



**Global
NDC
Conference
2019**



Lead the Change

Systemic leadership for NDC implementation and raising ambition

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On behalf of:



Federal Ministry
for the Environment, Nature Conservation
and Nuclear Safety

of the Federal Republic of Germany

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We are the generation (the last one) who is able to do something about this – we need to learn from each other and we need to bring stakeholders together for a whole society approach

Svenja Schulze, Minister of the Environment, Nature Conservation and Nuclear Safety, during Global NDC Conference 2019

“The most common cause of failure in leadership is produced by treating adaptive challenges as if they were technical problems”

Ron Heifetz, Co-Author: The Practice of Adaptive Leadership¹

“A new type of thinking is essential if mankind is to survive and move toward higher levels”

Albert Einstein²

BOX 1: KEY POINTS

Key Points:

- **Systemic leadership** is crucial for NDC implementation.
- **The climate crisis** is a wicked problem with interconnected environmental, social and economic challenges.
- **According to the Cynefin model** the challenge of NDC implementation can be characterized as a complex system; it requires a shift in mindset to unlock cultural and behavioral changes.
- **Implementing NDCs** requires recognising the importance of context and working with systemic principles and practices, rather than with a defined set of rules. Taking a **systemic approach** involves exploring and understanding the inter-relationships and dynamics in a system to find **potential intervention points where we can make our best contribution to positive change**.
- **System change and innovation** can be unlocked through cycles of experimentation and learning.
- **We need courage** to let go of that to which we have grown accustomed.
- We need a form of leadership which is more systemic, more distributed, more collaborative, more reflective and more in **touch with purpose and with the needs** of the world around us.
- **Leadership is the collective capacity of a system** to adapt and transform itself.
- There are **many practices** to support our personal and collective leadership capacities.

1. Background

The world is facing a global anthropogenic climate crisis, which threatens the stability of vital ecological, social and economic systems.³ In response, the vast majority of states agreed in the 2015 Paris Agreement, to limit global warming to well below 2°C. The main instrument of the Paris Agreement is the Nationally Determined Contributions (NDCs), in which each country can determine its national contributions to limit global warming. However, current country efforts are nowhere near sufficient to reach the goal of the Paris Agreement.⁴ With the 2020 NDC updates around the corner, countries need to increase the rate of system innovation (defined as “a transition from one socio-technical system to another”)⁵ enabled by NDC implementation and raising ambition.

The Global NDC Conference 2019 aimed to inspire and enable policy makers and practitioners to accelerate the pace and scale of transformational change – via NDC implementation – to reach the long-term goals of the Paris Agreement. The conference brought together 350 people involved in the implementation of NDCs from across 80 countries to share experiences and learn from each other; it was designed to highlight and learn from pioneering, innovative and game changing initiatives across NDC implementation worldwide.

Given the scale of the climate crisis and the NDC implementation challenges, the conference recognized the importance of systemic leadership by individuals, organisations and countries in responding effectively⁶.

This working paper is a first attempt to pull together current and emerging insights and raise awareness among climate practitioners and policy makers of the importance of systemic leadership as an approach for enhanced NDC implementation. It especially addresses officers in funding and implementing agencies, but also decision makers in partner countries.



PICTURE 1: LEADERSHIP AT GLOBAL NDC CONFERENCE,
© GABRIELE SCHLIPF 2019



2. The link between climate and systemic leadership

At a macro-scale, the earth's climate system can be described as a complex adaptive system. The pattern of climate behaviour (and change) results from the interactions of five major climate sub-systems: the atmosphere (air), the hydrosphere (water), the cryosphere (ice and permafrost), the lithosphere (earth's support rocky layer) and biosphere (living things).⁷ These patterns are being disrupted by the climate system's interactions over the last few centuries with the multitude of socio-technical systems created by human development, including economic systems, food systems and city systems; global warming and the current climate crisis have emerged from these interactions. Today's climate crisis arises from the solutions to challenges faced by human development to date.

Over the past few centuries, we have primarily responded to the challenges of the time with technical and problem-solving approaches. These approaches assume that we can predict, control and solve the problems confronting us, and that through addressing these problems one by one, we can continuously enable ongoing human development. We seek to break challenges down into smaller, discrete, more understandable problems, to analyse those problems and

trace direct paths from cause to effect, and to develop and implement problem-solving plans to act upon and control the world around us.

