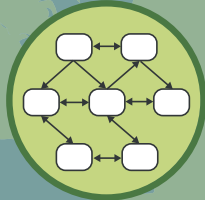


MISTRA Environmental Communication

Reframing communication
for sustainability
2019–2023



Progress report
April 2023

MISTRA ENVIRONMENTAL COMMUNICATION Reframing communication for sustainability

Programme host: Swedish University of Agricultural Sciences (SLU), Division of Environmental Communication (EC-SLU), Uppsala, Sweden

Programme directors: Professor Anke Fischer (EC-SLU) and Dr Eva Friman, Uppsala University

Chair of the programme board: Berit Oscarsson, Head of Communication, Swedish Environmental Protection Agency

Contact person: Anke Fischer, EC-SLU, PO Box 7012, 750 07 Uppsala, Sweden, +46(0) 18-671965, anke.fischer@slu.se



Discussing environmental communication. Photo: Jenny Svennäs-Gillner.

Contents

1. Introduction.....	5	WP2: Reframing communication strategies to promote sustainable consumption.....	15
2. Selected impact stories.....	6	WP3: Science and knowledge (co-)production: Environmental communication embracing diverse ways of knowing.....	18
Increasing reflective capacity among process leaders	7	WP4: Impacts of contemporary communication on the sustainable practices of market-based organisational networks.....	22
Transparency mechanisms in global supply chains	8	WP5: Environmental communication in (social) media and the arts: Opening spaces for transformative discursive encounters.....	25
Enhancing the use of museums as spaces for sustainability debate and exploration	9	WP6: Synthesis.....	27
3. Key insights, lessons learned and progression towards Phase 2	10	WP7: The programme commons – coordination and knowledge sharing.....	30
Insights	10	Think/do tanks	35
Strengths of the programme as experienced by programme participants.....	11	Strategic reserve-funded projects on disinformation and information systems.....	37
Challenges as experienced by programme participants..	11		
Weaknesses of the programme as experienced by programme participants.....	12	5. Literature cited.....	38
Alignment between Phases 1 and 2, progression and re-direction	12	6. List of journal articles – published and in press	39
4. Detailed reports.....	12	7. List of consortium and other programme partners	40
Programme structure and overview of WPs.....	12		
WP1: Planning for sustainability transformations - government-led dialogue in natural resource governance	14		



1 2



3 4



5 6



7 8



1) A transdisciplinary team in action, programme meeting, April 2022. Photo: Jenny Sverrnäs-Gillner. 2) Following the cotton supply chain: Focus group discussion with growers of organic cotton for Chetna, which then goes to SSC and on to Nudie Jeans, January 2023 (WP4). Photo: Sai Cheruvu. 3) Understanding carbon sequestration in soils hands-on (WP3). Photo: Thao Do. 4) On a landscape walk looking at forest fires in La Mosquitia, Honduras (WP3/think/do tank). Photo: Hilda Madrigales. 5) How wild is this park, really? Discussion at Biotopia, April 2022. Photo: Jenny Sverrnäs-Gillner. 6) What have we learned? Reflection exercise at programme meeting, October 2022. Photo: Anke Fischer. 7) Scottish Ceilidh dance at the kick-off meeting, January 2020. Photo: Paula von Seth. 8) Breakout group discussion at programme meeting, April 2022. Photo: Jenny Sverrnäs-Gillner.

This is the fourth year of the research programme and it is exciting to see the results presented by our very skilled researchers and their partners in the different work packages. The results are giving practical outputs for us who – in many different ways – work with communication. New findings and useful tools are being shared. The Co-creation Lab, the Reflection cycle and new knowledge about disinformation are some examples.

For my organisation, the Swedish Environmental Protection Agency, it has been a very positive experience to contribute to the direction of the research. Our engagement in the programme has also made it easier for us to use the results in our work at the agency. One example is the research about disinformation in the project “Fighting windmills”. Disinformation and misinformation are accelerating in our society and could be a threat to knowledge-based decisions.

I hope that this report will give you an insight into the results of Mistra Environmental Communication so far.

Berit Oscarsson, Head of Communication, Swedish
Environmental Protection Agency

Chair of the Mistra Environmental Communication board



1. Introduction

MISTRA Environmental Communication – Reframing communication for sustainability aims to mainstream an advanced and inclusive understanding of environmental communication in research, policy and practice such that it can effectively underpin and foster sustainability transformations. The programme draws on a transdisciplinary approach firmly grounded in the environmental social sciences. It involves researchers from a range of disciplinary backgrounds as well as non-academic partners representing crucial actors in wider society to harness existing thinking, co-develop new insights and approaches and translate these into communication practice.

Our research programme is underpinned by an understanding of environmental communication as the joint construction of meaning, which involves the social negotiation of knowledge, values, emotions and embodied experiences related to environmental and sustainability issues. Traditionally, environmental communication has largely been understood from an instrumental perspective, often building on a knowledge deficit model, in which the effective communication of appropriate information and knowledge will lead people to adopt more sustainable behaviour (Corner et al. 2017, Irwin et al. 2018). Our research shows that this type of approach is still widespread today, four years after we formulated our initial research goals. While broader, richer and more nuanced concepts and approaches exist, these remain relatively isolated and insufficiently translated into mainstream environmental communication practice. To address this, **five principles**

have been underpinning our work towards a reframed approach to environmental communication:

- We understand environmental communication as multimodal and multilateral rather than as linear diffusion of (expert) knowledge, and as performed not only by scientists or government experts but in all societal fields;
- We consider both instrumental (purpose-driven) and constitutive aspects of communication and the ways in which these shape public discourses and, ultimately, action;
- We understand environmental communication as a field of discursive struggle, and sustainability as an inherently contested concept;
- We argue that sustainability transformation approaches that target individuals need to be complemented by approaches that foreground the social practices and structures that produce environmental problems;
- We work towards taking account of the role of power and conflict in knowledge production and communication processes, rather than viewing knowledge as neutral or objective.

Scientifically, the programme’s aim is to strengthen the development of critical and change-oriented approaches to environmental communication as a research field in its own right, embedded in both wider communication studies and other strands of the environmental social sciences, and to produce in-depth knowledge on how and under what conditions environmental communication can contribute effectively to sustainability transformations.

Mistra Environmental Communication (Mistra EC) brings together a team of researchers and societal actors that is uniquely placed to address this challenging task. The programme is hosted by the Division of Environmental Communication at the Swedish University of Agricultural Sciences (SLU) in Uppsala, and involves SWEDESD – Research and learning for sustainable development and global health at Uppsala University, Lund University, the University of Borås, the University of the Sunshine Coast (Australia), the University of Texas at Austin (USA), Charles University (Czech Republic), and a wide range of other academic and wider societal partners. Signatories of the consortium agreement include the municipalities of Uppsala and Enköping, the Swedish Agency for Marine and Water Management (HaV), the Water Council of Lake Mälaren, the Swedish Sami Organisation (SSR), the Federation of Swedish Farmers (LRF), the Swedish Association for Hunting and Wildlife Management (SJF), Greenpeace, Färgfabriken, Tyréns and WSP. The Swedish Environmental Protection Agency, Sweden’s Forestry Agency, artists and museums, and other academics, authorities, NGOs and businesses are further partners in the programme (see Section 7).

To achieve its vision and overarching aim, the programme’s **goals** are to:

- Develop and mainstream a theoretically and empirically grounded understanding of environmental communication that is capable of addressing ‘wicked’ challenges and that contributes effectively to societal transformations towards sustainability
- Bridge the gap between theory and practice through close transdisciplinary collaboration between researchers and societal partners
- Establish a powerful Sweden-based hub for environmental communication research and practice with international reach
- Form a strong European basis for research and debate on environmental communication that stimulates inter- and transdisciplinary dialogue and collaboration

- Explore, develop and apply strategies for transformative environmental communication practices at local, regional, national and international levels
- Ensure continued development and adaptation of transformative environmental communication practices in different contexts – including training and capacity building of environmental communicators and other communication practitioners.

THE PROGRAMME’S VISION is that by 2035, effective environmental communication will underpin Sweden’s transformation to a more sustainable society, acting as an internationally recognised model of critical and change-oriented communication that is socially legitimised and inclusive. This is the result of a strong collaborative approach, scaling out from the programme as a hub from the regional to national and international levels.

We situate our work within an **action arena** that includes interested and relevant researchers and professional communicators, but also other actors that engage in environmental communication in a (quasi-) professional capacity even though they might not necessarily consider themselves as ‘communicators’, such as staff of businesses, governmental and non-governmental organisations, policymakers and politicians and scientists – including both those who ‘do’ communication and those who shape the structures and institutional contexts of communication. These are the main **target groups** of our research.

In this report, we explore the extent to which our work (see summary in Table 1) in the last 3 ½ years has helped to develop environmental communication research and practice in relation to our five principles and the goals mentioned above, and lay the ground for the work proposed for the next years.

Table 1: Summary outputs of Mistra Environmental Communication

OUTPUT	JOURNAL ARTICLES PUBLISHED	JOURNAL ARTICLES SUBMITTED	JOURNAL ARTICLES IN PROGRESS	CONFERENCE PRESENTATIONS/ SESSIONS	BLOGPOSTS AND POPULAR SUMMARIES	TRAINING AND OTHER WORKSHOPS (WITH EXTERNAL PARTICIPANTS)
NUMBER	24	11	16	48	32	57

2. Selected impact stories

The following three brief “impact stories” are illustrative of the types of societal benefits that Mistra Environmental Communication is developing.

More information on emerging impacts and societal benefits can be found in the overall reflections on the programme (Section 3) and detailed reports from the different components of the programme (Section 4).

Increasing reflective capacity among process leaders

Collaborative processes and dialogues have become increasingly important in many governance contexts, such as urban planning and natural resource management. The intention of collaborative processes is to make governance more inclusive, legitimate and democratic, and these processes are a central part of a just transformation. However, facilitating such processes or meetings is seldom, if ever, easy. It is a very particular form of leadership: While there is an ideal of horizontal power relationships, the host or facilitator needs to use authority to help make the meeting or process as meaningful as possible for all involved. Many officials at governmental organisations face this tension when leading collaborative processes. In Work Package (WP) 1, researchers and public sector practitioners worked in close collaboration to unpack the power dynamics at play in dialogues and collaborative processes led by governmental organisations.

One outcome of this work is the Reflection cycle, a tool that guides facilitators through step-by-step reflection to enable them to learn from a challenging situation (Fig. 1). Several governmental organisations, among others Uppsala municipality, the Swedish Environmental Protection Agency and the Swedish Forestry Agency, tested the Reflection cycle during various stages of its development, and contributed with highly valuable input, drawing on their experiences of facilitating dialogues and collaborative processes. This work has in itself stimulated reflection about the practice of some of the organisations.

Through the collaboration with Mistra [Environmental Communication], we have been provided with the space to reflect upon our work with participatory processes.
(Official at Uppsala municipality)

The Reflection cycle has continuously been revised and updated based on the feedback from facilitation practitioners, with the aim of making the tool as relevant and useful for facilitators as possible. At a workshop in February 2023, WP1 researchers together with the Swedish Environmental Protection Agency and the Forestry Agency tried out the latest version of the tool. The feedback from the workshop participants was very positive:

[The Reflection cycle] is both easy to use and gives useful support.
(Workshop participant)

With this, the Reflection cycle was ready for a wider audience. At the WP1-organised event “Att planera för en hållbar framtid” (“Planning for a sustainable future”) in Stockholm in March 2023, about 15 practitioners both from both the private and public sector attended a workshop where they used the tool to reflect on their own facilitation practices. The Reflection cycle is now [available online](#) (in Swedish) and WP1 has organised, and will continue to organise, workshops to help organisations implement the tool in their facilitation practices and planning of dialogues and collaborative processes. The facilitator plays an important role in shaping these meetings and processes. Supporting process leaders in making design choices and managing tricky situations in a confident and empowered way is therefore an important part of creating good conditions for more inclusiveness and legitimacy in governance for a more sustainable future.

The Reflection cycle has helped me to look at things that have happened at various meetings from multiple angles. In this way, the tool has supported me in facilitating dialogue processes.
(Official, Sweden’s Forestry Agency)

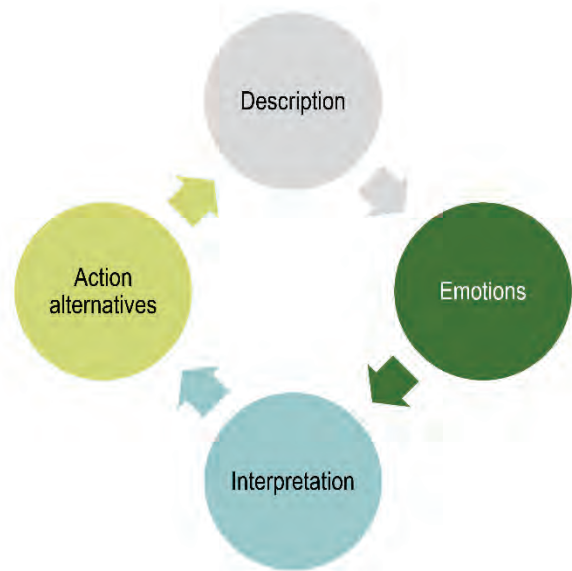


Figure 1: Schematic overview of the Reflection cycle. Source: Mistra EC WP1

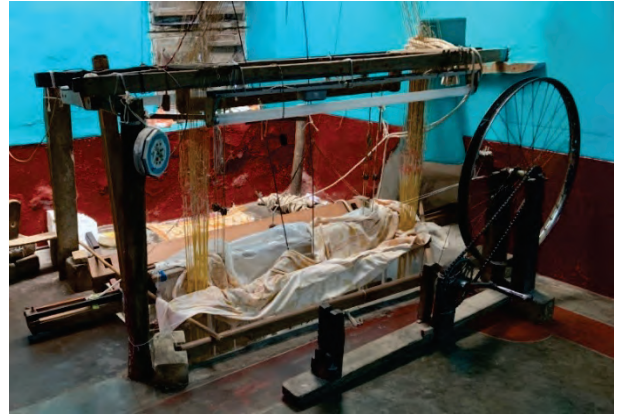
Transparency mechanisms in global supply chains

Global sustainable supply chains are designed to be transparent, to enable stakeholder and consumer scrutiny of environmental impact, labour practices, human rights, and governance. Yet, are the mechanisms by which we try to procure transparency actually facilitating the kind of visibility we want? Our WP4 work on tracing global organic cotton sustainable supply chains in the apparel sector attracted co-funding from the University of Texas, which supported several students to work with us. With the students, we collaborated with Swedish partners Nudie Jeans and Dedicated. Together, we tried to visualise what it would mean to go beyond audit-based verification methods in supply chains – where external, often international agents come into factories or farms and cross check whether required policies are in place, whether workers are working appropriate hours, and whether welfare centres exist and sustainability practices and rules are implemented. Our partner at Nudie, Sandya Lang, has over the years talked to us about how the company has wanted to find a way to engage more deeply with worker voices from the Global South and get a better sense of what workers themselves experience when they make the apparel that is shipped away to Sweden. Representatives from both Dedicated and Nudie Jeans visit their suppliers in India regularly, but continue to feel a need to engage deeply with stakeholders.

When we took the students from Sweden on to India, we interviewed about 40 garment workers in multiple factories and multiple locations in Karnataka and Tamil Nadu, including at SCC, which produces apparel for both Nudie Jeans and Dedicated.

In a set of workshops in October 2022 and in an accompanying report, we shared our insights with both companies. The insights we derived on worker voice and experience was of considerable value for both partners in the study.

The organisations will use the insights and reflections from the project not only in their reporting but also to develop future projects working towards more differentiated reporting and communication systems and approaches.



A handloom in Melkote, India. Photo: Shiv Ganesh.

Having these curious and knowledgeable students coming to our office for a research project was very interesting, they come with different points of views and with questions that feed our will to do more and do better. We used their results as part of our stakeholder analysis which is useful for both sustainability reporting and project development.

(Margaux Schleder, Head of CSR at Dedicated)

The context and additional information derived from the students' report have been helpful for us at Nudie Jeans to better understand the challenges and possibilities for future programs at our supplier. We are now in collaboration with the supplier, looking into developing a training program for female supervisors together with local NGOs and some other brands producing at SCC.

(Sandya Lang, Chief Sustainability Officer at Nudie Jeans)



Field trip to the cotton fields of Chetna Organic Coop, cotton suppliers for both Nudie Jeans and Dedicated. Photo: Sai Cheruvu.

Enhancing the use of museums as spaces for sustainability debate and exploration

Museums increasingly want to act as places where societal change for sustainability can be explored, but do not feel that they have a clear idea about how to go about this. Museums are public spaces that have the potential to engage people in sustainability issues by broadening horizons and facilitating engagement with values, emotions and collective memories. Instead of lecturing or instructing, many museums aim to open up new perspectives on change for sustainability.

Already early on in the research programme, one of the partner organisations raised precisely this question: What is the role of museums in times of climate change? Moderna Museet, the Museum of Modern Art in Stockholm, used the think/do tank format to invite Mistra Environmental Communication researchers to jointly set up a first event, a one-day, digital symposium in February 2021 called ‘Acclimatize’ on the role of museums in the sustainability transition, attended by more than 200 participants from museums in Sweden. The widespread interest in this question and the great response from curators, guides, and educators encouraged us to develop the work further in a series of five workshops targeting different types of museums. By means of collaborative exercises, conversations and exchange of experiences, the participants explored how to navigate their own role, and were supported with ideas and concepts from researchers in e.g., environmental communication and climate psychology.

Based on the feedback we collected, participants valued this initiative as it helped them develop their way of thinking and shaped their way of working.

