

Chapter 12

Sustainability Communication

**Daniel Fischer, Gesa Lüdecke, Jasmin Godemann, Gerd Michelsen,
Jens Newig, Marco Rieckmann, and Daniel Schulz**

Abstract Communication as pivotal part of the human condition plays an essential role in bringing sustainability-related issues onto society's agenda. Sustainability communication does not represent a somewhat discrete and self-contained theoretical approach, but rather draws on a wide range of disciplines, their bodies of knowledge, and their methodological approaches to illuminate the drivers and barriers of a broader and deeper societal engagement with the idea of sustainability. This chapter introduces students to the study of communication processes in the context of sustainable development. It suggests analyzing sustainability communication using a typology of three different communication modes: communication *of*, *about*, and *for* sustainability. The typology is applied in an illustrative way from the perspectives of two particular subsystems familiar to students, the *educational system* as well as the *media system*. The chapter concludes with an overview of relevant literature in the field of sustainability communication. The recommended readings cover three different types of literature highly relevant to students' future studies in this field: introductory readings, practice-oriented readings, and current research.

D. Fischer (✉)
UNESCO Chair Higher Education for Sustainable Development,
Leuphana University Lüneburg, Scharnhorststr. 1, 21335 Lüneburg, Germany
e-mail: daniel.fischer@leuphana.de

G. Lüdecke • J. Newig • D. Schulz
Institute for Sustainability Communication, Leuphana University Lüneburg,
Scharnhorststr. 1, 21335 Lüneburg, Germany
e-mail: gesa.luedecke@leuphana.de; jens.newig@leuphana.de; daniel.schulz@leuphana.de

J. Godemann
Agricultural, Nutritional and Environmental Science, Justus-Liebig University Gießen,
Senckenbergstr. 3, 35390 Gießen, Germany
e-mail: jasmin.godemann@fb09.uni-giessen.de

G. Michelsen
Faculty of Sustainability, Leuphana University, Scharnhorststraße 1,
21335 Lüneburg, Germany
e-mail: michelsen@uni.leuphana.de

M. Rieckmann
Department I / Education and Pedagogical Sciences, University of Vechta,
Driverstr. 22, 49377 Vechta, Germany
e-mail: marco.rieckmann@uni-vechta.de

Keywords Communication of sustainability • Communication about sustainability • Communication for sustainability • Media communication • Education for sustainable development

1 A Communication Perspective on Sustainable Development: Origins and Approaches

Fish or humans may die because swimming in the seas and rivers has become unhealthy. The oil-pumps may run dry and the average climatic temperature may rise or fall. As long as this is not the subject of communication it has no social effect. (Luhmann 1989, p. 28 f.)

This quote by German sociologist Niklas Luhmann illustrates the constitutive role of communication for the societal engagement with environmental and sustainability issues in particular, as well as for the organization of our society in general: what issue becomes relevant within a society depends on peoples' mutually shared representations of the social and natural world. In this context, communication is understood as a social process in which common orientations are interchanged. "The necessity of communication can be found in the human condition: each consciousness is isolated, our neurophysiological, cognitive, emotional processes are mutually unobservable and there is no direct access to the thoughts, attitudes and intentions of the other. It is through communication that 'the interior is exteriorised', that we can inform each other, that we become social creatures. Communication is thus the principle of societal organisation itself" (Ziemann 2011, p. 90).

Sustainable development, understood as a societal process of *exploration, learning, and transformation* (Godemann and Michelsen 2011), poses particular challenges for communication processes. Global sustainability issues are characterized by high complexity, uncertainty, and ambivalence. Furthermore, sustainable development is a task that requires the combined efforts of many actors in order to be successful. Communication is thus essential for developing a mutual understanding of which actions to take and to ensure an effective implementation of those measures (Newig et al. 2008).

From the perspective of sustainability science, the **task of sustainability communication** lies in introducing an understanding of the world, that is of the relationship between humans and their environment, into social discourse, developing a critical awareness of the problems about this relationship and then relating them to social values and norms. Scientific knowledge and scientific discourse play a central role in this undertaking to the extent that they contribute to strengthen or relativize the various positions and perspectives. (Godemann and Michelsen 2011, p. 6)

Sustainability communication has its **origin** in environmental communication. With the emergence of the debate on sustainable development in the context of the

Rio Summit of 1992, however, communication about environmental issues has contextualized itself more and more in the broader framework of sustainability. Today, sustainability communication also draws on existing scholarship on risk and science communication (Adomßent and Godemann 2011).