However, many of the challenges we are facing today, such as the climate crisis and NDC implementation, are wicked problems^{8,9}. They have no boundaries or clear definitions. They are interconnected with other environmental, social and economic challenges. They are inherently complex, continually adapting and evolving in response to changes in context, with triggers of change and unpredictable solutions emerging from unexpected places¹⁰. These kinds of challenges cannot be simply solved¹¹; we can no longer rely solely on our ability to accurately analyse, predict, plan and act accordingly. We need to work through these challenges over longer timescales and in collaboration with others, unlocking system change and innovation through experimentation, paying attention to what happens and amplifying what works, rather than seeking silver bullet solutions. To do this, we need to adopt more emergent ways of working and embrace other ways of thinking and knowing which complement rational analysis. As the Great Mindshift¹² describes, we need "new social imaginaries, sets of ideas including values, institutions, laws and symbols through which people imagine their social whole and envisage how alternative systems would differ from the current situation – and the courage to let go of that to which we have grown accustomed".

Thus, to enable NDC implementation and raised ambition, we need a form of leadership which is more systemic, more distributed, more collaborative, more reflective and more in touch with purpose and with the needs¹³ of the world around us. And we need leaders from across all of society: people who are passionate about the transformation to a 1.5° world and who take responsibility, wherever they are, for contributing to making it happen¹⁴.

"The deep changes necessary to accelerate progress against society's most intractable problems require a unique type of leader – the system leader, a person who catalyzes collective leadership"

From *The Dawn of System Leadership*¹⁵

3. Taking a systemic approach to NDC implementation

A system can be defined as a collection of parts or elements which are (seen by someone as) organised as a whole and interact together in order to do something. The parts of a system interact in such a way that they produce their own pattern of behaviour over time. In complex systems, unexpected properties or behaviours can arise from these interactions; this is known as emergence. Systems come in all shapes and sizes, and are nested within 'chains of smaller and larger systems'¹⁶. For example, a bee (which is a system in itself) is nested within the bigger system of a beehive; the beehive is nested within the forest where it is located; the forest is nested in a country (or a continent) and so on. These chains of systems and sub-systems also interact with and influence each other.

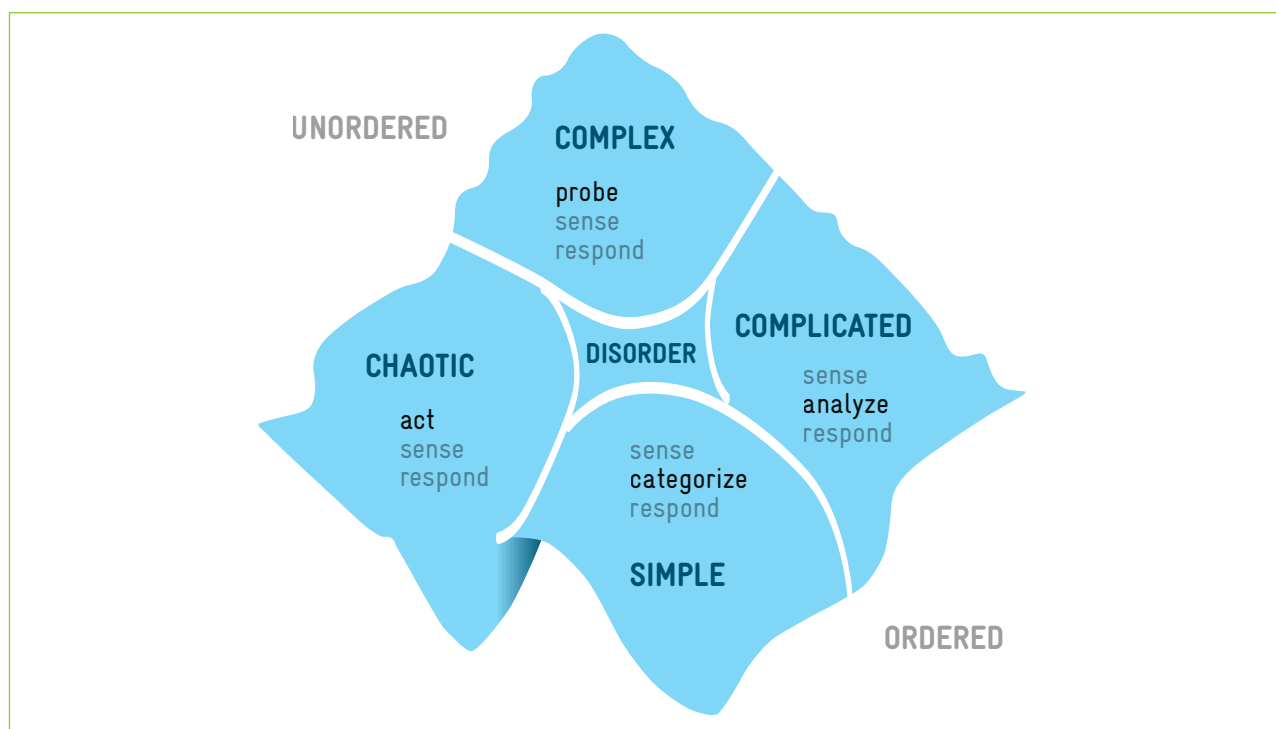
Taking a systemic approach involves exploring and understanding the inter-relationships and dynamics of a system (which helps us to make sense of complex environments);