Very inspiring and thought-provoking discussions, and a lot to think about further. I'm taking this with me also into our upcoming planning process. A big thank you for an inspiring day!

(Director of a Swedish museum)

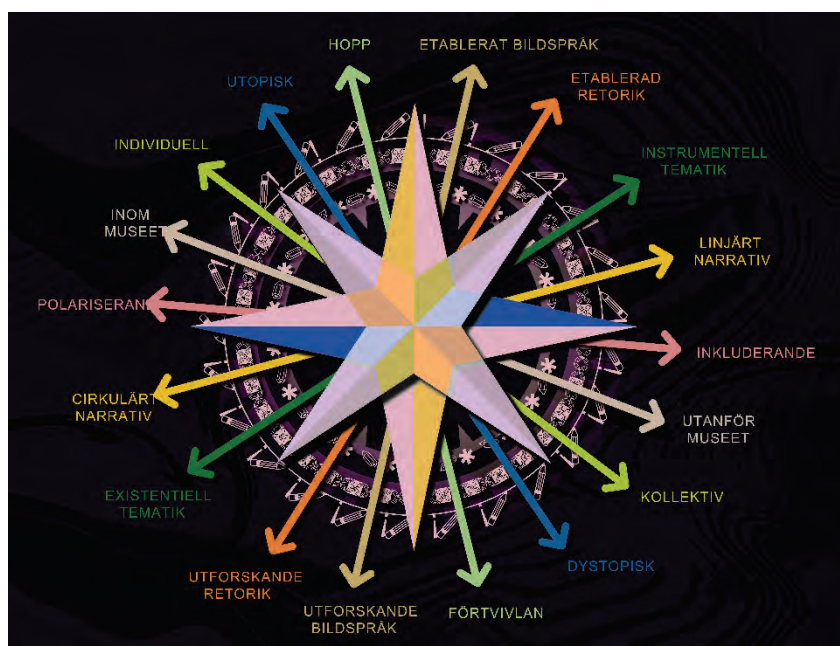
Thank you for a great and very inspiring workshop. This is staying with me! I mentioned the project to the agency's head of research and development. We are really keen to work precisely with climate issues and pedagogics and I wonder how your work is going to develop over the next year? What are your plans?

Would there be an opportunity to look at a collaboration? We would be very interested in that. Once again, thanks so much for the workshop!

(Head of Department at a Swedish museum)

Many organisations wanted to continue the conversation both internally as part of their implementation plan (verksamhetsplan) and with the organisers. We thus gathered and translated many of the insights from the workshop into the form of a toolbox for museums, which will be shared online and distributed in printed form to the museums in Sweden. A couple of museums as well as their umbrella organisation, the Swedish National Heritage Board (Riksantikvarieämbetet) have volunteered to act as pilots for implementing the toolbox in their practices.

We see that the joint work has already been influencing ambitions, exhibitions and programmes at museums across Sweden. Through the collaboration with additional organisations as part of the toolbox development and implementation, we are hoping that the insights and inspiration arising from the work will continue to be used and developed further at museums across Sweden, ultimately stimulating visitors and citizens to become more conscious and reflected, opening up critical discussions of how we structure societal change for sustainability.



Extract from the “toolbox for museums in times of climate crisis”. Graphic design: Brita Lindvall Leitmann and Mariana Alves Silva.

3. Key insights, lessons learned and progression towards Phase 2

One of Mistra EC's main hoped-for impacts was that "in academic and wider societal contexts, the understanding of environmental communication will have been broadened and deepened in a way that allows a more effective engagement for sustainability transformations" (see programme plan Phase 1). And indeed, as articulated by several programme participants representing a range of professional backgrounds, one key insight from the work over the past three years was that environmental communication is much more diverse and ubiquitous than they initially thought. Overall, Mistra EC has been met with great interest by environmental communication practitioners who express eagerness to learn and better understand communication, but sometimes also a feeling of being lonely and isolated in their professional activities within larger organisational contexts that are experienced as constraining. Mistra EC's ambition to equip "actors (...) with theoretically informed models and tools for communication and (...) the capacity to critically reflect upon and adapt activities to the situation at hand" (programme plan Phase 1) was thus very welcome. In the remainder of this section, we present a brief selection of the main insights – organised in relation to the five principles that have been underpinning our understanding of environmental communication (Section 1) –, lessons learned and reflections on the strengths and weaknesses of the programme, including implications for Phase 2. These have been collected through several reflection sessions at WP leader meetings as well as at the wider programme level. For a more detailed account of the findings see Section 4.

Insights

1) Environmental communication as multimodal and multilateral

- a) Seemingly straightforward phenomena such as transparency in sustainability reporting and communication along a supply chain are deeply relational and contextual practices; multilaterality can here be fruitfully understood as relationality (WP4).
- b) Multimodality and multilaterality become particularly salient where we direct our attention to the role of networks, algorithms, flows and sharing of (dis-)information in the social negotiation of meaning around environmental and sustainability issues, as in several of our strategic reserve-funded projects.

2) Considering both constitutive and instrumental aspects of communication

- a) The distinction between instrumental and constitutive perspectives on communication is an

analytical question, not a pragmatic one. A person communicating has to believe in the performativity of their communication for it to make sense, and understanding communication as instrumental is a core part of the identity of professional communicators. While in Phase 1, our work emphasised constitutive perspectives (based on the analysis that mainstream communication science focuses on instrumental aspects, which we aimed to complement), we recognise that instrumental perspectives on communication are needed, not least to make the programme widely relevant across different groups of communication practitioners.

- b) At a meta-level, *instrumental* understandings of communication can be seen to have *constitutive* effects. For example, the "conduit" metaphor of communication is, in spite of its contestation in academic as well as wider circles, still dominant in professional environmental communication cultures and shapes the tools that professional communicators have at their disposal (WP2).
- c) Visualisations used as part of sustainability reporting, in themselves a form of communication that explicitly foregrounds the instrumental, also have implicit, constitutive effects and construct environmental problems in terms of efficiency, standardisation and control (WP4).
- d) Much of the environment-focused communication artefacts analysed in WP5, including art, social and traditional audio-visual media, can be interpreted to represent one of two opposing discursive assemblages, namely anthropocentrism and ecocentrism.
- e) Instrumental approaches to storytelling, such as "storytelling for sustainability", can be understood in terms of three different frames, each with its own instrumental goals: Persuasion, emancipation and collaboration (WP6/strategic reserve).

3) Complementing individual-focused with systemic approaches to change

- a) At the start of Mistra EC, we understood this principle in governance terms – as a call to consider also systemic change in sustainability transformation, rather than focusing exclusively on individual behaviour change. During the course of the programme, we reinterpreted this in more conceptual terms as a call to consider both structure and agency in our understanding of environmental communication.
- b) Our research in Sápmi highlights the structural conditions under which dialogue processes related to natural resource governance take place and thus exemplifies the importance of understanding the structures in which environmental communication practices are situated (WP1/strategic reserve).

4) Environmental communication as a field of discursive struggle, and sustainability as contested

- a) Understanding sustainability as contested is a fundamental feature of all work within Mistra EC. WP3's framework for dealing with 'wicked' sustainability issues, involving, e.g., game co-design processes, takes contestedness explicitly into account.
- b) Environmental communication and governance can be seen to interrelate in four different ways that involve both constitutive and instrumental aspects (see Point 2 above), and this understanding can be helpful when analysing communication processes as part of a struggle over meaning that ultimately shapes governance approaches and impacts (WP6).

5) Taking account of power and disagreement in environmental communication

- a) Facilitators leading dialogue processes tend to regard power, including their own, as negative and thus avoid actively engaging with power relationships. WP1 proposes a typology and tools to reflect on different types of power, and the role of authority in facilitation.
- b) An important feature of the methodological development in the Co-creation Lab is the creation of safe spaces with level playing fields for all participants. Positionality as well as power are accounted for, and disagreement and heterogeneity are used as a vehicle for the co-creation of knowledge (WP3).

- The leadership and coordination of the programme are experienced as very structured and at the same time attentive and supportive.
- Joint programme processes and activities (such as twice-yearly programme meetings) offer spaces to develop much-needed shared understandings of different aspects of environmental communication, allowing different perspectives to meet.

It has been positive for the Swedish Environmental Protection Agency to be able to contribute with our views on the focus of the research. This has led to increased relevance and applicability of the findings.

Collaboration between research and practice has also facilitated the speedy adoption and use of the results.

A concrete example is that we at the Swedish Environmental Protection Agency have continued to work with the topic of disinformation and have started a development task within the agency to increase the available knowledge and assess the need for other measures. Increasing closeness and connection to research can also increase the quality of the agency's work.

(Stina Söderqvist, communication strategist, Swedish Environmental Protection Agency)

Strengths of the programme as experienced by programme participants

The set of five principles upon which the programme is built is one-of-a-kind: I can't think of anything else in the field of communication studies that has done anything like this.

(Shiv Ganesh, Professor, Department of Communication Studies, University of Texas at Austin)

- Engaging with multiple and diverse perspectives on environmental communication is experienced as enriching and rewarding by many of the programme participants representing a range of different backgrounds.
- Built-in flexibility through think/do tanks and strategic reserve projects allows the programme to address current and emerging issues, and to bring in new partners and perspectives. This is experienced as very positive, and as strengthening the overall programme.
- The inclusion of reflective and reflexive dimensions in the programme through diverse practices, methods and actor is widely appreciated, not least as it complements other available approaches to environmental communication.

Challenges as experienced by programme participants

- Mistra EC has been constituted by a broad spectrum of transdisciplinary collaboration – from in-depth co-creation of research, to well-functioning cooperation where the different partners play different roles, to traditional research largely steered by professional researchers, to instances where expectations for collaboration were high but have been disappointed. Finding the right level of collaboration between academic and non-academic partners that also works for those that provide their time in-kind has not always been straightforward. While in Phase 1, our ambition might often have been to achieve true co-creation of research, this has not always been meaningful, desirable or feasible for non-academic partners. One way of dealing with this involves broadening and narrowing “loops”, moving between different degrees of transdisciplinarity within the research process. Another approach would be to be clearer about which type of partner involvement is envisaged for different parts of the work – and this might range from close collaboration to loose participation in occasional workshops or events.
- It is experienced as difficult to share research conducted by non-Swedish speaking partners based in other countries with relevant Swedish actors and in relevant policy and applied contexts, even if the research draws on Swedish cases – this requires very

close collaboration with Sweden-based, Swedish-speaking partners.

Weaknesses of the programme as experienced by programme participants

- A transdisciplinary programme such as Mistra EC is highly dependent on well-working partnerships, including the support of the partner organisations and the engagement of individuals that are able to stay engaged over a longer period of time. These dependencies make the work as well as its impact vulnerable to organisational changes.
- In some areas, even more work could have been done to develop applications of the ideas developed in Mistra EC in wider communication practice.

Alignment between Phases 1 and 2, progression and re-direction

- In Phase 1, Mistra EC's WPs are structured around five fields of practice (see Section 4). We see this structure as working very well, not least as it allows engagement with relatively clearly delineated groups of communication practitioners. However, such a set-up makes in-depth research on conceptual questions *across* practice fields a little more difficult. Emerging conceptual issues include, for example, the role of evidence, expertise and "truth" in environmental communication in a context of agonistic pluralism and democratic debate that is said to be increasingly polarised, and parallel questions related to the role of information technologies in the sharing of (dis)information and creation of information cultures within a democratic framework. While such issues might at first sound abstract, we have in fact experienced a great demand and interest in these from a broad range of actors. The programme's set-up in Phase 2 reflects these interests, and allows us to both synthesise previous work and to develop new perspectives. While continuing to engage with many of the practice fields of Phase 1 (such as government-led dialogue), in Phase 2 we also extend our reach to include additional communication practices (such as nature interpretation).
- Our work in Phase 1 can be seen as interdisciplinary in several ways: For example, it includes collaboration between environmental psychology and sociology (WP2), between environmental communication, educational and sustainability research (WP3), between arts and social sciences (WP5, think/do tanks and strategic reserve), between social sciences and information sciences (WP5, strategic reserve), and between environmental psychology, social sciences and ecology (WP6, think/do tank, strategic reserve). While some of these worked naturally, others took a while to

grow and flourish. All of these will be further developed in Phase 2.

- Our reflections on transdisciplinarity have led to us to adopt a more diversified and differentiated approach to multi-actor collaboration in Phase 2, where explicit space is being given to different ways of working with and learning from each other – including both co-creation of research and short-term interactions, and a range of formats in between.
- Looking towards a long-term legacy from the programme, we are continuing to develop a Swedish hub in environmental communication research and learning which includes components established in Phase 1 (such as the annual Environmental Communication Days – Miljökommunikationsdagarna, and the Co-creation Lab) as well as additional ones that provide a long-term perspective to the networks created through Mistra EC. While firmly based in Sweden, this hub reaches out to wider Europe and internationally (e.g., through the International Environmental Communication Association, other networks and collaborations, but also academic publications).

4. Detailed reports

Programme structure and overview of WPs

Mistra Environmental Communication Phase 1 is organised according to three dimensions (Fig. 2):

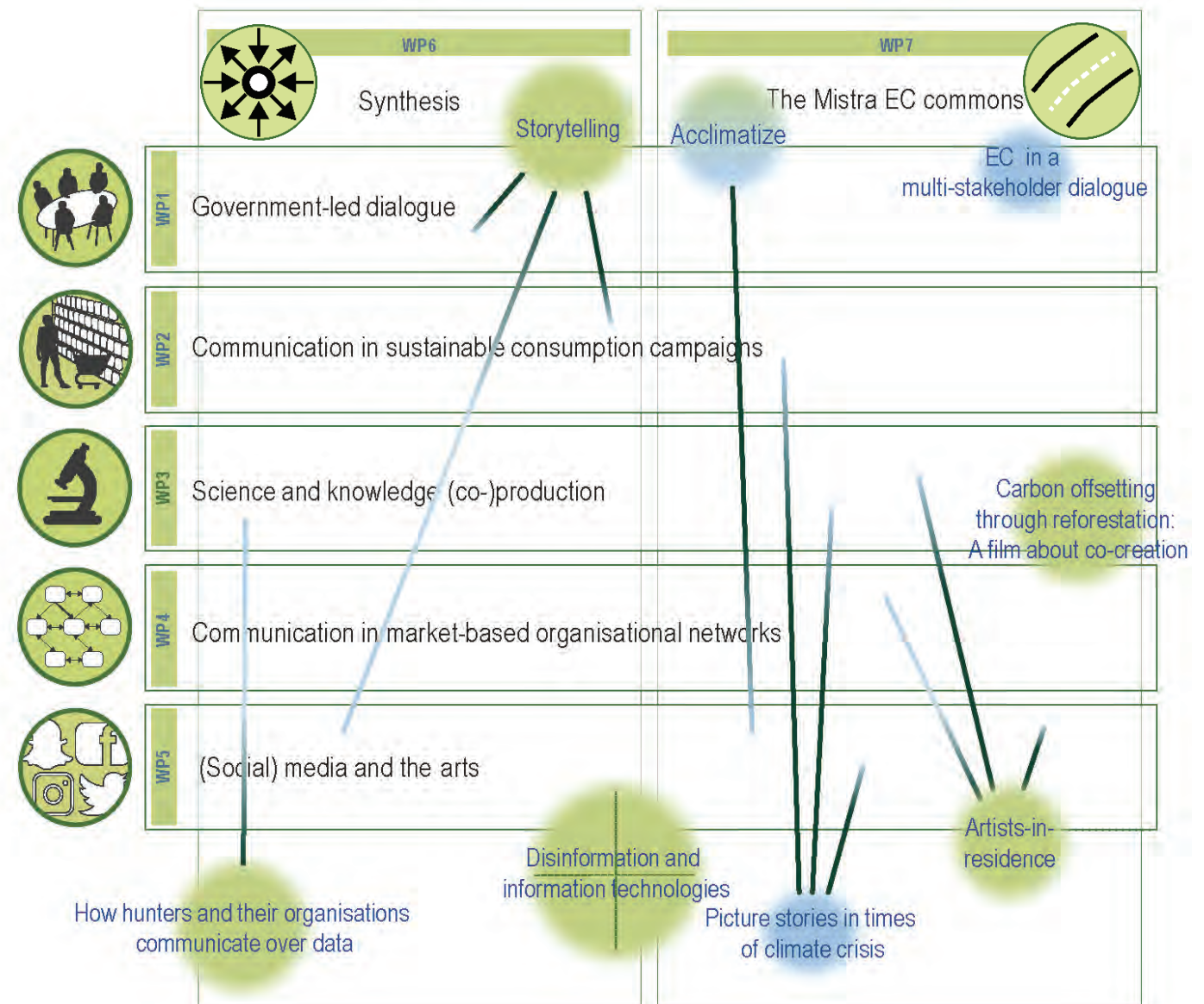
- 1) Research in major fields and formats of environmental communication practice: Work packages (WPs) 1-5, expanded and complemented by some of the strategic reserve-funded projects
- 2) Emerging ideas, themes and areas of application beyond the fields of practice addressed in the WPs: Think/do tanks and some of the strategic reserve-funded projects
- 3) Theoretical, conceptual and methodological perspectives that cut across the rest of the programme: WPs 6 and 7, complemented by some of the strategic reserve-funded projects.