From a **policy perspective**, sustainability communication is merely one of the many different instruments available to facilitate the transformation toward sustainable development. Research and policymaking in the field of sustainable development have brought ample experience with both “hard” and “soft” policy instruments. Hard instruments include marketization and regulation approaches, comprising of legislative, regulatory, and juridical, as well as financial and market instruments (Kaufmann-Hayoz et al. 2012). While “hard” instruments often have the benefit of legal control and entail formalized coordination processes, “soft” and persuasive instruments are considered to be more flexible and versatile. Approaches from the field of sustainability communication are commonly categorized as examples of “soft” or persuasive policy instruments. Today, most scholars advocate for a combination of “hard” instrumental approaches and “soft” persuasive measures in order to change both structural and institutional arrangements *as well as* social norms and people’s willingness to adopt new attitudes and behavioral patterns (Jackson and Michaelis 2003).

With regard to a **theoretical framing** of sustainability communication, it must be stated that there is still no genuine framework available that would allow for such a theory. Instead, sustainability communication draws from a broad field of different scientific disciplines, each with its own theoretical principles and knowledge. These comprise, among others, systems theory and the epistemology of constructivism, approaches in media theory and in communication theory, as well as psychology and sociology (for further reading, see Chap. 5).

- *Task: Form study groups with your peer students. Think of a case from the field of sustainability communication, for example, a recent wildlife protection campaign. Each group member is then assigned to a different theory and studies this theory on his/her own. Finally, get back together again, present to each other the essentials of your theories, and apply them to the case example. What would your theory contribute to your case example? What implications, benefits, and limitations does your theoretical perspective bring to the case?*

Another perspective on sustainability communication is to consider the issues it deals with and the venues it takes place. Prominent issues and contents in sustainability communication comprise themes such as biodiversity, consumption, mobility, climate, energy, corporate social responsibility, and conservation (Godemann and Michelsen 2011). Venues of sustainability communication can be found in all societal subsystems (Luhmann 1977) such as civil society, education, mass media, science, politics, and economy (Newig et al. 2013). Two of these subsystems (education and the media) will be discussed more closely in the third and fourth sections of this chapter to show how sustainability communication can be applied in real life settings.

2 Communication of, about, and for Sustainability

In the previous section, sustainability communication has been introduced as a term for communication approaches explicitly designed to facilitate sustainable development. This communication perspective can be considered as communication *for* sustainability, since it is clearly directed toward *advocating* sustainability. Apart from a transformative directedness toward achieving sustainable development, communication on sustainability can take/occurs in two more refined modes that can be analytically distinguished: While communication *for* sustainability (CfS) has the main objective of facilitating societal transformation toward the normative goals of sustainable development, other perspectives of communication focus on sharing concepts and frames in the context of sustainable development (communication *about* sustainability, CaS) or transferring information from a sender to a receiver in order to bring a certain motivation across (communication *of* sustainability, CoS) (Godemann and Michelsen 2011; Newig 2011; Newig et al. 2013).

CaS can mainly be described as a many-to-many communication mode with nonhierarchical, horizontal structures. Its purpose is discourse oriented by sharing concepts or frames about sustainability. CoS, in contrast, is a sender-receiver-oriented and one-to-many communication mode. Information toward an objective is getting passed to an (indistinct) audience. The intention behind this communication mode is mainly sender oriented and thereby objective oriented (see Table 12.1). The notion of communication *for* sustainability (CfS) adds the dimension of normative directedness to the distinction between CaS and CoS. It comprises approaches that are openly underpinned by a transformative agenda that seeks to enhance capacity for change. The nature of these **modes** of sustainability communication will be presented in the following section in greater detail. In what follows, we will give examples from two societal subsystems, wherein these modes of sustainability communication are applied and analyzed.

