindset, a set of values and orientation that makes you build different structures — that produce the kind of good life that allows you not just to run from one disaster to the next, but to send your kids to school and be sure that they come home safely. That orientation comes with psychological maturity.”

Susi Moser, Independent Researcher, Massachusetts

Rosanna Hunt, working in the UK NHS, offered from the chat a proposal that landed widely: that the nine must-knows might call for a complementary Part Two — describing the enabling conditions that make the nine possible:

“Maybe there is a Part Two to the nine must-knows? Aim: to describe the conditions that enable the nine to happen. Some that have been discussed here: psychological safety; social connection (get out of our silos); shared/higher purpose; collective intelligence and sense-making through stories.”

— Rosanna Hunt, via chat

VII. Closing Reflections — Towards the Must-Do

The final exchanges turned to what practitioners take forward. Eve Nagel, speaking from her work on inequality, offered a grounding note:

“None of the nine must-knows are new to me, having worked to address inequalities over the past years. But the list is helpful, clear, and inviting. I will take forward one or two must-knows at a time and see how to integrate and reflect upon them.”

— Eve Nagel, via chat

Cibele Queiroz returned to the foundational question — whether the must-knows feel like common sense, or whether they illuminate something genuinely new. She was curious, she said, to know whether participants felt these were impossible to apply in their own contexts, and what specific obstacles they encountered. She also pointed to “bad resilience” — the resilience of undesirable

systems — as an underdeveloped but urgent theme. Disrupting what is resilient but harmful requires the same transformations literature that describes how to build what is good.

Manu Gupta closed with a lotus image: resilience does not wait for a perfect world. It emerges in muddy ponds. Communities he has worked with have derived power from the very inadequacies that constrain them, challenging narratives and shifting systems. He pointed to migration - once understood as a coping mechanism, increasingly recognised as an active, resilient choice - as a case of pattern recognition at scale: communities teaching the system what the system is slow to learn.

Susi Moser offered the final image: a hammer. You can use it to hang a piece of art, or to do harm. What matters is who holds it, and what drives them in their use.

“I love what is in these nine must-knows. I don’t think they are wrong in any way. My point was entirely that in order to understand the hand that holds the hammer, we need to add the one about the values and psychology and mindset that drives the hammer holder. On that note, I just really want to appreciate all these comments and the work that went into putting them together.”

Susi Moser, Independent Researcher, Massachusetts

Key Threads and Open Questions

The dialogue surfaced several threads that the panellists and participants agreed have not yet been resolved — and that the Wax and Gold series intends to carry forward:

Thread	Question or Provocation
The psychology gap	Should a psychological must-know be added? What body of literature supports it — and has the synthesis underweighted non-Western traditions?
Resilience as burden	How do we prevent resilience science from being used to justify the withdrawal of structural support? Who must be in the room when these principles are applied?
Bad resilience	How do we disrupt the resilience of undesirable systems? The must-knows point toward transformation but stop short of naming what transformation requires of those with power.
The inner/outer link	How does individual and collective psychology connect to systemic resilience outcomes? This was named as an emerging research frontier — and a personal passion by more than one panellist.
From must-know to must-do	What heuristics, not just principles, would increase the agency of those trying to apply these? What would a Part Two — enabling conditions — look like?

Scale and sovereignty

How do local and regional resilience structures sustain themselves against larger forces actively working to undermine them?

Participants and Contributors

Panellists: Cibeles Queiroz (Global Resilience Partnership / Stockholm Resilience Centre), Gina Ziervogel (University of Cape Town / ACDI), Manu Gupta (SEEDS, India), Susi Moser (Independent Researcher, Massachusetts).

Where This Dialogue Leads

Much of what surfaced in this dialogue — the fracturing of trust, the retreat into smaller circles of sameness, the question of what holds us together when the systems around us are failing — runs directly into the questions at the heart of the next Wax and Gold dialogue. On 10 March 2026, Adam Kahane and Betty Sue Flowers join the series to explore: What holds us together in a world falling apart? A dialogue on collaboration across difference.

The connections are direct and generative. Susi Moser's provocation — that the deepest driver of the systems we need to change is the mindset that says "me, mine, extraction" — is precisely the mythology that Kahane and Flowers will interrogate. Their framing names it as an ideology: the myth of freedom, the story that things would be better if certain actors could operate without encumbrance from alliances, obligations, or the needs of others. It is a story, they argue, that drives fragmentation at every scale from families to nations. It is also, as this dialogue explored, the story that leaves communities bearing the weight of resilience that systems have declined to provide.

What this dialogue showed is that resilience is never a solo act. Manu Gupta's communities became resilient when the household and its neighbours found each other. Gerry Salole's rotating credit associations worked because people chose a larger "us" over a smaller one. Nicola Robins' pattern recognition happens only when stories are shared across difference. Mike Bird's Mozambican refugees went home as a community, not as individuals. Maxine Jaffit's research showed that collective sense-making — not individual capability — is the driver of adaptive systems. Again and again, what appeared was: resilience lives in the relational space between people, not within them alone.

Kahane brings three decades of facilitating collaboration in the world's most divided contexts — South Africa's transition, Colombia's peace process, climate change negotiations — and his most recent work asks directly: how do we come together in a world that keeps falling apart? His uncomfortable answer is that we often need to collaborate with people we least want to work with. Betty Sue Flowers, poet and mythologist, asks the complementary question: what story might hold a larger "us" — one that doesn't erase difference, but transcends the myth that smaller circles are safer?

The wax of resilience science says: here are nine things you must know. The gold beneath it, surfaced in this dialogue, is a harder question: who must act, and what must change in those who hold the most power, before these must-knows can become must-dos? That question — and the stories and relationships that might answer it — is what the Wax and Gold series exists to explore.

Links:

Stockholm Resilience Centre [Resilience Science Must Knows](#)

[Susi Moser](#) Building the psychological mindset: <https://theadaptivemindproject.org>

[Tuwe Pamoja](#)

[Gina Ziervogel, ACDI](#)

[SEEDS India](#)

[Manu Gupta](#), SEEDS

About the Wax and Gold Open Dialogue Series

The 2026 Wax and Gold Open Dialogue series is convened by The Impact Trust as a space for rigorous, generative, cross-sectoral conversation on the ideas and practices that matter most for navigating a world in polycrisis. The title draws on the Ethiopian tradition of *sem ena werq* — speech in which a surface meaning (wax) conceals a deeper truth (gold) — an invitation to go beyond the obvious and ask harder questions. Seventeen dialogues are planned for 2026.

Links: Stockholm Resilience Centre Resilience Science Must-Knows | Susi Moser: susannemoser.com | Building the psychological mindset: theadaptivemindproject.org

To receive notifications of forthcoming dialogues: www.impacttrust.org