WPs 1–5 cover five major fields of environmental communication practice. Together, they provide a comprehensive overview and in-depth understanding of different forms of environmental communication and their roles in sustainability transformations, and allow us to draw conclusions for transformative environmental communication scholarship and practice more generally. WP1 examines government-led dialogue in urban and rural planning processes, focusing on their effectiveness and perceived legitimacy, and develops existing dialogue approaches to improve their ability to deal constructively with power imbalances and conflict. WP2 takes

“traditional” individual- and lifestyle-focused communication in consumption contexts as a point of departure, and expands on such models by combining environmental psychological perspectives on the role of emotions with sociological theories on social interaction, identity formation and practices. Communication in scientific modes of knowledge (co-)production, and how it could be reframed to address sustainability challenges more effectively, is addressed in WP3. WP4 investigates the role of communication in organisational networks in the context of the sustainability agenda, in particular, the

impact of increased visibility and transparency in globalised communication networks on organisational behaviour, especially of market actors. In WP5, we explore discursive encounters, negotiations and contestation enacted in social media, audio-visual media and the arts. WP6 identifies, integrates, consolidates and reflects on our main contributions to a reframed understanding and practice of environmental communication. Programme coordination and shared knowledge exchange activities, i.e., the programme commons, are the tasks of WP7.

Figure 2: The structure of Mistra Environmental Communication, with a small selection of think/do tanks (blue) and strategic reserve-funded projects (green) illustrating their different possible roles (expanding, crosscutting, applying) in the programme. The cluster “Disinformation and information technologies” includes 4 projects.



WP1: Planning for sustainability transformations - government-led dialogue in natural resource governance

Lead: Martin Westin, EC-SLU



Introduction

WP1 focuses on government-initiated dialogue processes within rural and urban governance of sustainability issues. While dialogue processes are a valuable tool for inclusive, legitimate and effective governance processes, their implementation is often fraught with difficulties, usually due to challenges related to power relationships and conflict. This WP develops research into these challenges further and, in close collaboration between researchers and societal partners, identifies ways to design power-sensitive and conflict-aware environmental communication approaches.

We investigate dialogue processes in the following contexts: (1) urban development in Uppsala; (2) water management in rural areas in Västmanland; (3) land use planning in Sami territory and (4) forestry-related conflict management. A broad partnership is participating in the formulation of research questions, the interpretation of findings and the translation of findings into practice. In addition to researchers at EC-SLU and SWEDESD, key partners include the County Administrative Board Västmanland, the Swedish Forestry Agency, Uppsala municipality, the Swedish Sami Organisation and the Swedish Environmental Protection Agency.

Main findings

We present our findings organised by tasks. These tasks have been developed further from the original proposal text and represent the working process in practice.

Task 1: Analysing the treatment of power in theories of communicative planning

We published a study on the framing of power in communicative planning theory in the *Journal of Planning Theory* in which we identify the reductive treatment of power as a theoretical problem in the underpinnings of government-initiated dialogues and point to the need to develop a broader understanding of power in communicative planning. The study showed that communicative planning scholars have mainly focused on developing ideas for how to level out power asymmetries ('power with') by opening up planning processes for citizen participation. While this is important, such a focus hides the necessity to conceptualise legitimate hierarchical power ('power over') needed to settle conflicts and make controversial, yet justifiable planning decisions.

Task 2: Analysing dilemmas in dialogue practice

We conducted focus group discussions and interviews in two cases – urban development in Uppsala and water management in rural areas in Västmanland – and identified core dilemmas in dialogue practice showing how the theoretical problem examined in Task 1 is linked to practical problems. Our study of the urban development case, published in the *Nordic Journal of Urban Studies*, shows how dialogue practitioners were faced with the dilemma of being in a position of power as civil servants yet wanting to critique the power system that they were a part of. We found that the neglect to discuss legitimate 'power over' makes it difficult for dialogue practitioners to handle this dilemma as they struggle to justify their use of power in relations with citizens and other actors. Our analysis of rural water governance, submitted to *Society and Natural Resources*, examines how power dilemmas of dialogue practice play out differently in different contexts. While the urban practitioners grappled with their desire to change the system from within, rural practitioners faced conflicting institutional logics, navigating between an advisory service logic, which was experienced as flexible, and a public sector logic, which was experienced as very structured. The tensions between these resulted in practical dilemmas in practitioners' interactions with farmers and other actors.



Martin Westin discussing dialogue research at Almedalen political week, July 2022. Photo: Erik Hallstenson.

Task 3: Developing concepts of power to deal with dilemmas in dialogue practice

Our research on dialogue processes related to land use in Sápmi shows how contexts shape dialogue practices and ideas about how to conduct dialogue with rights holders. Based on another case study, which involved observations of dialogue meetings in forest and wildlife management, we developed a typology of facilitators' use of power in dialogue practice, published in the *Journal of Environmental Planning and Management*. This typology is useful for further

theorising and for application in facilitation handbooks and training programmes. We also analysed theories of communicative planning and deliberative democracy to outline a theoretical justification for deliberative planners' use of power. This analysis, published in the *Journal of Planning Theory and Practice*, argues that deliberative planners can justifiably use their power to draw attention away from private interests towards common good concerns when they lead deliberation among planning actors. However, this use of power is only democratically legitimate if planners' actions can be publicly scrutinised and they openly disclose the reasons for their decisions.

Task 4: Developing practically applicable insights, tools and methods for dialogue practice

As a collaboration between researchers and the Swedish Forestry Agency, Uppsala municipality and the Swedish Environmental Protection Agency, we developed the [Reflection cycle](#) as a tool to support reflection and learning among dialogue practitioners and in their organisations. The Reflection cycle facilitates systematic, experience-based learning on good practice in dialogue facilitation at both individual and organisational levels, thus increasing the capacity of the actors involved to reflect on their practices and make conscious choices in the design of dialogue processes. We have been organising workshops and conferences to make this tool available for civil servants and consultants active in the field (see also 'impact story' in Section 2).

In addition, we developed 'sustainability walks' as a method for placemaking in societal planning that enables constructive communication between experts and local residents. The idea of the sustainability walk is to combine 'nudge' thinking (i.e., the idea that physical and virtual environments influence people's everyday choices) with the tradition of participatory planning, thereby contributing to communicative planning practice.

Associated strategic reserve project: Analysing governance and forest planning practices of the state-owned company Sveaskog from a rights-holder perspective

The project responds to needs among practitioners to address the escalating conflicts in land use dialogues between Sami reindeer herding communities and large industrial forest owners. The aim of this project is related to the overall aim of the Sápmi case in WP1, namely to improve conditions for land use dialogue practices by theoretically developing and practically operationalising an approach to dialogue that is informed by the rights-holder status of Sámi reindeer herding communities. Sveaskog was selected as a critical case for the strategic reserve project due to its declared ambition to be a role model amongst forest companies, and its particular role and duty as a state forest company to respect and enable conditions for Sami reindeer herding on public land.

We employed a mixed-methods approach, including an analysis of the legal aspects of the governance of Sveaskog and its forestry planning from a Sami rights perspective, a

qualitative analysis of policy documents and material from online workshops, analysis of survey data and the development of a conceptual model. An invitation to conduct in-depth interviews and collaborate around the project was sent to Sveaskog, but regrettably the invitation was declined. Preliminary findings, summarised in a [blogpost](#), include:

- The status of reindeer herding communities as rights-holders with parallel rights to the same land as the forest owner is recognised neither in the sectoral law regulating forestry in general nor in the policy documents governing Sveaskog specifically
- The mismatch between the stated commitment of Sveaskog to be a forerunner and the lack of policies and practices to deliver on this promise is reflected in widespread and high levels of dissatisfaction and distrust by the reindeer herding communities vis-à-vis Sveaskog as a dialogue partner
- Reindeer herding communities list a number of practices by Sveaskog that reflect the misrecognition of their rights, ranging from inadequate procedures to distributive injustice
- The misrecognition of Sami land rights in regulations and practices of Sveaskog's forestry planning is one of the key drivers explaining the rapidly deteriorating conditions in forestry-reindeer herding dialogue processes
- Our analysis has also identified openings for improved practices. Rights-based dialogue is suggested as an alternative to today's corporate consultation ('samråd') to improve legitimacy of forest governance on public lands, and beyond.

A final report will be completed once the project leader, currently on leave of absence to care for a seriously ill child, is able to return to work.

WP2: Reframing communication strategies to promote sustainable consumption

Lead: Lars Hallgren, EC-SLU

Introduction

Mass consumption and the consumer society are widely recognised as important drivers of the unsustainability of late modern societies. To address this, public communication efforts that aim to re-shape consumption cultures and individuals' habits and behaviours are seen as a potentially powerful governance approach. Communication for sustainable consumption is ubiquitous – in Sweden as well as elsewhere – and comes in a variety of forms: as "sustainability festivals", "bicycle commute bingo", ambassadors of winter cycling, or as Instagram campaigns that promote repair, reuse or second hand fashion such as "Textile smart" and "Love your clothes".



However, there are a number of challenges. First, the relevance of such campaigns to the publics they are meant to engage with is often unclear. Second, representatives of the professional guild of sustainability strategists and communicators from public and non-governmental organisations describe such communication as difficult, not least because their own organisations are sometimes ambivalent or even resistant to facilitating societal change. Third, the role and function of this communication in the governance of Sweden's sustainability transition is contested, both by social scientists critiquing the weight given to individual motivation as opposed to social and cultural structures, and by political actors who might have diverging views on the role of public authorities in the manipulation of incentive and norm structures, and on the attribution of responsibility for our common future. Changing consumption behaviours in what has been diagnosed as a consumer culture, in which consumption is constitutive of many, if not all, social institutions and identity formations, is a difficult task which risks reproducing the problem it is meant to solve.

WP2 thus aims to develop an improved understanding of the preconditions for instrumental and strategic public communication for sustainable consumption and suggestions for how to increase the relevance of sustainable consumption campaigns as a governance approach. WP2 involves reflection on the experiences by participants in and producers of sustainable consumption communication campaigns, analyses of (meta-)discourse and knowledge used in these professional cultures, as well as experiments with variations of goal frame activation in individuals in different consumption situations. In this WP, researchers from EC-SLU and Lund University collaborate with consultants from WSP and MIKOM and share experiences with the Federation of Swedish Farmers, Greenpeace, the Swedish Society for Nature Conservation, Naturvårdsverket and Uppsala municipality.

Main findings

Task 1 set out to establish the meta-discourses and social practices that are in use in instrumental environmental communication: What ideas about communication for social change inform communication practice for sustainable consumption? How are these implicit theories (re-)produced and what discourses, ideologies and materialities are involved?

To develop shared reflexive capacity on the preconditions for communication for sustainable consumption, we organised focus group discussions (n=13, with in total 43 participants) with communication and environmental strategy staff who work with communication campaigns for sustainable consumption in public agencies and non-governmental environmental organisations. This also allowed us to examine communication cultures, i.e., the assumptions, language, procedures and institutional condi-

tions through which communication situations for sustainable consumption are shaped and produced. This material brings forward the following reflections:

The (meta-)discourse in use in the production of public sustainable consumption campaigns is dominated by conduit and transmission metaphoric frames. This does not only hamper the relevance of these campaigns, but also indicates a dialectic relation between communication and consumer cultures. Talk about sustainable consumption campaigns appears to be dominated by what has been described as conduit and transmission metaphors (Reddy 1979, Craig 2019), rendering communication a matter of “reaching out” to people, and of “conveying” and “transmitting” persuasive “messages”. We investigated how the words, problem representations, knowledge demands and outcome expectations foundational to professional communication culture influence how communication about sustainable and unsustainable consumption is cast as strategy, planned, performed, and assessed. The use of expressions such as “to reach out” (“nå ut”) or “to transmit messages” (“förmedla budskap”) directs the reflexive attention in strategic communication planning towards message construction from the perspective of the sender. This discursive context and problem representations emphasise the importance of knowledge about individual motivation and intervention effects, but hide and constrain reflection on (un)sustainable consumption as part of the consumer culture.

While the conduit metaphor is dominant in professional communication discourse, our focus group participants also outlined understandings of communication as a meeting between different perspectives, as co-construction of meaning, intersubjective understanding, mutual engagement, dialogue and deliberation. Such understandings of communication invite reflexive dialogue on the cultural role of (un)sustainable consumption and the conditions and politics of consumer culture – however, these are difficult to fit into a performance-oriented professional communication culture. The dominance of the conduit metaphor shapes how (un)sustainable consumption is addressed: mostly through persuasive communication campaigns and rather seldom through dialogue and deliberation. However, this connection becomes problematic in the context in which communication culture is used for the purpose of sustainability governance through changing consumption culture. We think this analysis can be theoretically connected to an older discussion in sociology, which suggests that consumer culture and communication culture produce each other. Our findings (elaborated in a manuscript for submission to the *Journal of Consumer Culture*) related to this mutual dependency and the role of transmission-oriented communication meta-discourses within in this nexus complement the critique towards responsibilisation as an environmental governance strategy which has already been formulated in environmental sociology (Soneryd and Uggla 2015).



Figure 3: The experimental set-up – three different physical environments to test goal frame activation. Photos: Ann Eklund.

Task 2 aimed to investigate the influence of the physical environment in which consumption choices are made on individuals' goal frames and consumption decision-making. To this end, an online shopping experience was simulated in a full-scale (home) environment where the physical and social context could be systematically manipulated (Fig. 3).

The study supports the hypothesis that **the design of a physical room can affect goal frame activation and behavioural choice but concludes that such priming effect is sensitive to specificity of the prime**. The priming effect of the room environment on a simulated online purchase appeared specific – where the room environment triggered associations with environmental sustainability, the choice of organic, but not fairtrade-labelled (social sustainability) products was found more likely. The results of this environmental psychological experiment, described in a manuscript submitted to the *Journal of Environmental Psychology* and a paper to be submitted to *Environment & Behavior* are an important contribution to the understanding of the planning and performance of sustainable consumption campaigns as they demonstrate that individuals can alter their decisions depending on their physical environment and its contribution to the activation of different goal frames. This insight highlights that outcomes of communication processes are dependent on complex aspects of both the “sender” and the “receiver” side of the communicative encounter. **“Receivers” are indeed active participants (and hence not just receivers) in communication situations also when the message production is asymmetrically distributed**, and their needs and situation have to be taken into account in the preparation of communication for sustainable consumption.

Task 3 identified how communicative interventions are made sense of in consumption practices. We found that communication for sustainable consumption performed by public agencies faces organisation-related practical challenges, which influence content and format of sustainable consumption campaigns. Public authorities and agencies, e.g., municipalities, have to negotiate their roles and functions as public institutions with multiple and potentially conflicting goals, diverging ideologies concerning consumption, the environment and the relation between governance and freedom, and both explicit and implicit organisational norms. The environmental communicators we spoke to shared their experiences of

navigating this archipelago of concerns while preparing and performing communication for sustainable consumption. In a manuscript aimed for the *Journal of Applied Communication Research*, we analyse these challenges and how they shape public communication on sustainable consumption. We found that the role of the municipality as a neutral agent which has to be equally available to all citizens made it difficult for environmental communicators to adopt communication methods that are target group-specific. To address this, we include questions about how relevance can be maintained without compromising on neutrality and equity in our tool for ‘participant-oriented communication strategy work’ (see Task 4).

Double- and triple-loop learning in production teams of sustainable consumption campaigns needs to be integrated into organisational praxis. Participants in our focus group discussions also shared how they and their organisations learned from experience, sometimes challenging previous assumptions and expectations related to change and communication. Participants described the development of a reflexive capacity in a way that was very similar to what Mezirow (1997) calls transformative learning, or in Argyris (1977) and Schön's (1983) terminology, single-, double- and triple-loop learning, i.e., learning about instrumental aspects of communication, but also learning through reflection and dialogue, and learning about the conditions for learning. Participants spoke about tensions and resistance they experienced in their work with sustainable consumption, and about how these experiences led them to rethink their assumptions and expectations and reflect on their own organisation and professional identity. In a paper aimed for *Environmental Communication*, we examine these different types of learning and how communicating organisations can develop their reflexive capacity to learn from experience of encounters with citizens and consumers. Based on these observations, we discuss how reflexive learning on communication – beyond the technical and instrumental evaluation that is already part of established praxis – can be integrated into organisational work procedures. Our focus group participants felt that communication work was a lonely activity and experienced their role in the organisation as an odd one. They expressed a demand for continued experience sharing and collaboration between organisations. Drawing on our findings emerging from Task 1, we argue that an increased variation in meta-discursive

expressions, beyond the dominant transmission/conduit metaphors, would allow also other aspects of communication, beyond “reach” and “persuasion”, to become important, including cultural aspects of consumption and the reciprocity of dialogue.

Consultant-client interactions in the production of sustainability-related communication problems are important to understand professional communication practice. Our work on communication campaigns for sustainable consumption also raised new questions: When and how is the need for communication and information about (un)sustainable consumption formulated? When and how are sustainability-related governance problems constructed as to be solved by communication campaigns? In a collaboration between EC-SLU and WSP, we identified the interaction between client and consultant, specifically those moments when tasks are defined and interpreted, to be one such important occasion when communication problems are formulated. To learn more about these interactions, we conducted four case studies in which we observed how consultants and clients speak and exchange texts with each other when they identify consultancy tasks, including (a) the assessment of needs and norms related to car parking, (b) visions and policy problems of climate-neutral concrete, (c) mobility strategy development in residential housing companies and (d) the estimation of social welfare costs and benefits of different school lunch qualities. The project connects to literature on consultant-client interaction and critical management studies in business administration, and finds that client-consultant conversations make active use of empty signifiers, i.e., concepts that are productively unclear, and manage the emptiness of these concepts through elaboration of definitions and examples. We also find that project management tools and concepts, such as project goal and aim formulations, tend to structure conversations beyond what seems to be needed for mutual understanding.