finding potential intervention points¹⁷ in the system where modest actions have the potential for significant impact; and experimenting, learning and adapting, so that we can engage with a constantly changing environment and see the ripple effects of our actions within the context of the broader system.

Systemic approaches to change are increasingly being used to tackle wicked problems across multiple sectors, including private sector, philanthropy, social services and civil society. Multi-stakeholder platforms, such as the Sustainable Food Lab, Protein Challenge 2040 or the United Nations Environment Programme Finance Initiative, are being set up to enable more systemic responses and collaboration on complex sustainable development challenges.

The Cynefin model¹⁸ offers a framework to help identify what kind of challenge we are facing. It describes four different operating contexts and suggests the type of approach which best responds to each.

FIGURE 1: CYNEFIN MODEL BY SNOWDEN & BOONE 2007



In **simple** contexts, cause and effect relationships are fully known and certain. The right answer is obvious to everyone – for example to increase the temperature of a shower, we turn the hot tap in the right direction. In these situations, it is quite easy to make sense of the problem, categorize the cause and effect relationship and use proven best practice to solve it, in this example by turning the hot tap.

In **complicated** situations, cause and effect relationships are knowable and certain, but not obvious to everyone – for example building an aeroplane. There may be multiple ways to solve the problem, and the decision maker may not have all the necessary expertise to solve it alone. More complicated analysis techniques, expert teams and good practices based on previous experience are important in developing the best fit solution.

When operating in a **chaotic** context, such as the aftermath of a natural disaster or other emergency response situation, the relationship between cause and effect is turbulent, constantly changing and unknowable. These circumstances require us to act immediately in order to stabilise the situation and then work to bring the system into one of the other fields. Acting in chaotic situations requires quick instinctive and intuitive reactions to the situation as it unfolds.

In the context of **complex** problems, cause and effect relationships do exist, but they are multiple, interdependent, unpredictable, contextual and dynamic – usually only determined in retrospect. Real time analysis and problem-solving approaches are limited; best practices may not be applicable. Complex situations require a more experimental approach, preferably with a portfolio of parallel activities, to probe the system and gain insights into the inter-relationships and dynamics of the challenge. Through sensing into the challenge, we can identify entry points and test the impact of different interventions. Here, the conditions for learning must be created, from which new practical insights and emerging practices can be developed.

Where we do not understand enough about a challenge to identify the operating context, we are in **disorder**. The task here is to break the situation down into the four other types.

The Cynefin framework highlights that the challenge of responding to the climate crisis poses a range of problems that span all of these operating contexts, requiring a range of different approaches and responses accordingly. Many of the challenges of NDC implementation, particularly the social aspects of mindset, cultural and behavioral change, can be characterized as complex challenges which require a systemic approach to change.

4. Leading systemic change for NDC implementation and ambition raising

Enabling transformation of large complex issues, such as NDC implementation and ambition raising in response to the climate crisis, requires the active participation of all stakeholders in the systems we are seeking to influence, greater agility, shorter planning cycles and working more collaboratively across multi-stakeholder groups. It involves mastering the art of navigating in unknown territory and facilitating the emergence of change. To do this, we need to recognize that:

- Leading change is no longer just about the guy at the top – everyone must be involved in responding to the challenges we face and in finding solutions.
- Leading change is no longer just about isolated individuals, actions or solutions – we need to build our collective capacity to sense, shape and transform the future, at individual, organisational and system levels.
- Transformational change is not about setting a fixed goal and following linear, sequential plans to get there – rather we need to set a longer term intended outcome and then be flexible and adaptive in how we get there, carrying out experiments, paying attention and reflecting to learn what works to move us towards our desired outcome.