Table 12.1 Communication *about* sustainability in comparison to communication *of* sustainability

	Direction/mode of communication	Function	Measures of effectiveness
Communication <i>about</i> sustainability (CaS)	Deliberative; horizontal, many to many	Deliberation; production of intersubjective/shared concepts/frames	Discourse oriented: quality of discourse; compatibility of concepts to sustainability
Communication <i>of</i> sustainability (CoS)	Transmissive; sender-receiver, one to many	Transmission; transfer of information toward an objective	Sender oriented: achievement of sender's communication objective

Newig et al. (2013)

2.1 *Communication about Sustainability*

CaS refers to processes in which information, interpretations, and opinions regarding sustainability issues are *exchanged* and *debated*. Issues are going to be transformed and framed in horizontal communication that can take place on many different levels, ranging from interpersonal face-to-face interaction up to the mediated level of mass communication (Neidhardt 1993). CaS constitutes our perception of sustainability issues, as it serves important functions of framing issues and structuring facts, arguments, and claims by creating a common understanding of the issue at stake, of the goals that should be pursued, and of who needs to take action. Such processes are not necessarily harmonious and inclusive, but instead can be seen as “controversially structured fields of symbolic interaction in which a variety of actors struggle to establish their respective interpretation of problems, their causes and remedies” (Brand 2011, p. 57).

How might the effectiveness or quality of CaS be assessed? One indicator is the amount of attention that an issue receives from the mass media (Newig 2011; Bonfadelli 2010). A second, procedural indicator refers to who has access to the discourse and influences the framing processes. Effectiveness then refers to structural conditions and the design of communication processes (Rowe and Frewer 2005). A third aspect concerns the (potential for) communication exchange between spheres, or subsystems, of communication (Weingart et al. 2000). An indicator of communication effectiveness would measure the extent to which the discourse in one subsystem (e.g., science) is compatible with discourses in other subsystems (e.g., the political system) and how likely it is to transfer important aspects from one subsystem to another so that, eventually, action toward sustainable development can be taken (Egner 2007).

2.2 *Communication of Sustainability*

CoS, by contrast, is intentional, instrumental, or managerial. It focuses on the primarily mono-directional, sender-receiver flow of communication, in which the sender pursues a certain objective of communication (Newig 2011). Scientists, NGOs, educators, companies, and journalists seek to gain the attention of decision-makers or the broader public in order to provide information about sustainability-related phenomena. As the demands of society for sustainable action grow, actors may see the need for CoS as a measure to defend or legitimize their behavior. Corporate sustainability reporting is one example of this type of communication.

Specific functions of CoS are to inform and educate individuals and to achieve some type and level of social engagement and action (Moser 2010). In this respect, it takes an elitist stance, making a central distinction between experts and laypersons in respect to their sustainability-related knowledge and capacities (Nerlich et al. 2010).

Since CoS has clear intentions as to its desired effects, it lends itself to assessment in terms of its effectiveness. Have the recipients been reached? Have they understood the message? Have they, perhaps, changed their values and behavior? Again, referring to science, this mode of communication, in which “experts” educate “lay” people, is increasingly being criticized (Nerlich et al. 2010). Recently, serious failures in communication regarding climate change have stunned public debate. Take, for example, the IPCC’s erroneous scenario of Himalayan glacier melting by 2035, which IPCC officials continued to uphold under doubtful circumstances. This contributed to declining public confidence in climate scientists (Leake and Hastings 2010). Not only is the privileged position of science eroding; increasingly, the dominant quest for behavioral change at the individual level (which has only had very limited success) is questioned in favor of dialogue and discourse (Barth 2012). Thus, CoS approaches the sphere of communication *about* sustainability.

- *Task: Before you continue reading, think of an **example** in which sustainability communication represents either CoS or CaS. How can your example be described and in which context does it appear?*

2.3 *Communication for Sustainability*

While the distinction between CaS and CoS refers to the direction and the initiators of information flows, the concept of CfS shifts emphasis to the normative aspect of sustainable development. In this sense, communication is not just about providing sustainability-related information and raising awareness for sustainability issues. Its objective is to facilitate societal *transformation* toward the normative goals of sustainable development. In terms of direction and senders, CfS may share elements of CoS and CaS, including the knowledge generation, (social) learning (Barth 2012), and collaboratively developing solutions for sustainability problems. The effectiveness of CfS relates to its impact in terms of measurable action toward sustainable development.

CfS has counterparts in which sustainability-related communication may, in fact, (be intended to) neglect or even obstruct sustainable development. Since hardly anyone is openly “against” sustainability, this is obviously done by symbolically subscribing to sustainability while pursuing hidden non-sustainable agendas (e.g., “greenwashing” in sustainability reporting).

Although the boundaries between these different types of communication modes are barely selective, they could provide a useful analytical lens when looking at the numerous communication processes to be found in the context of sustainable development.