Task 4 aims to develop procedures for reflexive communication strategies. Based on the above-mentioned (see Task 1) as well as additional focus group and workshop discussions with practitioners of sustainable consumption communication, WP2 has been developing a tool for *participant orientation in communication strategy work*, which proposes communication planning to start by asking questions about the perspectives, procedures, needs, norms and situations of those actors who are in a position to influence the consumption patterns that are considered problematic – thereby moving beyond well-established communication strategic questions that focus on the sender’s aims and messages. The participant orientation is founded in a social constructionist, interactionist and pragmatic view on communication and knowledge, and these tools are now being tested, developed further and shared through a range of courses and workshops with communication professionals.

WP3: Science and knowledge (co-)production: Environmental communication embracing diverse ways of knowing



Lead: Neil Powell, USC/SWEDESD-UU

Introduction

WP3 mediates the reframing of environmental communication by integrating the co-production of knowledge into transformative processes. We argue that the interplay of many kinds of knowledge (e.g. scientific, bureaucratic, Indigenous, lay) allows for a diversity of perspectives, values and interests to emerge, which can catalyse the kinds of collective reflexivity needed for sustainability transformation. The overarching aim of WP3 is to reframe the practice of environmental communication to support knowledge co-creation in wicked contexts and identify pathways to more sustainable futures. An overarching insight from the WP3 work is that co-creation continuously needs to be rethought and adapted in order to work – not least to take into account the often “silent” partner in environmental communication: the environment.

WP3 works in the following case settings: (1) carbon farming in Sweden; (2) sustainable livelihoods in Honduras; (3) eco-burials in Australia; and (4) multifunctional forests in Gävleborg. To support the case work, WP3 has established a co-creation lab – a cross-cutting platform for creative method development and process design to enable a safe learning space and meaningful collaboration across the different case studies, different scientific disciplines, partners and stakeholders involved. In WP3, researchers at SWEDESD, USC and EC-SLU collaborate with a broad range of organisations including civil society organisations (e.g., [Svensk Kolinlagring](#), [Carbon Action](#), [the Swedish Society for Nature Conservation](#)), government agencies (e.g., the [Swedish Environmental Protection Agency](#), MASTA - Moskitia Asla Takanka, Ovanåker municipality), businesses (e.g., [ZeroMission](#), [Paskaia](#), Hanoi Innovative Learning Lab, [Max Burgers](#)), other academics (e.g., at the Department of Aquatic Sciences, SLU, and Loughborough university, UK) and interest organisations (e.g., the Federation of Swedish Farmers, Voxnadalen Biosphere Reserve).

Main findings

Task 1: Elaborate ways to frame knowledge co-production on sustainability and climate change in the context of the case studies

- A review article on dominant representations of wildfires has been published in the *Journal of Environmental Planning and Management*. This review makes visible how we as researchers co-produce wildfires as particular phenomena requiring particular interventions and simultaneously co-shape fire policy and management of future wildfires.

- In the carbon farming case, we have used the theoretical framework “thinking with soils” to open up for an ontological shift in thinking about agency in “co-production”. This framing, explored in an article to be submitted to a special issue on ‘A Relational Turn in Sustainability for Radical Social-Ecological Transformations’ in *Ecosystems and People*, is being used to broaden the discourses in carbon farming by including more-than-human agents; an invitation to the notion of soils as knowledge producers.
- We have developed the concept of **relational futures** to further explore the context of carbon farming. This analysis is based on relevant EU policy documents and reports as well as focus group discussions and workshops with carbon farming stakeholders in Sweden and Finland. We draw on the emerging narratives and metaphors to consider how a relational futures lens could provide different imaginaries. These alternative imaginaries enrich the possibilities for an expanded conception of human-soil relations, opening up alternative agricultural futures.
- We have conceptualised the co-creation lab as a learning platform that brings together a diversity of academic and societal actors to rethink our communicative practices and co-create new ways of understanding and acting in “wicked” contexts. The co-creation lab, described in an article submitted to the *Journal of Environmental Planning and Management*, is currently being operationalised as a critical research and education infrastructure at Uppsala University. The lab, which over the years will continue to develop as part of a possible second phase of Mistra EC and beyond, is expected to further the programme’s transdisciplinary processes and innovation in the long term.

Task 2: Mediating a co-inquiry process with key stakeholders through enacting an explorative arena in the case study contexts to open up a space to learn how environmental communication can be reframed as a practice

- In the carbon farm case, we have enacted an iterative game co-design process (which is still in progress) with a group of stakeholders with an interest in carbon farming and, more broadly, regenerative agriculture in Sweden (e.g., farmers, policy makers, soil scientists, companies, NGOs, certification organisations). The co-design process is structured around a playable game prototype to invite conversations around opportunities and challenges in building sustainable agricultural systems, creating legitimacy for different perspectives and ways of knowing that complement the traditional scientific understanding of soil health and regenerative farming practices. It enables exploration and experimentation with different forms of practice that can enhance reflection and action addressing complex and interconnected issues surrounding carbon farming. The playtest and co-design sessions with stakeholders to date have indicated that the game is challenging and enjoyable, provoking conversations about the biophysical realities of soil carbon sequestration and the social, political and economic complexity of the agricultural transition. In this space, social distances and boundaries are experienced as reduced, which evokes a sense of a level-playing field among the different participants, and they feel able to contribute constructively to the discussions and learn from each other. The partner organisation Carbon Action, for example, sees the potential of playing the game with food chain companies and other stakeholders to help them better understand the challenges of carbon farming from farmers’ perspectives. The game prototype is still undergoing further playtests and refinement. The next planned co-design workshop will be with carbon farmers.



Playing our prototype game on options for sustainable agriculture. Photo: Sanna Barrineau.

- In the Honduras case, we have begun a co-design process with local communities in La Mosquitia in collaboration with Paskaia (a Swedish company that supports existing markets for ecosystem services and participates in the development of a market for additional ones) and MASTA (the local authority in Mosquitia). As the ambition of Paskaia's project is to support rural development and sustainable livelihoods through reforestation, a significant amount of time was spent understanding the issues surrounding reforestation and forest fires, as well as the potential effects of changing the fire regime to regenerate the trees in the savannah. The co-design process involved transect walks, a series of workshops, focus group discussions and interviews. We used rich pictures, participatory photography and other interactive methods to mediate the dialogue and support the project design. The process in Honduras so far has highlighted the importance of co-creation as a guiding principle for transforming environmental communication practice, beyond simple models of information transmission from experts/scientists to communities/practitioners. It calls for a relational approach that enables new ways of being in relationships, allowing those participating to perceive issues, challenges or opportunities in different ways and act in ways that are not possible before the relationships are established. People in local communities express a sense of being recognised as co-owners and equal partners of Paskaia's project, thus enabling them to co-imagine and co-create imaginaries for their futures.
- As part of the eco-burial case in Australia, three workshops on the future of death and body disposal have been organised at three different sites: a local museum embedded in a Christian community, a care home and a community arts space. Drawing on futures tools such as the Futures Triangle and Four Quadrant Model, the workshops were designed to share experiences and assumptions about death, discuss emerging alternatives to traditional body disposal and map out perceptions of the state of play of body disposal and death practices. Tentative findings suggest that these lab workshops are contextual, and what one workshop enables, another might inhibit. Lab workshops thus need to be scaled to suit the context under investigation and to engage with stakeholders, they need to offer both common well as unusual and unique opportunities.
- The Swedish forestry case in Gävleborg emerged from a collaboration with the LANDPATHS research programme on future multifunctional landscapes. A series of interviews and focus group discussions have been conducted with local actors representing

municipalities, forest owners, forest companies, nature conservation associations, tourism companies and hunting groups to elicit situated visions of forest futures. The co-creation process with local stakeholders and citizens will continue to unfold through a series of workshops aimed at exploring potential synergies emerging from interactions between different interests and values and the types of governance innovations that can support more multifunctional and biodiverse forest futures. The workshops draw on a combination of soft systems thinking and futures thinking to co-create imaginaries that can inform possible innovations and future projects in the region.

Task 3: Developing governance learning workshops with constellations of stakeholders from beyond the case study settings for further understanding of practices, processes and structures required to enable transformative environmental communication

- In collaboration with Paskaia and ZeroMission, a seminar on co-designing a community carbon project, drawing on the ongoing work in the Honduras case, was organised as part of the International Chamber of Commerce's set of seminars during COP26. The seminar addressed the key question of what constitutes a good nature-based climate offset project and discussed a co-designing carbon offset model as a governance innovation to finance tree planting in Honduras with smallholders, reduce poverty, and improve local livelihoods. The discussion in the seminar highlighted the importance of involving local communities in designing and implementing carbon offset projects. It further emphasised that land use projects must be useful for the local context, addressing local needs, goals and visions to avoid the risk of land-grabbing.
- A governance learning workshop is also planned to take place within the context of carbon farming later in 2023. The aim is to use the developed game prototype to mediate discussions about the social and institutional conditions, practices and processes needed to foster the transition towards more regenerative and sustainable agricultural systems. The workshop will invite a broader audience beyond the case study stakeholders to enable co-learning about how governance configurations can be adapted and enacted to support constellations of actions that acknowledge multiple ways of knowing, promote synergies, and have the capacity to generate co-benefits (e.g. carbon sequestration, climate change adaptation, food security, biodiversity, economic viability...).



Figure 4. Overview of workshop discussions 8th November 2022. Artwork: Maria Simsek Richter.

Associated strategic reserve project: Science and practice for socio-ecological transformation – A workshop series on forests, climate change and biodiversity

In a time where concerted action on biodiversity loss and climate change is increasingly called for, Swedish forest governance and management seem stuck in a polarised debate regarding the status of and management of present and future forests. Against this background, we organised a workshop series on forests, climate change and biodiversity to provide a space for researchers and practitioners to meet and think through what concepts like “multifunctionality” and “nature-based solutions”, also in the context of alternative forest management practices (e.g., nature based forestry, continuous cover forestry), mean in the Swedish context. What are the opportunities and what measures are needed to facilitate change?

The first workshop was held on 8 November 2022, and attracted about 30 participants. Findings from the workshop suggest that the main challenges to achieving change in the Swedish forestry context include:

- Forest advisory services are dominated by industrial perspectives and economic goals
- Existing value chains are built on quantity rather than quality. The infrastructure and market for quality wood need support to develop
- In tertiary forestry education, clear cut forestry is the norm. Students need to learn equally much about alternative forest management practices throughout their education.

Discussions in the first workshop were captured in a drawing (Fig. 4) by a graphic note-taker.

Building on the outcomes of the first workshop, the second workshop was held on 3rd February 2023 with approximately 20 participants. Key insights from the workshop included:

- The increasingly salient effects of climate change (involving e.g., bark beetles, fires, droughts, multi-damaged forests) represent an external pressure that makes alternative forest management a more acceptable and rational choice among forest owners. The risks associated with the status quo, i.e., with clear cut forestry, need further discussion among forest companies and forest owners, but also in policy and decision making processes at a national level
- Compensation schemes for biodiversity conservation are an emerging governance innovation
- Independent forestry advisory services are proposed as a management intervention. The idea is to separate the costs for advice from the costs related to the harvest. Today, these costs are often integrated, which benefits advisory services provided by forest owner associations who often combine their advice with timber purchase and harvest. As a result, entrepreneurs providing independent advice are systematically disadvantaged
- In terms of forestry education, forestry students need to develop communicative (including listening) skills to understand and be able to provide advice that takes forest owners’ goals into account. Today, industrial forestry serves as a norm in forestry extension. Concepts and methods from landscape architecture can serve as inspiration for landscape-based forest planning.

We found that our workshop format provided a platform for the co-creation of ideas and development of new knowledge and perspectives in a field that is characterised by contestation and conflict. The workshops provided a space where respectful communication could take place in spite of the participants' diverging understandings of what the problems are that need to be solved. Our experience from running these workshops suggests that respectful conversations are possible also around highly contested topics such as forestry in Sweden, and could contribute to developing a path to more sustainable forestry in the future.

Associated strategic reserve project: Carbon offsetting through reforestation in La Mosquitia: a film about co-creation

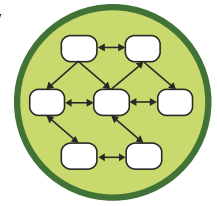
The Mosquitia film-making project builds on ongoing attempts to diversify benefits flowing from climate compensation initiatives by co-creating their design. Within the case context, co-creation is explored explicitly as an approach to foster more direct (visible) relationships between companies and brokers in Sweden and the local communities in La Mosquitia. Mediating a closer relationship between North-South contexts is challenging, but the potential benefits warrant efforts to explore this approach further. The film-making project has two aims. The first one is aligned with the overall objective of WP3, i.e., to reframe the practice of environmental communication to support knowledge co-creation in wicked contexts, such as climate change, and identify pathways to more sustainable futures. The second aim is to create a film that can showcase the why, how and what of co-creation, using WP3's work with climate compensation projects as a concrete sustainability context. In addition to facilitating joint reflection and discussions in the specific case context, the film is envisaged to inspire conversations around the strengths, weaknesses and ethics of co-creation as an approach to design and implement sustainability action, and to encourage further development of co-creation methods. To capture the opportunities afforded and challenges faced by adopting a co-creation approach in designing and innovating sustainability interventions, the film attempts to:

- Illustrate the relevance of co-creation in projects that tackle wicked problems
- Unpack the development and implementation of project design, i.e., how project developers reason when enacting a co-creation process and what questions and considerations are essential for a successful project
- Unpack an actual co-creation process and, in doing so, reveal the messiness of co-creation, how plans unfold and how the team responds and adapts to complexity.

Much of the filming has been done during a trip to Honduras in March 2023. This includes footage of fires, the work of the fire brigade, landscape walks and workshops with local people. We also filmed interviews and reflection conversations with ourselves and members of the different communities. Next steps involve the filming of co-creation

work with Sweden-based companies such as AIK fotboll and MAX Burgers. The co-creation film will be launched at Miljökommunikationsdagarna in September-October 2023.

WP4: Impacts of contemporary communication on the sustainable practices of market-based organisational networks



Lead: Shiv Ganesh, University of Texas at Austin

Introduction

WP4's main goal is to understand and assess the impacts of contemporary communication expectations and practices on the willingness and ability of market-based organisations to embrace sustainability. The WP focuses on how organisations negotiate demands to make their environmental impact and sustainable practice visible. It does so in two ways, involving both breadth and depth. The first context, the UN Global Compact (UNGCN), the world's largest reporting network for sustainable development goals (SDGs), included assessing the reporting practices of organisations across multiple sectors, throughout Sweden and across Europe. In the second context, we conducted an in-depth examination of a global organic cotton supply chain, which involved tracing every node of the chain, from cotton fields in India to retail outlets across Sweden. The WP uses a mix of methods: primarily qualitative, but also incorporating quantitative and computational methods when necessary.

The communication aspect that WP4 treats as central is the idea of transparency. While transparency is popularly understood as the disclosure of information, our work moves beyond the transmission metaphor to treat transparency as a complicated and complex communication phenomenon that (a) is shaped by relationships between social actors, (b) redistributes power relations, and (c) has a central role in the ethical and programmatic treatment of sustainability issues and conflicts. The central contributions of the WP are thus clustered around how we have re-understood transparency dynamics in light of the five core principles of Mistra EC (see Section 1).

Transparency is a central construct for both the reporting network study (Study 1) as well as the organic cotton supply chain study (Study 2, "Strands of Value"). The WP involves researchers and students across five countries, including Sweden, the United States, Aotearoa New Zealand, India, and Germany, and engages with a wide range of companies and other organisations (see details below). The onset of the global pandemic in 2020 necessitated a reorganisation of the sequence of tasks; nevertheless, in Year 4 of the programme, we are in the happy position of being able to report the completion of all four major tasks of the WP. Tasks 1 and 2 are related to Study 1 of the UNGCN reporting network, and Tasks 3 and 4 are related to Study 2, Strands of Value.

Main findings

Task 1: Understanding transparency in the UNGCN

Surveys of United Nations Global Compact Network secretariats across Europe were conducted beginning in 2020 and stretching into the summer of 2021. We engaged multiple times with each secretariat, culminating in interviews with directors across a total of 17 countries, including Sweden and all other Scandinavian countries. We also collected a total of over 1400 reports from the Swedish Global Compact Network and subjected them to both quantitative and qualitative analysis. In 2022 and 2023, we experimented with computational methods to extract data from reports, which so far has produced systematic information about organisational names, sectors, sizes, reporting histories, the number and type of SDGs they report on, and experience with governance, work on human rights, labour, and sustainability. Key insights from this first task include:

- The archetypal research definition of transparency as voluntary disclosure is deeply problematic, given the increasingly complex regime of regulations across the European Union that drive and now mandate reporting on environmental impact and make it compulsory; transparency is thus a power relationship rather than an informational one.
- Transparency is not an objective phenomenon but a relational one. That is, what it is and how it is produced is conditioned deeply by the relationships between the social actors who negotiate it. We developed a theoretical framework (published in *New Media and Society*) that identified four different potential relationships between such actors: inquisitorial, adversarial, associative and advocative, establishing that transparency in each relationship took the form of accountability, monitoring, disclosure and secrecy respectively. Empirically, a more grounded analysis revealed three major relationships in the UNGCN that produced different kinds of transparency: First, UNGCN-corporate relationships, characterised by partnerships, where transparency took the archetypal form of voluntary disclosure. The second major relationship, between governments and corporations, was characterised as co-optive, and here transparency was enacted as regulation. In the third relationship, between corporations themselves, the relationship was characterised by patterns of competition and cooperation or ‘co-opetition,’ and transparency was enacted as strategic secrecy.
- Our quantitative analysis of over 1400 reports produced by Swedish organisations (published as a book chapter: Harness et al. 2023) revealed that organisations tended to systematically overreport some SDGs and systematically underreport others. The four most underreported or ‘forgotten’ SDGs are: SDG1: No Poverty, SDG2: Zero Hunger, and SDG 14: Life Below Water. While sectoral differences explain variable reporting for SDG14, they do not explain the

underreporting of SDGs1 and 2. Institutional and cultural priorities better explain these differences.