FIGURE 2: A MODEL OF SYSTEMIC LEADERSHIP LEADERSHIP BY EDGE EFFECTS 2019

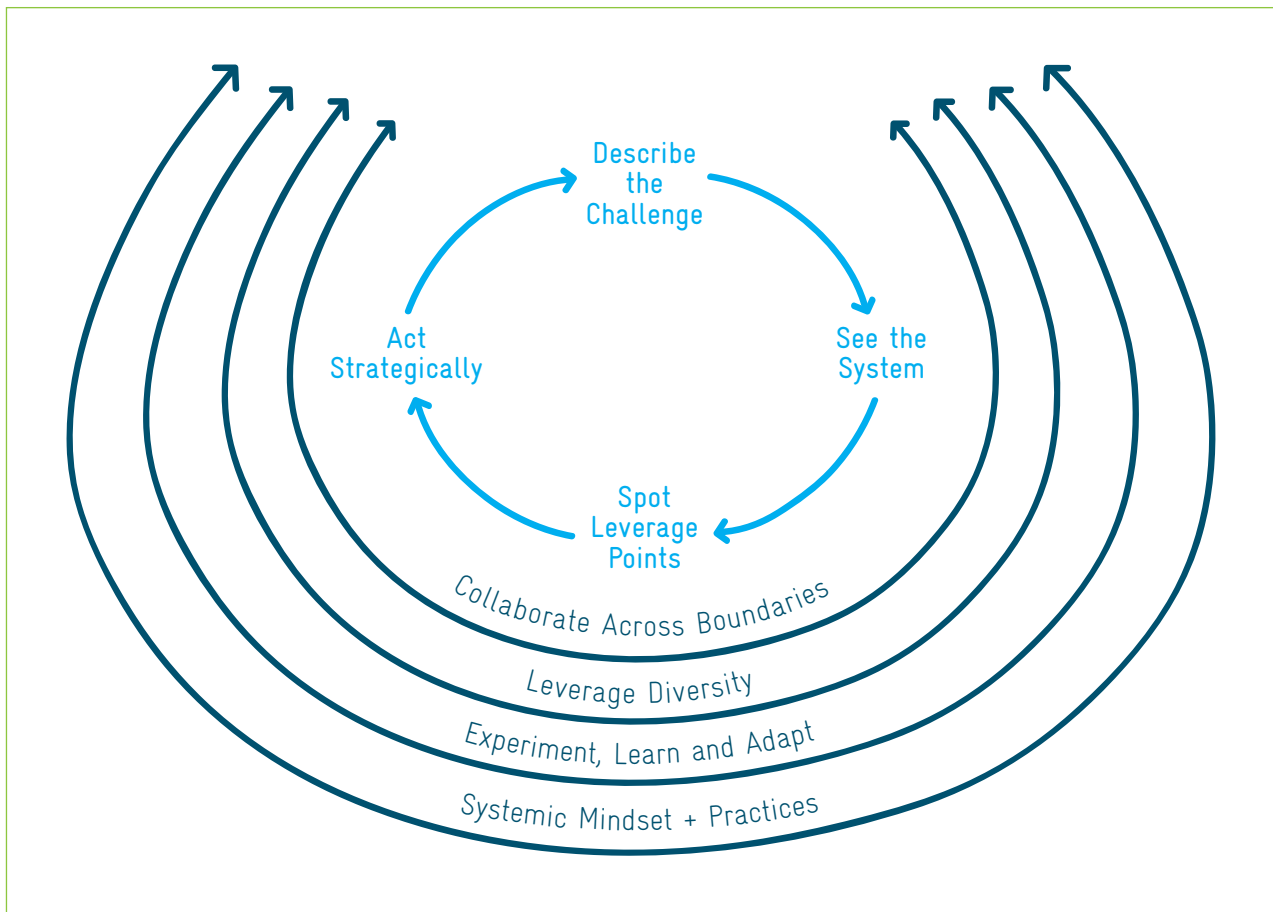


Figure 2 proposes a model of systemic leadership, which offers both a process for a systems approach to change, alongside with 4 dimensions of systemic practice. It is a principles-led model: application is intended to be inter-connected, iterative and adaptive according to context, rather than offering a definitive, step-by-step approach. It is influenced by systems thinking, complexity sciences and working with emergence.