- Our qualitative visual analysis of 50 randomly selected sustainability reports from the Swedish network (submitted to the *Journal of Environmental Planning and Management*) focused on the visual elements of these reports, establishes that the dominant forms of visualisation in these reports were numerical, diagrammatic, and pictorial. These visual forms often overshadowed actual textual reporting in the sustainability reports, emphasising communication characteristics such as logic, clarity and simplicity. We argue that these characteristics work together to construct environmental problems themselves in terms of efficiency, standardisation, and control.

Task 2: Understanding transparency reporting from the perspective of Sweden-based companies and other organisations

Over the course of 2020, 2021 and 2022, we engaged with a range of organisations in Sweden as part of Task 2, including but not limited to: Nudie Jeans, KappAhl, H&M, Dedicated, Lindex, MQ Marquet, the Swedish Society for Nature Conservation, the Federation of Swedish Farmers (LRF), WSP, IKEA, and others. The insights from these engagements, collective discussions and one-on-one conversations varied. With some companies, our engagement took the form of a one-off discussion. With others, such as Nudie Jeans and Dedicated, our engagement was much deeper, and we were given access to their entire supply chain (see Task 3). With still others, such as IKEA and KappAhl, we were able to conduct enough interviews to create case studies. Some key insights from these interviews are as follows:

- The major problem with transparency reporting is not so much “showing externally” but “knowing internally”. While it is relatively easy for SMEs to map their impact, doing so for large corporations is exceedingly difficult. However, those companies that had a clear sense of their environmental impact and communicated it thoroughly in reports also tended to say that the major communication dilemma they faced was not so much being transparent, but communicating the complexity of both environmental impacts and sustainable practice to consumers who preferred that knowledge in small, bite-sized forms. A case study detailing these insights is currently in preparation.
- In-depth case analysis led to the term “the constant report” being developed to describe how environmental reporting in large Swedish corporations is now a ceaseless, nearly relentless activity in the digital era. While the sustainability report is still the centrepiece of reporting, much other reporting is driven by the visibility of social media, the embeddedness of the organisation in multiple digital networks, and the need to cater to different sets of stakeholders simultaneously, leading to the positioning of environmental impact as part of a larger promotional

narrative, rather than one that simply and neutrally discloses information. A paper detailing these insights has been submitted to *Public Relations Review*.

Task 3: Transparency across the cotton supply chain

While we made contact with Swedish organisations relatively early in Phase I and across 2021 and 2022 developed strong connections with some of them, notably Nudie Jeans and Dedicated, our ability to reach out to their global partners in India and map their supply chain was severely curtailed due to the pandemic, until December 2021, when we made our first field visit. We made subsequent field visits in January 2022, July 2022, December 2022 and January 2023, at which point we completed mapping the entire organic cotton supply chain, which lies primarily in South India. Key actors we engaged with in India included Sustainably Crafted Clothing, Dibella India, Anandi Mills, Ethicus, Appachi Mills, Armstrong Mills, Chetna Cooperative, Janapada Khadi, Shrenis Trust, Charaka, as well as visits to eleven marginal tribal cotton-growing hamlets in Tamil Nadu, and four cotton-producing villages in Andhra Pradesh. This engagement has resulted in rich insight and the development of several case studies. Some insights and publication plans follow:

- We found transparency in the supply chain to have four major characteristics: (a) it is informational, rather than actional or demonstrative; (b) it is directional, designed for downstream consumers and buyers in Europe rather than India; (c) it is regulative rather than transformational; and (d) it is a mechanical and bureaucratic practice rather than cultural. A paper detailing these insights is being submitted to *Human Relations*.
- Indian partners are much more likely than Swedish actors to criticise the resource intensiveness of certification practices. Our own observations bear out that as much if not more attention and effort is given to obtaining data from farmers about their crops as to educating them about sustainable practice – in this sense, data is cultivated alongside cotton. Swedish partners are much more tied to the need for certification due to several reasons, including transparency (Point 1 above) as well as regulation and law. Swedish partners, however, were deeply engaged with production and labour conditions in India, and their representatives travel there often. They were genuinely concerned to not replicate colonial production arrangements; despite that, structural labour inequities continue. We have yet to finalise a publication outlet for this work, but it is likely to be *Environmental Communication*.
- Our study of Appachi Mills which operated its own regional organic supply chain, with only a few transnational nodes, illustrated that attempts to build and communicate a circular economy were based not only on principles of environmental regeneration, but also on principles of economic redistribution, where weavers, farmers and ginners had a profit share. A

study of this supply chain was recently published in *Social Responsibility Journal*.

- We also engaged in a case study of alternative cotton production, focusing on the Khadi industry, which is known for using short staple cotton using handloom technology rather than industrial machines, creating a much smaller carbon footprint than industrial organic cotton production. These small cooperatives centre worker voice and perspective embodying the cooperative movement, but at the same time they struggle considerably with visibility and brand recognition as well as overall viability, due to scale, underinvestment and a lack of global consumer demand. This study is being prepared for submission to *Management Communication Quarterly*.

Task 4: Sharing our insights with actors in Sweden

Task 4 involves ‘closing the loop’ – where we engage anew with the stakeholders that we worked with over the period of the program. We have engaged in three such workshops: the first was in December 2020 with a range of Swedish companies, the second was in June 2022, at the Nudie Jeans premises, where we presented our work, and the third in October 2022, which featured a two-hour panel with Dedicated as part of the Mistra EC programme meeting. We plan to conduct a fourth workshop in October 2023, convening participants from multiple countries.

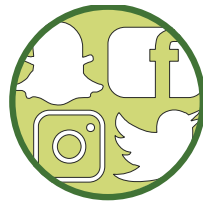
Associated strategic reserve project: Beyond social auditing – Towards communicative empowerment and self-governance of factory workers and suppliers in the textile industry

This strategic reserve project aimed to engage with a partner, Nudie Jeans, as they developed efforts to move beyond audit-based measures of transparency in the form of environmental, social and governance surveys and checklists, to voice-based methods of transparency, which highlight worker stories and make their experiences more visible in representations of supply chains. The project partnered with the University of Texas at Austin’s President’s Award for Global Learning, which funded eight students under Prof. Ganesh’s supervision to conduct research on the subject in India and Sweden. A manuscript on first insights from the work, highlighting garment worker experiences, has been revised and resubmitted to *Information Systems Journal*. A detailed report of the student work is also being revised for publication by SLU. Livia Norström (University West, Gothenburg), an academic partner in the project, is working with a student team in Gothenburg as well as with Nudie Jeans to design an app for garment workers in Nudie Jeans’ India factories to be able to represent and discuss their work with consumers in Europe. A field test of the app is planned for late 2023. The work has also inspired research proposed for WP1 in a second phase of the programme.

Associated strategic reserve project: Environmental Reporting & Sustainability Policy Workshop

In this project, led by WSP, we further engage with organisations' and companies' approaches to sustainability reporting and policy. Workshops with sustainability consultants and company actors are designed to share current WP4 findings, insights from WSP's consulting work, as well as participants' own experiences, examples of best practice and challenging cases. The workshops constitute a further opportunity for data collection to better understand sustainability managers' and consultants' discourses and experiences. This project will also help expand Mistra EC's contact with Swedish industry professionals and, through this increased interaction between academia and the private sector, facilitate the development of more meaningful sustainability policies and reporting practices.

WP5: Environmental communication in (social) media and the arts: Opening spaces for transformative discursive encounters



Lead: Nico Carpentier, Charles University, Prague

Introduction

WP5 examines mediated communication, moving beyond more traditional communication and media studies by also articulating the arts as a form of mediation, thereby bringing in a focus on art projects and exhibitions. Moreover, WP5's ambition is to combine research on social/digital media with research on more traditional audio-visual media—sometimes labelled “legacy media”. In practice, this implies a focus on blogs, Facebook groups and YouTube channels on the one hand, and documentary films and television series on the other hand. This design thus pays attention to the diversity of mediation, driven by the idea that people do not exclusively engage with one particular type of media, but have media repertoires, combining a variety of media to gain knowledge about their social world.

WP5 has two main aims, which are (1) to study environmental and sustainability discourses in Swedish arts and media, and how they influence the scope for individual and collective action, and (2) to develop thinking tools to examine and challenge discourses to open up existing discursive patterns and constellations for a constructive engagement with new or marginalised perspectives. Important here is the first sentence of the WP5 description in the original proposal: “WP5 investigates how mass media, social media and the arts invite and facilitate particular constructions of the environment, environmental problems and solutions, and how actors in these arenas engage in discursive struggles over what legitimate environmental problems are and how they should be addressed.” WP5 is implemented by a team at Charles

University in Prague and a team at EC-SLU and the University of Borås, with the support of the arts centre Färgfabriken and a network of 18 resource people from a variety of societal fields. The WP consists of four tasks, which are used in the following section to structure our main findings.

Main findings

Task 1: Quantitative inventory (completed)

The first task consisted of a mapping of environment-focused blogs, Facebook groups and YouTube channels, documentary films and television series, and art projects and exhibitions. The research, conducted over a one-year period (May 2019–April 2020) combined mapping analysis and quantitative content analysis. Task 1 aimed to both quantify and characterise media and arts products and projects focusing on the environment in Sweden during the research period. In addition, the overview generated in Task 1 informed the selection of cases to be studied in Task 2. Main insights from this work include:

- The research identified 502 unique products/projects involving a multitude of voices across the three fields (audio-visual media, social media, arts) within this 1-year period that were environment-focused and connected to Sweden
- These channels and voices give visibility to a wide variety of topics and perspectives on the environment and human-nature relations. Simultaneously, there is considerable homogeneity, as in their majority they clearly align with ecocentric positions that contest the hegemony of anthropocentrism
- Methodologically, this project allowed us to structurally improve an already existing social mapping procedure (Voniati et al. 2018), which will prove helpful for future research, within environmental communication studies but also beyond.

Task 2: Case studies (completed)

Supported by the overview generated, we then selected a set of case studies to be analysed in depth, thus complementing the broad quantitative approach used in Task 1. Given the differences between the three types of media studied, we used different approaches to choose and design the case studies. For the component on audio-visual media, the following documentaries and TV series were selected: “Kiruna – A Brand New World”, “Tvångs-förflyttningar – Bågjohtin”, “Briljanta Forskare”, “Koll på klimatet”, “Hållbart näringsliv”, “Gallok” and “Jordskott”. For the social/digital component, case studies on nature selfies across social media, on radical Facebook groups and on Google Search were conducted. Finally, for the arts component, a series of six workshops were organised with artists to discuss art works, which functioned as case studies. As each of these case studies provided particular findings, only a selection of main Task 2 findings is listed here:

- Several of the audio-visual case studies demonstrated how discursive struggles over the environment are

centred on two ideological projects, namely anthropocentrism and ecocentrism, and the tensions between them. These case studies (published e.g., in *People and Nature* and *Journal of Language and Politics*) show how the audio-visual programmes (“Kiruna”, “Tvångsförflyttningar”, “Gallok” and “Jordskott”) actively intervene in this discursive struggle, often by strengthening ecocentric positions. In one case study (“Hållbart näringsliv”) published in *Empedocles*, we could also establish how this programme grounded in economic journalism had more solutionist (and anthropocentric) tendencies, showing how environmental issues are seen as business opportunities.

- This connects with one of the social media case studies published in the *Central Eastern Journal of Communication* and the *Journal for Political Ideologies*, which examined two radical Facebook groups (one climate denial group, and one nature rights group). As these were radical groups with opposite ideological projects, their online narratives showed clear versions of the discourses of anthropocentrism and ecocentrism.
- These case studies also allowed us to analyse how the dimension of anthropocentrism and ecocentrism was supported through a large variety of other discourses, different for each programme. For instance, in “Tvångsförflyttningar”, the importance of another dimension, namely indigenism and statism, addressing the roles of indigeneity and the Swedish state, became apparent. By combining these case studies, we developed a map of ideologies that visualises how nearly three dozen discourses are structured in two main discursive assemblages around anthropocentrism and ecocentrism. This map is currently being transformed into an interactive website, and provides the main structure for the Task 4 exhibition.
- Two other audio-visual case studies (on “Briljanta Forskare” and “Koll på klimatet”) published in *Nordicom Review* allowed us to study how these TV programmes replicated the antagonistic subject positions of experts and ordinary people, assigning them radically different power positions in relation to climate change. Whereas the experts were presented as actors of change with the knowledge to solve the crisis, ordinary people were shown as passive recipients of advice and moral judgement, in need of changing their individual behaviour to become more “responsible”.
- The nature selfie case study (under review in the *Journal of Environmental Planning and Management*) demonstrated how the structure of the social web implicates nature-human relationships. Here, the digital separation of nature and humans follows those of pre-digital outdoor recreation discourses whilst nature appears to be exploited as a background for identity performances.
- In four case studies implicating Google Search in the co-creation of ignorance about the climate crisis (published in *Big Data & Society*), material and infrastructural dimensions of discursive struggles are

investigated. The cases examine the intersection of the logics of Google Search, everyday life and civil society/politics by exploring how algorithmic information systems, users and content producers together impact understanding of the climate crisis through various ignorance arrangements. One of these cases investigates what we term “algorithmically embodied emissions” (see [blogpost in The Conversation](#)) and is further developed in a publication in *Information Research*.

- Six case studies of art were explored by a team of 12 artists, art curators and researchers to investigate art as a societal force. Each case illustrated a discursive struggle over human-nature relationships, including instrumentalism, commercialism and extractivism.

Task 3: Transdisciplinary investigation and experimentation (ongoing)

Task 3 combines more traditional analyses – analysing existing media and artistic strategies – with a series of experiments where the strategies were developed by the researchers and researched using auto-ethnographic methods. These experiments are grouped in the Silencing/Unsilencing Nature (SUN) subproject (described e.g., in articles published in *Comunicazioni Sociali* and the *Central Eastern Journal of Communication*), which had different components (e.g. the Wolf Talks photography and sound art exhibition subproject). Here, the main findings are:

- The more traditional analysis of existing media and artistic practices (an analysis that is still ongoing) shows the existence of mainstream strategies such as the use of facts within the context of objective journalism and the provision of expert knowledge. These are combined with more hybrid strategies, which consist of giving space to alternative, more ecocentric discourses and extending the reach and audience. Finally, there are more alternative strategies, namely, critiquing and deconstructing hegemony, giving voice/visibility to counter-hegemonic discourses, representing the discursive struggle itself, acknowledging & re-positioning nature, and giving voice to nature/acknowledging nature’s agency. We can thus see a range of strategies, which can be mapped on the dimension of interventionist intensity.
- The more experimental component of Task 3 (which has been completed) consisted of a series of interventions organised by the WP5 researchers themselves within the framework of the SUN subproject, including e.g., the so-called Wolf Talks as well as the production of artistic work through photovoice involving young people (in collaboration with the Stockholm-based arts centre Färgfabriken). These types of interventions were highly appreciated by visitors and co-producers alike and have the capacity to stimulate critical thinking about human-nature relationships, acknowledging the role that ideologies such as anthropocentrism play in the construction of these relationships.

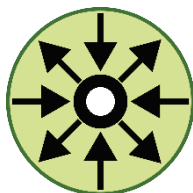
Task 4: Exhibition and outreach (ongoing)

Finally, Task 4 combines (1) the creation and curation of an arts exhibition on discursive struggles in environmental communication (and guided visits to the exhibition) with a series of (2) training workshops and (3) films produced. The arts exhibition will take place at the Stockholm-based arts centre Färgfabriken from 26 August to 26 November 2023. Here, it is important to stress that the exhibition is not pure outreach, but that through this exhibition, at the same time, new knowledge is generated, applying the principles of arts-based research (Leavy 2015). A second important element is that the videos and training workshops are connected with the exhibition through the SUN subproject (see Task 3) and four participatory arts projects on (1) gardening, (2) female forest owners, (3) architecture's representational use of space and (4) Sami constructions of land. Some of the emerging findings are:

- There is a strong need to integrate knowledge production and knowledge communication, through, for instance, the use of arts-based research. This allows scholars to maintain (a degree of) control and empowers them to communicate in multimodal ways. Sometimes their skills and capabilities in using more creative methods and modes are underestimated.
- The confrontation of academic knowledge with artistic repertoires, however challenging it is, stimulates academics to develop knowledge that might not be possible to create in other ways.
- The collaboration between academics, artists and curators (all of which sometimes took on hybrid positions), between academic research centres and arts centres has proven to be possible and fruitful, driven by mutual respect, curiosity and an eagerness to learn, by all involved.

WP6: Synthesis

Lead: Anke Fischer, EC-SLU



Introduction

WP6 provides space for reflection, theoretical and conceptual integration and synthesises the work of the programme to help shape communication practices. WP6 combines (a) overarching synthesis, consolidation and reflection activities with (b) crosscutting and integration projects. The core team, coordinating and spearheading these activities and projects, consists of participants from EC-SLU, Eco-SLU, SWEDES, Charles University, Lund University and WSP.

Overarching synthesis, consolidation and reflection activities include, for example:

- The editing of a special issue on environmental communication in the Journal of Environmental Planning and Management that targets a broad audience of environmental social and other interdisciplinary scientists. This also includes an editorial that introduces the five principles of a reframed understanding of environmental

communication (see Section 1) and key insights from the special issue.