The inner circle of Figure 2 depicts a systems approach to change:

- **Describe the challenge:** defining the focus for our change work is the starting point for systems change interventions. Diagnosing the challenge we are focusing on in our current reality and imagining an aspirational

vision of what good would look like in the longer term, along with a mid-term desired outcome, provides us with a guiding star to help us determine our short and medium term actions.

- **See the system:** seeing our piece of the puzzle in the context of the bigger picture enables us to get a deeper understanding of the system we are seeking to influence. Through identifying and understanding the perspectives, mental models and interrelationships between different parts and different actors of the system, we start to see the dynamics of the system – its purpose, the patterns, underlying assumptions and the deeper structures, forces and root causes at play. Various types of system mapping approaches can help build a shared picture of these dynamics.

BOX 2: SUGGESTIONS OF HELPFUL QUESTIONS FOR TAKING A SYSTEMIC APPROACH TO CHANGE

Describe the challenge

What is the problem you want to address? What is the system you want to influence? Who are the various stakeholders affected by the problem (positive and negative)? What are your hopes for what the future of this could look like in 20–30 years? What would you like to be different in 5–10 years as a step towards that future?

See the system

Who are the key players & what are the key parts of this system? What are the relationships and inter-connections between them? What are the macro trends and propensities of the system and how do they connect to behaviours at a local level? What are the deeper dynamics at play? Assumptions? Power? Patterns of behaviour? Feedback loops? Root causes?

Spot leverage points

Where are the influential nodes in this system? Where is this system frozen? Where is there energy for change? Where are there bright spots of innovation and change already happening?

Act strategically

Given our identity, role and resources, where can we have the biggest impact? How might engaging in that way lead to positive medium- and long-term change? How might we best complement or add value to what other stakeholders are doing? How might we create conditions for more stakeholders to engage in this change agenda?

- **Spot leverage points:** as we better understand the dynamics of the system, different opportunities to either strengthen or disrupt its dynamics in ways which will enable change towards our desired outcome to emerge. Different leverage points will have different potential for impacts (both intended and unintended consequences), depending on our desired outcome and on the readiness of the system.
- **Act strategically:** reflecting upon who we are, our role in the system and the potential contribution we can make to unlock change across the leverage points can help us to identify where we are best placed to intervene and take action. Keeping a focus on our desired longer term vision and identifying who we could collaborate with help us decide what action to prioritise in the short and medium term.

In Box 2, some helpful guiding questions for taking a systemic approach to leadership are suggested.

Taking a systems approach to change builds on four underlying systemic principles:

- **Collaborate across boundaries:** no independent actor can address complex systemic challenges, such as climate change, on their own. Instead, we need collaborative processes that include all relevant stakeholders who are involved in and/or affected by the challenge we are addressing. Engaging with diverse groups of stakeholders enables a deeper, richer understanding of the system and opens up more options for coordinated actions. Depending upon our context, this could include collaborating across teams, ministries, organisations, disciplines, sectors, countries and continents.

- **Leverage diversity:** finding innovative solutions which address underlying systemic issues rarely happens in the mainstream – rather, going to the edges of our comfort zones and seeking out diversity is where most new ideas start. Reaching out to people and places of different perspectives and experiences and inquiring with an open mind is a rich source of creative conflict, creative thinking, new ideas and innovative solutions.
- **Experiment, learn and adapt:** when navigating in unknown territory and working with emergence, there are no blue prints, how to guides (or experts) with a silver bullet solution. We learn fastest and best about what works through taking action and paying attention to our experience, rather than through thinking alone. Part of the journey is to get started, dealing with surprises, learning and adapting as we go. Start small and simple, learn with minimal resources, get feedback and build the case for more resources to continue.
- **Systemic Mindset and Practices:** to deepen our impact as systemic leaders involves embracing key mindset shifts and developing different practices. These include:
 - actively engaging multiple perspectives
 - creating space to step back and look at the bigger picture
 - seeing patterns over time, not just problems as isolated events
 - seeking underlying root causes, rather than addressing the symptomatic problem
 - constantly learning about the system and how to be effective in it
 - experimenting with different actions, and re-framing failure as our first attempt in learning
 - reflecting and becoming aware of our assumptions and mental models
 - recognising that we are active participants in the system – we influence it as we are influenced by it
 - recognising that “essentially, all models are wrong, but some are useful”

BOX 3: THE ROLE OF STAKEHOLDERS IN NDC IMPLEMENTATION

A key message throughout the Global NDC Conference 2019 was that in tackling climate change, everyone is a stakeholder. Sub-national actors are key to bridging the gap between ambitious national climate targets and the concrete actions required on the ground. Diverse private sector players are acting both as financiers and as implementers of net zero emission products and services with climate change-related benefits. Increasing engagement and the participation of women and girls in climate-smart development offers one of the most effective accelerators for achieving climate goals. Young people are increasingly voicing their concerns for their future, demanding that the climate crisis is treated with urgency and that more action is taken to safeguard their future. Indigenous peoples, with the wisdom from their cultural heritage, have their own vision of the world's forest that offers different approaches to protecting their land and livelihoods. Collective and inclusive leadership is needed in order to have real change happening.

5. Starting to act differently

“The success of an intervention depends on the interior condition of the intervener”

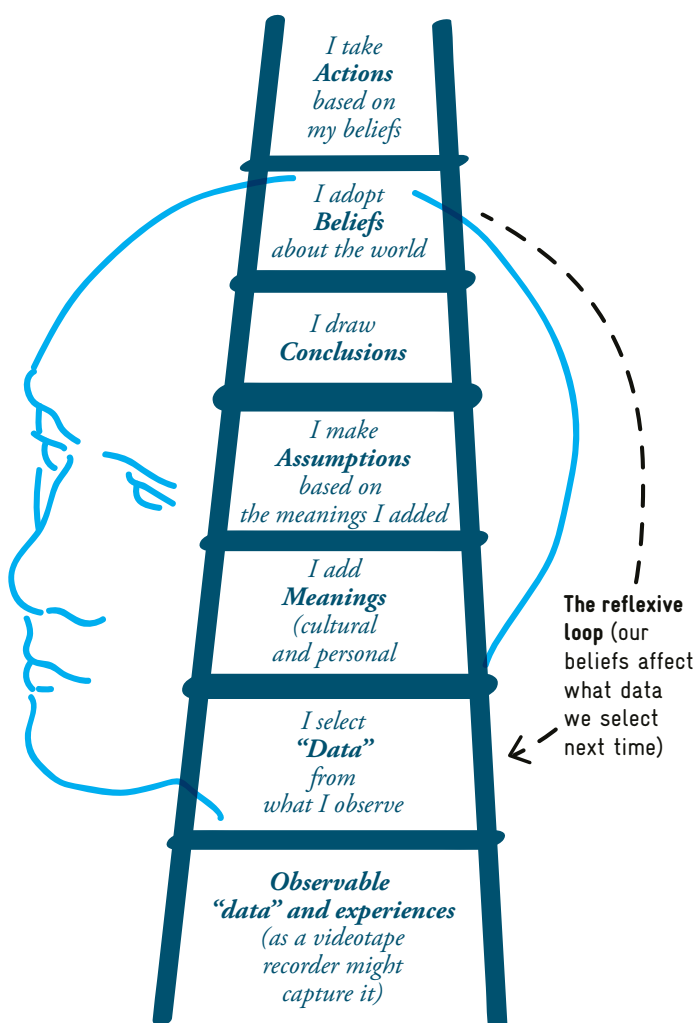
Bill O'Brien, late CEO, Hanover Insurance¹⁹

Thinking systemically gives us a way of making sense of what is going on around us and how we might be able to unlock positive change. But change only happens when we start behaving differently, which starts with each and every one of us. Otto Scharmer suggests that a lack of (collective and individual) awareness of our source (who we are and the inner place from which we operate) is a “blindspot of leadership”²⁰ which we need to pay attention to if we want to effectively respond to our global challenges and transform our global systems.

Similarly, Deborah Rowland's research suggests that "leading change starts inside yourself"²¹ and that successful change leaders paid attention to their way of being, as well as what they were doing.

For those of us seeking to act as change agents and lead more systemically, there are a number of simple systemic practices that we can do to become more aware of our source and to shift the quality of our (& others') attention. A sample of these are mentioned below.