- The writing of a proposal for a textbook “Environmental communication - a critical introduction” that synthesises our thinking in 18 chapters, ranging from the role of environmental communication in governance to professional communication cultures. Shaping future generations of communication professionals’ approaches is possibly one of the most impactful ways to mainstream our understanding of environmental communication (see Mistra EC’s overarching aim). This proposal has been accepted by Routledge, and we plan to include the writing of the textbook in Phase 2 of the programme.
- Crosscutting reflection and discussion sessions at programme meetings and Environmental Communication Days (Miljökommunikationsdagar), designed to stimulate debate on central aspects of Mistra EC such as the five principles of a reframed understanding of environmental communication and other topical issues, such as polarisation
- Synthesis talks, lectures, workshops and conference sessions that allow us to summarise, share and discuss central insights and approaches.

This is a splendid, coherent and well-focused proposal. It is commendable for its balanced combination of theory-driven research and applied/practice-oriented environmental communication. Its proposed pedagogical design is well suited to both undergraduate and postgraduate teaching. In summary, I look forward to seeing this book coming to fruition and will most definitely be adopting it as supplementary reading in my teaching.

(“Reviewer 4” on the textbook proposal, which has now been offered a contract by Routledge)

Strategic reserve-funded activities in the remainder of Phase 1 (such as the collaborative production of short filmclips on environmental communication) will further enhance the synthesis work and help to share our insights with wider audiences, including also students interested in environmental communication. In the following section, we describe some of our insights, organised according to four key crosscutting projects.

Main findings

Materiality and agency: The “environment” in environmental communication

What does “environmental” in environmental communication actually stand for? The International Environmental Communication Association (IECA) puts it plainly: “In the simplest terms, environmental communication is communication about environmental affairs.” In this crosscutting project, we critically examine the role of the environment in environmental communication research,

identifying gaps and new perspectives for us and the wider field to address in the future.

To start this investigation, we have been reviewing a random sample of 100 articles in *Environmental Communication* as the flagship journal of the field (2007-present) with the following questions in mind: What is the environment understood to be in this article? How is it studied? Our preliminary findings suggest that ‘the environment’ in environmental communication is underaddressed and underconceptualised. Three large, idealtypical categories of engagement with the environment could be identified: (i) research that uses environmental issues as a mere backdrop to focus on communication questions, where the environmental context can be regarded as exchangeable, (ii) research that connects its purpose directly to the environmental issues that are included in the study, but where role of the environmental layer in communication is not further investigated, and (iii) studies where communication aspects and the environmental layer are tightly interwoven, and where the environment is given an active role in the communication studied. Only a small number of publications could so far be found in the third category. As the next step, we will discuss implications of these findings in a manuscript to be submitted to *Environmental Communication*, and we plan to take this work further in Phase 2 of the programme.

Environmental communication and governance

A recurring question in many of our discussions revolves around the relationships between environmental communication and change, and between environmental communication and governance, i.e., the steering and coordination of society. Environmental communication is a field inherently concerned with understanding societal change. Many communication researchers and professionals aim, through their work, to illuminate or even promote sustainability transformation processes. However, in and of themselves, theories of communication do not necessarily offer an in-depth conceptual explanation of how change happens (or why it does not happen). In this crosscutting project, we employ conceptual work, reviews of Mistra EC and other relevant research, and a panel discussion at the Conference on Communication and Environment (COCE) 2023 with an international group of Mistra EC participants and other key scholars, to explore the different ways in which environmental communication and governance interact. We have developed a preliminary framework through which the links between the governance and communication can be structured and made sense of, and that identifies four different ways in which governance and communication combine in instrumental and constitutive ways. Future work will develop this framework further, including through a chapter for the environmental communication textbook (see above).

Emotions in environmental communication

The role of emotions in environmental communication has been of great interest right from the start of Mistra EC. This interest has found reflection in a range of crosscutting

activities, including an interdisciplinary session at the programme meeting in October 2020, a panel discussion at COCE 2023 with an international group of invited participants, and forthcoming environmental psychological survey-based research. While the panel discussion unpacks tensions between a perspective that sees the role of communication as strategically steering, shaping specific emotional reactions, and an interpretation that encourages more open, diverse and reciprocal emotional expressions, the survey investigates the role of coping and empathy in everyday emotional engagement with climate change and biodiversity loss. Research on the role of emotions in environmental communication will be developed further in more explicit ways during Phase 2 of the programme, notably the future WPs 2 and 3.

Examining transdisciplinarity and participatory research

Given the central role of transdisciplinary collaboration in Mistra EC, WP6 also provides the space to reflect on and critically examine our own ways of working across professions. This reflective research consists of several components.

First, a team at Charles University examines the participatory dynamics of the Mistra EC research programme, using a political studies approach to participation that defines participation as sharing power (Carpentier 2016). In a first phase, published in *Conjunctions* in 2021, the creation of a participatory toolkit, relevant to a diversity of research projects that aim to reconfigure power relations, was described and analysed. In stage two, which started at the end of 2022, one of the tools of this participatory toolkit, namely co-writing, was activated to organise the analysis of a Swedish TV series (“Tunn Is”) by a team comprised of academics as well as non-academics. This participatory analysis is supported by training sessions in textual analysis, joint analysis workshops and co-writing processes. The third stage is an analysis of one of the participatory arts projects, conducted by the academic liaison partner for this participatory arts project and the artist, also involving the four forest owners who have contributed to this project. The joint writing subprojects (which are still ongoing) demonstrate that the collective writing of academic articles, involving both academics and non-academics, is feasible and enriching provided (1) high awareness of the power relations that structure these processes, (2) well-structured training processes, (3) mutual respect and trust, and (4) proper time investment of all parties involved.

Second, a team at EC-SLU and SWEDESD critically investigates Mistra EC’s transdisciplinary ways of working through the lens of cultural resonance. By interpreting the five principles of a reframed understanding of environmental communication as ‘cultural objects’ of varying relevance to societal partners’ communication practice, we unpack how researchers and societal partners interacted during the course of the programme to enhance resonance (and thus develop meaningful transdisciplinary work) or – as in some cases – failed to interact in ways that created initial resonance or that developed initial resonance further.

This analytical perspective allows us to deconstruct both cases of ‘successful’ and ‘failed’ interactions and gives valuable pointers towards further improved collaborative work in a possible Phase 2 of the programme. Findings are currently written up for submission to *Environmental Communication*.

The work on transdisciplinary research is complemented by activities such as the running of a trans- and interdisciplinary workshop at the Nordic Congress for Wildlife Research in 2022, which also included one of our strategic reserve projects as a prominent example, and additional analyses, including a paper on the widespread non-performativity of concepts such as transdisciplinarity submitted to the *Journal of Environmental Planning and Management*.

Associated strategic reserve project: Storytelling for the planet – what is it, who does it, where and why?

This project involves participants from EC-SLU, Greenpeace and the arts, and adopts a critical approach to storytelling for sustainability. It explores the ethics, dangers and possibilities of storytelling, and develops conceptual tools to appraise emerging storytelling approaches by mapping, categorising and critically analysing different storytelling approaches for sustainability.

In the last decade, storytelling has been popularised as a method to support sustainability transformations. With this growing popularity, there has also been a rapid increase in those identifying as storytellers. Given this popularity, it seems important to clarify the often hidden assumptions about knowledge, power and change. In an article submitted to the *Journal of Environmental Planning and Management*, we perform a frame analysis of how storytellers describe their storytelling for sustainability. Our findings demonstrate that the label of storytelling for sustainability encompasses different sets of fundamentally diverging ideas about whose knowledge counts. The paper raises critical questions that can help assess the legitimacy and appropriateness of different applications of storytelling for sustainability. This approach will be picked up by research proposed for e.g., WP3 in Phase 2 of Mistra EC.

Associated strategic reserve project: Are we on the same page? How hunters and their organisations communicate over data

Data collected through voluntary efforts is an important contribution to wildlife management and research. It allows for large amounts of data to be gathered from large geographical areas, and in some instances over long time periods. Communication over such data is a special form of environmental communication. At first sight, the communication processes seem quite straightforward: Organisations compiling this data must communicate with those providing the data about which information to report and how to report it correctly. Data providers may want to know how and for what purpose the data is used. However, our case study of Swedish hunters reporting numbers of shot animals to the Swedish Association for Hunting and Wildlife Management suggests that these processes are in fact more complex, and also involve factors that tend to be overlooked.

The project is trans- and interdisciplinary, with a research team consisting of researchers from Eco-SLU, EC-SLU and environmental psychology at Lund University, as well as experts from the Swedish Association for Hunting and Wildlife Management, and involves a mixed-methods approach.

We find that for most hunters, communication over data does not involve personal encounters, e.g., as they send in a report via an online system and read about results in a hunting magazine. Few hunters report that they have personal contact with people from the hunting association. Much of the communication between hunters and the hunting association regarding data seem to be channelled through a pyramid-like organisation – hierarchical in its structure, but in practice more like a network. Technology is an important part of the reporting system. More advanced technology such as smartphone applications can facilitate reporting, but may also be perceived as a hindrance. Willingness to report seems to be largely influenced by intrinsic motivation, such as the feeling that it is valuable to report, wanting to contribute, and that it is part of one’s identity as a hunter to do so, as opposed to external pressure such as rewards, punishments or expectations of others. Whether or not it is perceived as valuable to report seems to be connected to knowing how the data is being used, and that this use is perceived to be legitimate.

For the hunting association, the project provides direct feedback on the reporting system, especially in terms of technical improvements. Understanding the motivation for reporting data is of vital importance for the hunting association as well as for other organisations that compile data collected by voluntary efforts, and we have started to share these in a workshop with participants from a range of different organisations, as well as through a conference talk at the Nordic Congress of Wildlife Research 2022. Findings also will be written up in a manuscript to be submitted to the *European Journal of Wildlife Research*.

WP7: The programme commons – coordination and knowledge sharing

Lead: Eva Friman, SWEDESD-UU



Introduction

WP7 provides programme-wide infrastructure for work carried out in work packages, think/do tanks and strategic reserve projects, heads programme-wide activities and provides a framework for implementation of the programme as a whole. Through the programme commons, we create conditions for all participants to work collaboratively towards the programme aims, and ensure the best possible short- and long-term impacts of our transdisciplinary work.

The WP is divided into four parallel tasks: (1) Management and administration, to ensure that the programme has clear and stable structures in place, (2) Internal communication, for clear and transparent communication between programme partners, allowing for active and creative discussions, scientific advances, methodological innovation and productive research and transdisciplinary work, (3) Monitoring, evaluation and adaptation, to assess the programme's impact and use insights to adapt our plans and processes, and (4) Education, learning and external communication, to ensure achievement of the programme's aspired impacts. In the following sections, we report on a selection of the activities,

insights and lessons learned, also with a view to a potential Phase 2.

Achievements and lessons learnt

Task 1: Management and administration

Mistra EC has now a well-balanced programme board, with members with experience and competence as professional environmental communicators as well as senior academics from relevant research areas. We find that a lesson learned is that for a transdisciplinary programme like ours to work smoothly as well as in-depth, the very mixture of researchers and practitioners in the programme board is crucial.

The board also oversaw the use of the programme's strategic reserve (Table 2). Six million SEK had been set aside (as is custom for Mistra-funded research programmes), and were initially being made available through three explicit calls with closing dates in spring 2021, early 2022 and spring 2022, respectively. The first two calls were thematically open and applications could entail innovative work within existing WPs as well as explorations of new areas, cross-cutting or communication activities. The Spring 2022 call focused on disinformation in environmental communication, a theme identified by the board as highly topical and so far missing from the programme. The remaining funds could be applied for on a rolling basis.

Table 2: Projects funded by the strategic reserve

	PROJECT TITLE	CORE TEAM
1	Beyond social auditing – Towards communicative empowerment and self-governance of factory workers and suppliers in the textile industry	University of Texas Austin, Nudie Jeans, University West
2	Science and practice for socio-ecological transformation – A workshop series on forests, climate change and biodiversity	EC-SLU, SWEDESD-UU
3	Analysing governance and forest planning practices of the state-owned company Sveaskog from a rights-holder perspective	EC-SLU, Swedish Sami Organisation (Sámiid Riikkasearvi)
4	Googla gärna: Mapping the role of search engines in Swedish climate denialism	EC-SLU, University of Borås
5	Networked silences – A symposium about the missing environmental communication on social media platforms	University of Borås, EC-SLU
6	Are we on the same page? How hunters and their organisations communicate over data	Swedish Association for Hunting and Wildlife Management, EC-SLU, Eco-SLU
7	The wild garden project – Communication of urban biodiversity using practical examples	Biotopea, Uppsala Art Museum
8	Storytelling for the planet – what is it, who does it, where and why?	EC-SLU, WET centre, Greenpeace International
9	Mistra EC partnership and outreach beyond 2021	WSP
10	Artists in Residence at Mistra Environmental Communication	Charles University, USC, EC-SLU
11	Acclimatize workshops: Methods development to explore the role of museums in sustainability transitions	Moderna Museet, EC-SLU
12	Environmental Reporting & Sustainability Policy Workshop	WSP, University of Texas Austin
13	Carbon offsetting through reforestation in La Mosquitia: a film about co-creation	SWEDESD-UU, USC
14	Fighting windmills? Tracing disinformation about wind power on Twitter and Google in the run-up to the Swedish elections 2022	University of Borås, EC-SLU
15	What is disinformation? Investigating understandings in literature and advocacy	EC-SLU
16	An atlas of environmental communication (planned)	WET centre, EC-SLU, SWEDESD-UU, USC
17	Communicator-in-residence (planned)	EC-SLU, SWEDESD-UU
18	Collaborative film-making on key ideas in Mistra Environmental Communication (planned)	Filmmaker Tessa Joosse

Task 2: Internal communication

Clear, continuous and transparent communication with and between programme partners created the conditions for all programme partners to work collaboratively towards the programme's aims. The digital platform Slack, intended for internal communication, was not widely taken up and thus failed soon after its set-up. Instead, participants turned to other, very functional but less unified means of coordinating their work. Our internal newsletter seems to work well in sharing information and invitations for events and joint work across the programme. Twice-yearly programme meetings (Table 3) create a framework and opportunity for active and creative transdisciplinary discussions beyond WP boundaries, where research insights and methodological innovation are shared with the wider group, critically discussed and developed further, and where ideas for new work emerge. All programme meetings consist of a mix of

sessions organised by different programme participants – initially typically WP leaders, but as the programme progressed, more and more sessions were organised by e.g., strategic reserve projects or think/to tanks. After our in-person kick-off programme meeting in January 2020, the Covid pandemic forced us to move to online meetings, and this, as well as the move back to hybrid formats with a mix of in-person and hybrid options, brought changes in the character of the meetings. This required reflection on the suitability of different formats, and the capacity to adapt the set-up of the meetings to the circumstances. Overall, while twice-yearly meetings are welcomed by many participants, they are also experienced as demanding substantial time and effort. For Phase 2, we therefore consider complementing annual meetings with other forms of encounter and joint working.

Table 3: *Mistra Environmental Communication programme meetings*

DATE	FORMAT	AGENDA
28-29 Jan 2020	In person (with online options)	Almost 70 participants from 25 different organisations were present to get to know each other through both cross-cutting sessions and WP-specific workshops.
16-17 June 2020	Online	Examples of sessions: • Power and participation in community planning • A virtual co-creation lab • Sustainability transitions in times of a pandemic
20-21 Oct 2020	Online	Examples of sessions: • Validating the rural: The participation of rural communities in environmental sustainability • What needs to change in communication practice to facilitate sustainability transformations? • Emotions in environmental communication • Appraising the role of storytelling in sustainability transformation
18-19 Mar 2021	Online	A 'Hopes for Change' workshop was the centrepiece of this meeting, discussing Mistra EC's expected impacts in WP groups and across, with the aim to develop a shared understanding of the change that our work can lead to and a framework to follow up change processes. Other sessions included: • The role of consultants in identifying communication issues and solutions • The influence of the physical environment on consumption behaviours • Visual representations in environmental performance reports • A collective analysis of scenes in <i>Kiruna – A brand new world</i> (2019) • The role of storytelling in sustainability transformations – whose knowledge counts?
20-21 Oct 2021	Online	We held a session on our Special Issue for the <i>Journal of Environmental Planning and Management</i> , where we explored the articles' contributions to our understanding of environmental communication in theory and practice. The meeting also included an impact workshop, where creative writing, visual artwork, game and play were explored as impact channels, as well as a session on controversies in forest communication and management. Finally, we discussed insights and interpretations of 'Ugly nature selfies'.
27-28 Apr 2022	In person/ hybrid	Research results were presented and discussed. The main issue during the first day was how we relate to power and conflicts in communication about sustainability, which culminated in a field trip to the programme partner Biotopia. The second day was devoted to tools and methods for communicating about sustainability. The meeting ended with a session on how joint work and synthesis beyond the WPs can be further developed.
24-25 Oct 2022	In person/ hybrid	In light of the upcoming reporting and application for Phase 2, focus was on reflections on insights, lessons learned and impact. A series of sessions captured where we are right now in terms of insights and collaborations, as well as in terms of the learning process within the programme at large. A session on polarisation in environmental communication explored different conceptualisations and approaches to managing disagreement, and in a session at Uppsala Art Museum participants tried out different formats of engaging with environmental arts.
15-16 Mar 2023	In person/ hybrid	This meeting was characterised by presentations and critical discussion of research findings, and session topics included e.g., strategies used by media professionals to communicate environmental issues, how actors in Swedish forest policy perceive and counter disinformation, the role of communication in gathering data by voluntary engagement, the issue of when and how we learn from communication experiences, and the 'environment' in environmental communication. Participants could also take part in a network silences jam session, an exploration of environmental futures by a poet and novelist, and an excursion to an urban forest to discuss approaches to interact with visitors on questions of forest management.
24-25 Oct 2023	In person/ hybrid (planned)	The first day will be held at Färgfabriken in Stockholm in connection with the WP5 final exhibition, and the second day in Uppsala. Both days will include opportunities to reflect and synthesise insights on environmental communication with the help of different media, including film.
ONLINE SPEED TALK SESSIONS (IN ADDITION TO THE TALKS GIVEN AT PROGRAMME MEETINGS)		
20 May 2021		10 talks by Mistra EC researchers
15 May 2023		9 talks by Mistra EC researchers (to be made available on mistra-ec.se)

The International Scientific Advisory Group (ISAG) was set up in late 2021. Group members include Robert Craig, professor emeritus in communication, University of Boulder, Colorado, USA; Tema Milstein, associate professor at the Faculty of Arts, Design and Architecture, University of New South Wales, Sydney, New Zealand; Stacey K. Sowards, professor in communication, Moody College, University of Texas at Austin, USA; Geo Takach, associate professor, School of Communication and Culture, Royal Roads University, Kanada; and Erik Westholm, professor emeritus, Department of Urban and Rural Development, Swedish University of Agricultural Sciences. The ISAG provides critical guidance, contributes to ensuring the scientific quality of the programme and supports us in increasing our academic impact. During 2023, a number of WP-specific meetings are held to enhance the outcomes and impact of Phase 1. We view ISAG as important for the long-term impact of and sharing of results from the programme during Phase 2 and beyond.