FIGURE 3: THE LADDER OF INFERENCE²²



Getting in Practice: reflecting and becoming aware of our assumptions and mental models

We all hold our own mental models – our deeply held beliefs about how the world works, and the thought processes (often habitual) which we use to understand life, make decisions and solve problems. Many of those thought processes happen in a split second; we are not conscious of them, or of the assumptions and biases that are embedded in them. They are also not visible to other people, who often only see the actions we take, which they make sense of through their own (different) mental models. Chris Argyris's Ladder of Inference²³ is a tool which provides insight into our own mental models and helps us to reach more considered conclusions, rather than jumping to a premature conclusion based on our implicit assumptions. Over time, using the Ladder of Inference can help improve our self-awareness, the way we communicate with others by making our own thinking and reasoning more visible and our ability to understand where others are coming from by giving us ways of inquiring into their thinking and reasoning.

Getting in Practice: The Art of Listening

Many of us have been trained in how to communicate – to read, to write or to speak – but we are not often trained in how to listen. And yet listening is often identified as a critical leadership skill. From Stephen Covey's 5th habit: Seek first to understand, then be understood²⁴ to many of Dale Carnegie's golden rules in *How to Win Friends and Influence People*²⁵ to Melissa Daimler's *Listening is an Overlooked Leadership Tool*²⁶. Otto Scharmer writes: "All great leadership starts with listening. That means listening with a wide open mind, heart and will. It means listening to what is being said as well as what isn't being said. It means listening to the latent needs and aspirations of all people."²⁷

The quality of our listening is determined by our internal intention and attention. Theory U recognises listening as a foundational tool for leading change²⁸ and suggests 4 levels of increasingly effective listening capacity:

- **L1. Downloading:** where we are listening primarily to re-confirm what we already think or believe and hear only what backs up our own assumptions

- **L2. Factual:** where we are open to hearing new facts or data that contradict our own ideas and adjust what we think or believe accordingly
- **L3. Empathic:** where we add social complexity to the facts. Empathic listening enables us to step into other people's shoes and see an issue from different stakeholder's viewpoints, even when they are opposite or contradictory to our own point of view
- **L4. Generative:** where we bring the system together²⁹ (at any scale – e.g. 2 colleagues, a team, a multi-stakeholder platform) and listen for the whole to access the collective wisdom of the group. When we suspend our own position and open ourselves to all the different viewpoints, energies and polarities, we can reach a deeper understanding and see new possibilities emerge from being in relationship with others

Increasing our capacity to operate at different levels of listening is an art that requires practice³⁰ if we want to become better listeners³¹.

Getting in Practice: Circle Practice, including Check Ins
Conversation is a core process³² through which we make meaning of our experience and the world around us. It is the medium through which we connect with one another – talking, thinking and reflecting together. We are continuously shaping and being shaped by the conversations we have – at their best, in ways which access our shared purpose, creativity and collective wisdom, and allow creative endeavour and meaningful actions to emerge. However, we don't always pay attention to the 'art of conversation'³³; many of our meetings fall into habitual patterns which don't tap into our full potential.

Circle practice³⁴, rooted in our older oral traditions, offers a different pattern for conversing. With a simple structure for deep conversation and wise outcomes, circle practices are increasingly being adopted to unlock the collective wisdom of groups of people.

A Check In is a simple form of circle practice which anyone can use. Often used at the beginning of meetings, a check in is designed to pay attention to the human side of a meeting by creating connections between people, helping everyone to become fully present to the purpose and topic of the meeting, and establishing active participation. The check in host actively manages the check in process³⁵ by:

- ensuring that everyone can see everyone else,
- posing a relevant check-in question,
- responding to the question first,
- holding the space and encouraging everyone to respond to the check in question without interruption or discussion,
- closing the check in before moving into the rest of the meeting.

Using check ins regularly is a deceptively powerful way of enabling groups to develop and work effectively together towards a common goal.

Getting in Practice: Asking the right question

"If I had an hour to solve a problem and my life depended on the solution, I would spend the first 55 minutes determining the proper question to ask, for once I know the proper question, I could solve the problem in less than five minutes."

Albert Einstein³⁶

We often focus on trying to find the "right answer", on finding quick solutions and fixing problems, often based on what is already known. When addressing complex issues, the way forward often lies not in what is already known; it lies in questioning our current habits and assumptions and in opening up our imagination to explore what else might be possible. Shifting our focus from finding the "right answer" to discovering the "right question" enables thought-provoking and reflective conversations, generates new insights, and invites creativity. As we continually together inquire, guided by a powerful question, new ways of thinking and doing can emerge, opening up new solutions and potential experiments.