Task 3: Monitoring, evaluation and adaptation

To assess and facilitate impact over time we use several approaches. Key among these is our transdisciplinary research process, which involves programme partners – academic as well as non-academic – actively in designing and implementing our work. This ensures relevance of the work, and enables adaptive management of the programme and the transdisciplinary collaboration itself – adaptation, critical reflection and adjustments are built into the working process instead of being treated as an add-on.

To get deeper into societal partners' experiences of the programme, we use so-called partner dialogues as a continuous process of interaction with key organisations. The outcomes of this process are discussed annually in a WP leader meeting. Lessons drawn from these reflections include, for example, that partners have different degrees of connection to and expectations of the programme and have been willing to take part in collaborative work and joint meetings to differing extents. Such reflections are, in

our view, an excellent tool for monitoring the transdisciplinary aspects of the programme. The impact stories selected for Section 2 are an example of the outcomes of this process.

Task 4: Education, learning and external communication

Our annual EC gathering – Miljökommunikationsdagen/ Environmental Communication Day (Table 4) –, initiated in 2020 in an online format due to the pandemic, turned out to be a suitable and attractive way both online and in person to spread insights and tools from the programme and for fostering networking between practitioners, and between practitioners and researchers.

Sharing and discussing research findings is also the purpose of international symposia in planning for the fourth year, such a symposium on impacts of contemporary sustainability communication expectations and practices in the apparel sector with international and Swedish societal partners and researchers (WP4), the symposium “Co-creating transformative change” (WP3) and a public online launch of the special issue (WP6). We have also shared and discussed our findings at numerous international conferences, e.g., IECA's 2023 Conference on Communication and Environment (COCE), and at research seminars at several universities abroad.

During Phase 1, Mistra Environmental Communication was highly international. Three out of five WPs were led by non-Swedish universities. We also worked on cases abroad – while some that were initially planned dropped out (e.g., with Hanoi Innovative Learning Lab, Vietnam, in WP3), others emerged (e.g., the Honduras case in WP3). Interestingly, some cases (‘strands of value’ WP4, Honduras WP3) analyse environmental communication processes that connect Sweden and other countries. WP4, led from Austin, Texas, and WP5, from Prague, both worked with Swedish cases, despite the language barrier and geographical distance.



Discussing different ideas of transition and change; Mistra EC programme meeting April 2022. Photo: Jenny Svennäs-Gillner.

Cases and research contexts abroad are important as well as interesting, but in our view, in a research programme such as Mistra EC they need to be clearly connected to environmental communication in Sweden. In Phase 2, more explicit focus will therefore be put on Sweden. While still engaging international participants and cases, the focus on Sweden will ensure that our research is useful and applied to contexts relevant for Sweden-based actors.

The programme is uniquely positioned to test and further develop ideas emerging from the programme and to share lessons learned with future generations of researchers and

practitioners. In various ways – from single lectures to the design of whole courses – research insights have been integrated in the EC-SLU and SWEDESD Master’s programmes as well as in numerous other lectures, also abroad. For education, learning and external communication purposes, we also developed practice-oriented training courses. We did manage, as planned, to expand the scope of previously existing training courses at EC-SLU and SWEDESD, and to develop a new course, ‘Communication for sustainable consumption’ within WP2.

Table 4: Miljökommunikationsdagar/Environmental Communication Days: Overview

DATE	FORMAT	AGENDA
26-27 Nov 2020	Online	Our first Environmental Communication Days targeted a wide range of actors in all sectors of society who use environmental communication in their work. Two panel discussions with distinguished speakers framed the event. In “ How do we create change through communication? ” Erika Bjerström, the Swedish public service television company (SVT)’s climate correspondent and author of <i>Klimatkrisens Sverige</i> (2020), Lars Hallgren, researcher in environmental communication at SLU and Kajsa Kramming, cultural geographer at Uppsala University, discussed communication on climate change between hope and despair, and between the local and the global. In “Communicating for sustainability”, Berit Oscarsson, head of communication at the Swedish Environmental Protection Agency, Maria Brogren, sustainability and innovation officer at the international consultancy WSP and Gunnar Gidefeldt, communication officer at the Federation of Swedish Farmers (LRF) discussed how environmental communication can be changed to support Sweden’s sustainability transition . Participants could also join a number of other interactive sessions, e.g.: <ul style="list-style-type: none"> • Producing alternative discourses in environmental communication – the Silencing/Unsilencing Nature project • Harnessing the potential of storytelling in sustainability communication • Hosting and participating in online meetings: A skills sharing session on ensuring quality and participation • Leading dialogues and collaboration: A tool for reflection
16-17 Nov 2021	Online	2021’s Environmental Communication Days featured knowledge sharing, discussions and inspiration. The days began with a conversation between Johan Kuylenstierna, chairman of the Climate Policy Council, Maria Sunér, CEO of Svemin, and Lars Hallgren, researcher in environmental communication at SLU, about how we view and understand transitions to sustainability between individual responsibility and the need for structural changes . In a second panel discussion, Soenke Lorenzen, Global Engagement Department at Greenpeace International, Laura Hartman, Sustainability Department at Uppsala municipality and Frida Franzén, sustainability investigator at Tyréns AB, gave their perspectives on how communication for sustainability needs to change . The agenda also offered workshops on the Reflection cycle (see WP1), visual storytelling , environmental communication via Wikipedia and the complexity of sustainability reporting .
3 Oct 2022	In person	Theme: ‘Dialogue, consumption and innovation’, held in a central location in Uppsala, inviting those who at public and private organisations, NGOs and within academia work with sustainability. An initial exercise showed a wide geographic spread of participants – e.g., representatives of twelve municipalities – from Gothenburg to Hudiksvall – participated. Dialogue : Workshops introducing the ‘ Reflection cycle ’ (a tool for process leaders intended to facilitate reflection on how power and leadership work in dialogue situations) and ‘ Sustainability walks ’, which functions as a support for dialogue and site development in urban planning Innovation : A co-creation session exploring visions of what a circular economy is, could be and should be Consumption : Workshops discussing possibilities and challenges in promoting sustainable consumption through campaigns , and how different forms of storytelling can be used and abused in communication for sustainable consumption
26 Sep, 28 Sep, 3 Oct 2023 (planned)	In person	Theme: Goal conflicts and synergies in sustainability transitions, arranged in collaboration with partners in Stockholm, Gothenburg and Luleå, to allow for regional and local participation: <ul style="list-style-type: none"> • 26 September, Färgfabriken (a foundation and exhibition space for contemporary art and architecture), Stockholm. Local focus: The role of art in transition communication • 28 September, Department of Journalism, Media and Communication, Gothenburg University. Local focus: Transitions, journalism and the media • 3 October, Luleå University of Technology’s Vetenskapens hus (a house and space for science and research to meet with the general public). Local focus: The green transition in northern Sweden

Associated strategic reserve project: Artists in Residence at Mistra Environmental Communication

The project “Artists-in-residence” (AiRs) invites artists to collaborate with academics and to become immersed in the Mistra EC research programme in order to develop creative work that situates environmental communication in the arts and explores academic research through an artistic lens. The dialogues with researchers serve as inspiration for

artwork(s) and enrich the perspectives of the researchers. The goal of the AiRs is to foster collaboration between participants and to unlock new perspectives on environmental communication.

The AiR project is coordinated by the Institute of Communication Studies and Journalism at Charles University, and includes three residencies: AiR@CU at Charles University in the Czech Republic (with Soraya Poulin, completed); AiR@SLU at the Swedish University of

Agricultural Sciences in Sweden (with Coralie Gourguechon, completed) and AiR@USC at the University of the Sunshine Coast in Australia (with Caitlin Franzmann, ongoing). The main lessons learned from the AiR project so far are:

- The two completed AiRs produced valuable reflections on (1) the complex relationship of urban birds with humans living in the city, and on (2) the impact of electronic consumption on the environment, by exploring the mining and recycling infrastructures used for the production of rare earth elements.

- The dialogues between artists and academics proved to be enriching for all involved parties, allowing to reconcile artistic and academic research. The outcomes of these projects combine textual and visual contributions, which complement each other and highlight the need for multimodal approaches to better understand social reality.



Urban Bird. Artwork: Soraya Poulin. Photography: Ali Minanto.

Associated strategic reserve project: Acclimatize workshops – Methods development to explore the role of museums in sustainability transitions

To follow up on the digital Acclimatize symposium, which was run as a think/do tank (see Table 5) in February 2021, we arranged five workshops for museum professionals. Each workshop was dedicated to a different type of museum, including e.g., science and technology museums, art institutions, natural as well as cultural heritage museums. To every workshop, we invited either a philosopher or a climate psychologist to give input and lead the initial conversations, and on every occasion, we gave a brief introduction to the field of environmental communication and examples of interesting initiatives from the museum sector as well as a presentation of pitfalls and less successful practices. The key takeaways from these workshops have been transformed into a toolbox that will be available for all Swedish museums to help integrate climate and environmental questions in their programming and communication (see also ‘impact story’, Section 2).

We received very positive feedback from the participants in the symposium and workshops. Working in collaboration

between EC-SLU and Moderna Museet has proven to be inspiring, educational, and fruitful. Several participants expressed that the workshop gave them a better understanding of environmental communication and climate psychology. The participants have reported walking out from the workshops feeling inspired and empowered to start working more purposefully with environmental issues in their programming.

Associated strategic reserve project: Mistra EC partnership and outreach beyond 2021

The purpose of the project, run by WSP, was to test new communication activities and to develop best practice in the sharing of findings from the WPs. The purpose was also to support the communication officer in developing a communication plan for the Mistra EC programme. As a first step, we scanned all documents from the WP leader meetings, the programme plan, as well as other documents and digital statistics to identify interesting research areas, possible synergies and fruitful collaborations, as well as gaps in the communication plan. For example, even though Mistra EC sees itself as important to the green transition,

some very important target groups are considered as secondary in the communication plan, such as research funders, politicians, other decision-makers and media. The communication plan might be strengthened by including the above target groups as well as clarifying its purpose and how it should be used and communicated within the programme.

To test new communication activities and make use of the potential multiplication function of a large company such as WSP, in collaboration with WP 1, we ran a workshop with WSP decision-makers applying the Reflection cycle to their professional context.

Think/do tanks

Coordination: Hanna Bergeå, EC-SLU



Think/do tanks, conceived as a “flexible and adaptable” format “to consolidate and further develop practice-relevant insights and approaches” (see programme plan Section 4.2) constitute a small but important part of our work, with the ambition to address questions and concerns raised by the programme’s societal partners. As the name indicates, the format was designed to foster work in the borderland between *thinking*, analysing and reflecting together and *doing* as in acting, trying out and testing things in settings of relevance to societal partners. Approx. 1.42

million SEK were ringfenced to allow the funding of a number of small projects in a flexible way. The format was introduced at the first programme meeting in January 2020, where participants from a wide range of backgrounds identified communication-related questions and problems that they found relevant and proposed initial ideas for possible think/do tanks. Based on this initial collection of ideas, the first think/do tanks were developed.

The format of the think/do tanks was deliberately left open, e.g., in terms of duration, size and organisational arrangement. Looking back, we can see that this freedom and flexibility eventually turned out to be enabling, but that it initially resulted in uncertainty and doubts among interested programme participants. More coordination time and support than anticipated was needed to facilitate the emergence of project ideas. While in the first year, only one idea reached the stage of concrete plans (namely the proposal to conduct the ‘Acclimatize’ online symposium in February 2021 to explore the role of museums in Sweden’s sustainability transition, see Section 2 ‘impact stories’), the development of ideas for think/do tanks gained momentum in Years 2 and 3 of the programme. This can be seen as a consequence of the concept of think/do tanks, including concrete examples, becoming more familiar to programme participants, of increased interaction between partners post-Covid, and of partners gaining a clearer picture of the work in the programme, its gaps and opportunities.



Discussing multilateral communication on controversial issues in the management of urban parks. Photo: Jenny Sverinäs-Gilner.

Table 5: Think/do tanks – overview

TITLE	RATIONALE	ACTIVITIES/ OUTPUTS	CORE GROUP
Acclimatize – a symposium on the role of museums in the transition to a sustainable future	Museums as public spaces have the potential to engage people for sustainability by broadening perspectives and enabling contact with values, emotions and collective memories. In this endeavour, we need to collaborate, share experiences and try out new methods.	Digital symposium February 2021 (>200 participants from museums in Sweden) Requests for collaboration, more information and participation in future development of the work Blogpost Continuation: workshop series funded by the strategic reserve, resulting in a "toolbox" for museums, also planned to be part of Mistra EC Phase 2 (WP2)	Moderna Museet Freelance curator Svante Helmbaek Tirén EC-SLU
Documenting environmental communication across worlds	To rethink how climate compensation could be practised to avoid injustices for the Miskito people in Honduras, drawing on the framework of knowledge co-production. The project explores methods to visually represent a knowledge co-creation process that seeks to bridge the situation of the Miskito people today and their desired tomorrow, and the Miskito people's desires and those of Swedish companies wishing to compensate for their climate impact.	Photovoice activities (including 12 focus group discussions) in La Mosquitia Landscape planning workshops with families and communities using drone images. Insight into how to best use drone images in such a co-design process Photoevening and workshop exploring how the fires affect communities in La Mosquitia in different ways Photo exhibition at Mistra EC programme meeting October 2022 Leaflet for Swedish partners	Paskaia UU/USC
Imaginative Power – Visual Arts and the Museum as a mode for Environmental communication	To study and reflect on the kinds of environmental communication that contemporary art is engaged in, and the effects of museum context on visitors' thoughts on environmental issues during and after their museum visit. The exhibition trilogy invites the audience to imagine and elaborate different temporalities in relation to the climate and biodiversity crises. Through several workshops, guided tours and panel talks we have collected reflections and ideas from students and different groups of researchers.	Collaboration around 3 exhibitions at the art museum, of which the last one has been influenced by the questions developed in the project. This included: • Workshops with Master students and groups of researchers related to Mistra EC • Input to 3 panel talks and several guided tours • Exchange with one of the participating artists including feedback on her creative process • Curator Rebecka Wigh Abrahamsson has been invited to present insights from the work at the Swedish museums' "spring gathering" 25-27 April in Västerås Insights will be presented in a short report.	Uppsala Art Museum Biotopea Cemus UU/SLU Artist My Lindh EC-SLU
Seeing the forest in the trees: Creating possibilities for spontaneous communication during woodland walks	Much of what people know about forest management has reached them via media – often driven by a polarised debate. The goal of this project is to explore the usefulness of app-based self-guided communication for forest visitors. The project created an opportunity for forest visitors to engage with different perspectives on the past, present and possible futures of a specific forest site. The idea was piloted at six locations in or near Uppsala during February-April 2023.	Short digital questionnaire on people's perceptions of forest management, exploring strengths and weaknesses of digital surveys as a tool for communication, by means of a QR code linked to a dedicated app prepared by the project partner Greensway. The responses received will be evaluated to further develop the questions and the implementation of the app. The results will be useful in a practical context, since many organisations are looking to develop self-guided ways of communicating with visitors about the environment and its management.	Swedish Centre for Nature Interpretation, SLU Aqua-SLU Greensway
How do we create a picture of the future? A workshop about the relevance of telling picture stories in times of climate crisis	To create visions of the future in a public slideshow, about what the climate and biodiversity crises could mean to us, to trigger reflections. For this, we explored the role of photos and feelings connected to the climate crisis. A slideshow was created by the facilitator/curator based on the joint work adapted to Stefan Sundström's Evert Taube concert tour in Spring 2023. After the tour, a digital follow-up meeting is planned to discuss the impact of the slideshow.	A slideshow broadcasted at 22 concerts, based on inspiring discussions at a one-day workshop with 18 participants, including researchers from different disciplines, communicators (including nature guides) and artists Discussions and thoughts during the concerts facilitated by local members of the Swedish Society for Nature Conservation Contact and requests from around 10 Naturum (nature interpretation centres) to develop the slideshow and programme in their arenas	Swedish Centre for Biodiversity, SLU Swedish Centre for Nature Interpretation, SLU Freelance curator Svante Helmbaek Tirén
Environmental communication in a multi-stakeholder dialogue (recently started)	To discuss and develop a dialogue process around the organisational vision of the Water Council of Lake Mälaren to "communicate the worth and benefit of Lake Mälaren to raise awareness for us all". The project will join an on-going process with the 60+ diverse members of the council to make sense of what communication means in this context and how it can be achieved by such an organisation.	In addition to support for the initiating societal partner, the project will provide concrete learnings around how environmental communication is understood by these diverse actors and how the complexity of environmental communication can be addressed by deliberative processes.	Water Council of Lake Mälaren EC-SLU

The Mistra EC programme in general has broadened our network as a museum and attention to environmental issues on many different levels. (Think/do tank co-initiator, Uppsala Art Museum)

The energy that was released when researchers, communicators, biologists, nature guides and artists met in the first workshop gave ripples in the water. (Think/do tank initiator, Centre for Nature Interpretation, SLU)

Our initial idea that a think/do tank should ideally engage multiple societal partners proved in several instances difficult to achieve. On the other hand, think/do tanks have become well integrated into the wider programme and serve functions that were initially not necessarily anticipated, e.g., as a testbed of larger strategic reserve projects (such as Acclimatize), and as a space for creative ideas related to, but not included in the WPs. It is also worth noting that the format of think/do tanks allowed us to encourage dynamic development of the programme and the exploration of societal partner-led ideas right from the very start of the programme, rather than having to wait for the strategic reserve to be made available by the programme board – a factor that can be seen to have paved the way for several transdisciplinary project ideas that were considered as think/do tanks but eventually funded by the strategic reserve (the latter allowing slightly larger and more formal, research-focused project set-ups). Six think/do tanks have been developed so far and span a wide range of contexts, with different societal partners involved. Their different approaches and outputs to date are outlined below (Table 5).