A powerful question³⁷:

- invites inquiry and curiosity; they are open-ended questions and do not have a simple yes/no answer;
- focuses attention on what really matters, generating movement into the future;
- surfaces underlying assumptions, good ideas and possibilities;
- evokes more questions and may accompany you for several hours, months or years, and
- captures people's attention, creating energy

Try crafting a powerful question to frame your work on accelerating NDC implementation.

Getting in Practice: seeking underlying root causes, rather than addressing the symptomatic problem

The “5 Whys”³⁸ is a simple tool for cutting through the outward symptoms of a problem to reveal the deeper, underlying causes and to determine the relationship between different root causes of a problem. It can be used across multiple contexts and can be especially helpful with a group of people to come to a shared understanding of a common issue. You can use the “5 Whys” as follows:

1. Write down the problem or issue you are exploring. (Writing it down helps you formalise and describe the problem. It also helps ensure a team is focused on the same problem.)
2. Ask WHY the problem happens and write the answer down below the problem.
3. Ask WHY the answer to the first WHY happens and write that answer below.

Repeat Step 3 at least 4 times. You may find you have reached the root cause by the 5th WHY. If not, then keep repeating or start again from the problem and follow a different route.

Getting in Practice: constantly learning about the system and how to be effective in it

Getting into the habit of critical reflection on our experience is a fundamental element of continuous learning and

is particularly important in the context of complex issues, where we are in ongoing cycles of action learning as the situation evolves. Yet many of us are too busy doing to prioritise taking some time out to pause and reflect. A simple tool which can be used across most contexts and can be done in any amount of time (from 5 minutes to a full day's reflective session and more), and with any number of people (from personal to collective reflections) is Rolfe et al's³⁹ critical reflection model: WHAT – SO WHAT – WHAT NOW. Next time you've done something, and either it has not quite gone to plan or it has gone better than you could possibly have imagined, try taking a few minutes and making some quick notes in response to these 3 questions⁴⁰:

1. WHAT? – do I want to focus on? What happened? What was supposed to happen? Who else was involved? What went to plan / not to plan? What worked / did not work?
2. SO WHAT? – what was going through my mind? What did I base my actions on? What was my response in the moment? What else could I / should I have done? How do I understand the situation now? What can I learn from this?
3. NOW WHAT? – what will I do next?

PICTURE 2: LEADERSHIP AT GLOBAL NDC CONFERENCE, © GABRIELE SCHLIPF 2019



6. Next steps for fostering systemic leadership and systems change in climate action

BOX 4: REFLECTIONS ON NDC IMPLEMENTATION

Voice of a practitioner

Reflections by Eduardo Sanchez, coordinator of LEADS LAC, 7 years of experience in climate action and NDC implementation:



"In my work I experienced that the real change mostly happens on the micro and not the macro level. Accordingly, the people who have solutions often do not participate in the NDC process and NDC politics. Regarding climate summits, though I wouldn't call them useless, they are currently not leading to the urgent changes required. One problem is that people working in governments systemically do not plan for the long term. Also, governments have political and economic pressures, which mislead from the most urgent and essential. It's more about convincing others than about real change. For me, good leadership is concrete, replicable and clear on one priority, as well as led by persons that have personally matured."

Applications of the systemic leadership concept must be tried for and tested at all different levels of NDC implementation with the aim of establishing and demonstrating linkages between systemic leadership, NDC enhancement and ambition raising discussions.

In order to elaborate a specific model and further guidance on the role of systemic leadership in the context of the climate crisis and NDC implementation, experience and further learning of applying systemic leadership in NDC implementation projects is necessary. For this we are hoping to get in touch with and listen to people who have experienced both successful and less effective leadership experiences.

As complementary way forward, we would like to prototype different interventions and models of systemic leadership in practice with different NDC implementation projects.

The learnings from these potential next steps would then be consolidated into knowledge products which can be strategically applied for the climate community.

7. References and further readings

We have referenced a wide variety of references throughout this paper, listed in the footnotes below. Many of these references also offer further reading, tools and other resources which will offer a variety of perspectives and experience of complexity, systems change and systemic leadership, as well as ideas and guidance for putting it into practice.

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