Strategic reserve-funded projects on disinformation and information systems

Networked silences - A symposium about the missing environmental communication on social media platforms

The main purpose of this strategic reserve project was to facilitate conversation and greater awareness amongst practitioners, researchers and the public about the ways in which environmental communication happens (or is suppressed) in digital spaces. We organised a [symposium](#) “Networked Silences: Algorithms and meaning-making in time of climate change” on 6th October 2022 at Uppsala Art Museum, with approx. 20 researchers, 10 practitioners and several members of the public attending the concluding panel discussion; the academic workshop on 7th October was attended by about 20 researchers and was held at SLU Uppsala. Participating researchers were mainly from the Stockholm-Uppsala region, the west coast and southern parts of Sweden. Participating practitioners were associated to, e.g., the Swedish Environmental Protection Agency, Internetstiftelsen (the Swedish Internet Foundation),

Kungliga biblioteket (the Royal Library) and Statens medieråd (the Swedish Media Council).

Our understanding is that both practitioners and researchers found this event very valuable. It supported interesting conversations and provided ample opportunities for networking not only among researchers but also among researchers and practitioners. We established relevant new contacts via the event, and many participants were eager to continue the conversation. We will host a panel at the Nordic STS conference in Oslo in June 2023 and currently plan a follow-up event in Autumn 2023 in collaboration with AI Lund.

Googla gärna: Mapping the role of search engines in Swedish climate denialism

This project explores the (dis)information practice of asking others to google specific terms through functions such as “google it” (“googla gärna”). While much research on disinformation acknowledges that this is happening, it has not been studied systematically. Concretely, we analysed encouragements to google on blogs, online platforms and in the opinion sections of news media. We examined these as a discursive practice, and investigated the (dis)information networks that are established by these suggested search queries.

Our preliminary findings suggest that encouragements to google are a widespread information practice in both online and offline discourse, usually to replace thorough argument, to refer to perceived authorities or to replace sources. Nevertheless, some voices in the discourse appear reflective about the selectivity of search results, the futility of meaningless cross-referencing and the trade-offs with providing actual sources. We found that one group of Swedish climate denialists is actively engaged in constructing cross-media disinformation networks using encouragements to google. However, this has been becoming less frequent – or harder to identify – in the past five years, possibly because of changes in search engine algorithms.

We aim to use our investigations of the search queries to, together with partners, suggest ways to come to terms with the effects of information operations. Our insights can also be used to monitor ongoing disinformation practices beyond climate change denial. For example, we have already identified similar phenomena in other contexts prone to spreading of manipulative information, such as conspiracy ideologies, vaccination or sustainable energy transition.

Fighting windmills? Tracing disinformation about wind power on Twitter and Google in the run-up to the Swedish elections 2022?

This interdisciplinary project examines how information about sustainable energy initiatives is configured in society’s dominant information infrastructures. With data collected during the Swedish election campaign in 2022, the project investigates how information about wind power in Sweden is made visible and invisible in social media and

search engines, how it is being connected to other issues, and how this shapes public understanding of issues surrounding sustainable energy.

In the project report "[Tracing online information about wind power in Sweden: An exploratory quantitative study of broader trends](#)" we highlight that the information space in this context can only be understood through analysing the interactions between different platforms and initiatives. There is an interesting disconnect between social media and search engines in forming the issue, and we argue that these the need to be considered in connection to each other. There is some indication that content is unevenly distributed across the political spectrum. Some actors appear to strategically place content across social media platforms and search engines in what seems to amount to agenda-setting strategies that link different advocacy coalitions. This needs to be investigated more systematically in future work (planned e.g., for WP1 in Phase 2 of Mistra EC).

We anticipate that the project, and in particular the report, will be a resource for relevant stakeholders to understand the complexity of the information space around wind power and other, similarly controversial issues, and to be able to adapt environmental communication strategies accordingly.

What is disinformation? Investigating understandings in literature and advocacy

This project aims to explore how actors involved in environmental governance, in both policy and practice, make sense of the phenomenon and practice of disinformation, and how they view their own role and that of others in its dissemination. One forestry organisation and one environmental NGO were selected to represent the two major and competing narratives in the Swedish forestry debate, while a government agency involved in forestry governance was selected to provide the, in theory, neutral ground.

Two types of empirical material were gathered. First, tweets (and the links to opinion pieces embedded therein) from all three organisations were used to explore the organisations' positions in the debate through narrative analysis. Second, three small focus group discussions, one for each organisation, were carried out to obtain personal reflections on what constitutes reliable information and how the actors viewed their own engagement with disinformation. The sessions consisted of two parts: (1) commenting on a communication artefact they had produced themselves regarding the "true" state of Swedish forests and a TV documentary by Sveriges Television called "Slaget om Skogen" ("The forest battle"), and (2) drawing a mind map of words and practices related to disinformation. Finally, a workshop was held where all participants were invited to participate and discuss the research team's tentative frame analysis, where statements were coded and categorised based on frames related to topics, processes and actors.

All actors expressed similar appreciation and importance of systematic and scientific approaches to knowledge. Disinformation was understood to be diverging from these

practices through an intentional will to deceive others. The conversations and mind maps indicated that the actors also considered phenomena such as cherry-picking facts and misleading, inappropriate or out-of-context use of statistics to be practices associated with disinformation. Interestingly, we observed unwillingness to use the word 'disinformation' by all three organisations. Reasons for this were either the awkward burden of proof required for such an accusation or the erosion of trust that allegations of this nature would lead to. All actors also mentioned having experienced difficulties in, on the one hand, balancing details and showing complexity and, on the other hand, the need to create messages that are easy to understand and share. In this sense, they seemed to view the action space as determined by communication platforms, search engine optimisation principles and competitive logic.

Differences were related to the kind of sources the actors perceived as reliable and trustworthy. While they tended to prefer official sources like those from government agencies or Riksskogstaxeringen (the Swedish National Forest Inventory), some respondents reflected on how funding and collaborations underpinning some of these knowledge databases rendered their neutrality questionable. The issue of where the burden of proof should be and how to deal with uncertainty was another topic where participants did not concur.

5. Literature cited

- Argyris, C. (1977): Double loop learning in organizations. *Harvard Business Review* 55(5): 115-125.
- Carpentier, N. (2016): Beyond the ladder of participations: An analytical toolkit for the critical analysis of participatory media processes. *Javnost – The Public* 23 (1): 70-88.
- Corner, A., Shaw, C., Clarke, J. (2017): *Communicating environmental and sustainability science: Challenges, opportunities and the changing political context*. A Knowledge Report for MISTRA. Oxford: Climate Outreach.
- Craig, R. T. (2019): Models of communication in and as metadiscourse. In: *Models of communication*, pp. 11-33. New York: Routledge.
- Irwin, A. et al. (2018): *Re-framing environmental communication: Engagement, understanding and action*. Background paper for MISTRA.
- Leavy, P. (2015): *Method meets art: Arts-based research practice*. London: Guilford Press.
- Mezirow, J. (1997): Transformative learning: Theory to practice. *New Directions for Adult and Continuing Education* 74: 5-12.
- Reddy, M. (1979): The conduit metaphor. *Metaphor and Thought* 2: 285-324.
- Schön, D. A. (1983): *The Reflective Practitioner: how professionals think in action*. New York: Basic Books.
- Soneryd, L., Ugglå, Y. (2015): Green governmentality and responsibility: new forms of governance and responses to 'consumer responsibility'. *Environmental Politics* 24(6): 913-931.
- Voniati, C., Doudaki, V., Carpentier, N. (2018): Mapping community media organisations in Cyprus: A methodological reflection. *Journal of Alternative and Community Media* 3(1): 17-35.

6. List of journal articles – published and in press

For manuscripts under review, book chapters, conference presentations and other outputs please see separate list.

- Bussey, M., Friman, E., Do, T., Barrineau, S. (2023): Co-Creation Labs: Fostering Innovative Ways of Communicating for Sustainability. *International Journal of Humanities and Social Sciences* 13:3 (in press).
- Carpentier, N. (2020): Communicating Academic Knowledge Beyond the Written Academic Text: An Auto-Ethnographic Analysis of the Mirror Palace of Democracy Installation Experiment. *International Journal of Communication* 14: 2120-2143. <https://ijoc.org/index.php/ijoc/article/view/13438> This article has also been translated to Portuguese and Turkish.
- Carpentier, N. (2021): [Silencing/Unsilencing Nature. A participatory visual essay on the right to flourish](https://doi.org/10.51480/1899-5101.15.1(30).5). *Comunicazioni Sociali* 1: 61-70.
- Carpentier, N. (2022): Silencing/Unsilencing Nature: A 'Lupocentric' Remediation of Animal-Nature Relationships. *Central Eastern Journal of Communication* 15: 92-111. [https://doi.org/10.51480/1899-5101.15.1\(30\).5](https://doi.org/10.51480/1899-5101.15.1(30).5)
- Carpentier, N., Doudaki, V., Rozsypal Pajerová, A. (2021): Conflicting and entangled human-nature relationships: A discursive-material analysis of the documentary film Kiruna – a brand new world. *People and Nature* 3: 1166-1178. <https://doi.org/10.1002/pan3.10233>
- Doudaki, V., Carpentier, N. (2021): From stakeholders to joint knowledge production partners: The participatory development of guiding principles and toolkit to structure the participation of non-academic partners in academic research. *Conjunctions* 8:1. https://www.researchgate.net/publication/348334833_From_Stakeholders_to_Joint_Knowledge_Production_Partners
- Doudaki, V., Carpentier, N. (2022): Facebook groups in Sweden constructing sustainability: Resisting hegemonic anthropocentrism. *Central Eastern Journal of Communication* 15: 52-71. [https://doi.org/10.51480/1899-5101.15.1\(30\).3](https://doi.org/10.51480/1899-5101.15.1(30).3)
- Doudaki, V., Carpentier, N. (2023): Behind the narratives of climate change denial and rights of nature: Sustainability and the ideological struggle between anthropocentrism and ecocentrism in two radical Facebook groups in Sweden. *Journal for Political Ideologies*. DOI: [10.1080/13569317.2023.2196506](https://doi.org/10.1080/13569317.2023.2196506).
- Doudaki, V., Carpentier, N. (in press): Mapping environment-focussed social media, audio-visual media and art, in Sweden. *Communications: The European Journal of Communication Research*.
- Doudaki, V., Carpentier, N. (in press): Unpacking the Discursive Assemblages of Anthropocentrism and Ecocentrism: Articulations of Space, Place and Time in the Documentary Film Gállók. *Interactions*.
- Filimonov, K., Carpentier, N. (2022): 'First forced displacements, then slaughter': Discursive regulations of nature by the state and Sami in a Swedish TV documentary. *Journal of Language and Politics* 21: 827-846. <https://www.jbc-platform.com/content/journals/10.1075/jlp.22003.fl>
- Filimonov, K., Carpentier, N. (2022): 'How is he entitled to say this?': Constructing the identities of experts, ordinary people, and presenters in Swedish television series on climate change. *Nordicom Review* 43: 111-128. <https://doi.org/10.2478/nor-2022-0007>
- Haider, J., Rödl, M., Joosse, S. (2022): Algorithmically embodied emissions: the environmental harm of everyday life information in digital culture. *Information Research (CoLIS 11)* 27. <https://doi.org/10.47989/colis2224>
- Haider, J., Rödl, M. (2023): Google Search and the creation of ignorance: The case of the climate crisis. *Big Data & Society* 10(1). <https://doi.org/10.1177/20539517231158997>
- Harness, D., Ganesh, S., Stohl, C. (2022): Visibility Agents: Organizing transparency in the digital era. *New Media and Society*, <https://doi.org/10.1177/14614448221137816>
- Malmborg, K., Wallin, I., Brukas, V., Do, T., Lodin, I., Tina-Simone Neset, T-S., Norström, A., Powell, N., Tonderski, K. (2022): Knowledge co-production in the Helge å catchment: a comparative analysis. *Ecosystems and People* 18:1, 565-582. <https://doi.org/10.1080/26395916.2022.2125583>
- Mäntysalo, R., Westin, M., Mattila, H. (2023): Public Planner – A Deliberative Authority. *Planning Theory & Practice*. <https://doi.org/10.1080/14649357.2023.2177713>
- Nicoletta, G., Carpentier, N. (2022): Shades of Technocratic Solutionism: A discursive-material political ecology approach to the analysis of the Swedish TV series Hållbart näringsliv ('Sustainable business'). *Empedocles* 13: 117-134. https://doi.org/10.1386/ejpc_00045_1
- Palakshappa, N., Venkateswar, S., Ganesh, S. (2023): Broadening the Circle: Creativity, Regeneration and Redistribution in Value Loops. *Social Responsibility Journal* 19. <https://doi.org/10.1108/SRJ-09-2022-0367>
- Vlasenko, L., Grubbström, A. (in press): A study of the interplay between attitudes and context of in-store apparel shopping. *International Journal for Sustainable Fashion & Textiles*. https://doi.org/10.1386/sft_00022_1
- Whitman, M., Holmgren, S. (2023): Representations of wildfires in academia. *Journal of Environmental Planning and Management*. <https://doi.org/10.1080/09640568.2022.2150155>
- Westin, M. (2021): [The framing of power in communicative planning theory: Analysing the work of John Forester, Patsy Healey and Judith Innes](https://doi.org/10.1080/14649357.2021.2177713). *Planning Theory* 21:2, 132-154.
- Westin, M., Mutter, A., Calderon, C., Hellquist, A. (2021): "Let us be led by the residents?": Swedish dialogue experts' stories about power, justification and ambivalence. *Nordic Journal of Urban Studies* 1:2, 113-130. <https://www.idunn.no/doi/10.18261/issn.2703-8866-2021-02-02>
- Westin, M., Hallgren, L., Montgomerie, E. (2023): Between dialogue and authority: facilitators' performance of authority in collaborative governance. *Journal of Environmental Planning and Management*. <https://doi.org/10.1080/09640568.2023.2174835>

7. List of consortium and other programme partners

ENGLISH NAME	SWEDISH NAME	ABBREVIATION
Consortium partners		
Division of Environmental Communication, Swedish University of Agricultural Sciences	Avdelningen för miljökommunikation, Sveriges lantbruksuniversitet	EC-SLU
Department of Ecology, Swedish University of Agricultural Sciences	Institutionen för ekologi, Sveriges lantbruksuniversitet	Eco-SLU
Department of Aquatic Sciences & Assessment, Swedish University of Agricultural Sciences	Institutionen för vatten och miljö, Sveriges lantbruksuniversitet	Aqua-SLU
SWEDESD – Research and learning for sustainable development and global health, Uppsala University	Swedesd – Centrum för forskning och utbildning om lärande för hållbar utveckling och global hälsa, Uppsala universitet	SWEDESD-UU
Charles University, Prague, Czech Republic	–	
University of Texas at Austin, USA	–	
University of the Sunshine Coast, Australia	–	
University of Borås	Högskolan i Borås	
Lund University	Lunds universitet	
Uppsala municipality	Uppsala kommun	
Enköping municipality	Enköpings kommun	
Swedish Agency for Marine and Water Management	Havs- och vattenmyndigheten	HaV
Water Council of Lake Mälaren	Mälarens vattenvårdsförbund	
Swedish Sami Organisation	Svenska Samernas Riksförbund/Sámiid Riikasearvi	SSR
Federation of Swedish Farmers	Lantbrukarnas riksförbund	LRF
Swedish Association for Hunting and Wildlife Management	Svenska Jägareförbundet	SJF
Greenpeace International		
Färgfabriken	Färgfabriken	
Tyréns	Tyréns	
WSP Sweden	WSP Sverige	
Other key partners (for more partners see progress report)		
Swedish Environmental Protection Agency	Naturvårdsverket	
Sweden's Forestry Agency	Skogsstyrelsen	
Moderna Museet	Moderna museet	
Uppsala Art Museum	Uppsala konstmuseum	
Swedish Society for Nature Conservation	Naturskyddsföreningen	