To give the reader an idea of how sustainability communication might exemplarily be described from the perspective of a particular subsystem, the *educational system* and the *media system* may serve as illustrative examples and will be elaborated in the following.

3 Sustainability Communication in the Media System

During the past 20 years, mass media have played an increasingly significant role in bringing forward and establishing the concept of sustainability in societal discourse. The media function as an observer of society, picking up dynamics within one subsystem (e.g., economy) and delivering them into other societal spheres (e.g., political agenda). Ideally, the media constitute a public sphere that not only represents all relevant voices within society but also offer a venue for discourse about issues. The mass media mainly focus on CoS in a sense that journalists report on topics such as scientific findings or political summits. Communication typically follows a mono-directional “one-to-many” mode, with little access to feedback loops that could possibly initiate discourse in the sense of CaS. However, certain interactive TV formats or the publication of letters to the editor do present opportunities for CaS. As the Internet (especially new social media formats) continues to gain popularity, mass media outlets are increasingly experimenting with more interactive forms of communication with even further potential for CaS. When media outlets openly and actively work toward stimulating reflection and behavioral change, it becomes possible to consider this type of communication mode as CfS.

- *Task: Skim over different newspapers for sustainability topics. Also, look at TV coverage and websites and analyze their approach to sustainability. Try to attribute each coverage to a form of sustainability communication (of, about, for), and identify differences between the media forms. Then, discuss with your fellow students the potential aims and intentions, and think what media communication modes you can imagine for CoS, CaS, and CfS: How would you develop a format for sustainability communication with either CoS, CfS, or CaS intention?*

4 Sustainability Communication in the Education System

Key sustainability concerns, such as peace, environmental protection, or development cooperation, have been advocated by different educational camps. Three different traditions can be distinguished, reflecting the overall distinction between different perspectives on sustainability communication outlined above: facts-based (CoS), pluralistic and deliberative (CaS), and more transformative (CfS) traditions in approaching seminal societal concerns in educational contexts. Since the Rio Summit of 1992, the notion of education *for* sustainable development (ESD) has received remarkable political support on an international level, cumulating in the launch of a United Nation’s world decade on ESD (2005–2014) and a Global Action Programme on ESD starting in 2015 in continuation of the decade. ESD is commonly viewed as an integrative framework that has the potential to forge alliances between different adjectival educations. In the scholarly and policy debate, ESD is considered to prefer competency-based emancipatory approaches over behavioral-based

instrumental approaches and to thus reflect principles of communication *about* sustainability (Vare and Scott 2007). However, empirical findings show that the competence approach proposed by and favored in the scholarly discussion has not yet translated into practice on a full scale and that ESD practice often reflects principles of communication *of* rather than *about* sustainability (see Newig et al. 2013).

- *Task: Think of an illustrative field in the context of sustainable development (e.g., waste disposal, climate change). Now select an educational setting of your choice, for example, a lesson in high school, a guided tour through a national park, or an exhibition in the community center of a rural small town. Develop three different approaches that reflect the different perspectives of CoS, CaS, and CfS. What implications do the perspectives have for the choice of methods, contents, learning objectives, and pedagogy?*

5 Summary

This chapter outlined that communication, as a pivotal part of the human condition, also plays an essential role in bringing sustainability-related issues onto society's agenda. Sustainability communication does not represent a somewhat discrete and self-contained theoretical approach, but rather draws on a wide range of disciplines, their bodies of knowledge, and their methodological approaches to illuminate the drivers and barriers of a broader and deeper societal engagement with the idea of sustainability. It thereby pursues a transformative agenda and reflects the normative principles inherent to sustainable development (CfS). The two given examples from media and the educational system also show that a critical issue for sustainability communication is the understanding of different communication modes that are linked to different motivations and communicative objectives. The multiple communication venues suggest an overall shift from CoS toward a more horizontal, participatory communication mode of CaS within most subsystems. Considering your own background as an undergraduate or graduate student, in what way does this matter to the focus of your study? How can sustainability communication affect, impede, or promote efforts in your field of work, and how can you approach, analyze, and employ sustainability communication in your future working contexts?

Further Reading

The following reading tips give you an overview of relevant literature in the field of sustainability communication. The recommended readings cover three different types of literature: introductory readings, practice-oriented readings, and current research:

Introductory Readings

Godemann J, Michelsen G (eds) (2011) Sustainability communication: interdisciplinary perspectives and theoretical foundation. Springer, Berlin

→ This seminal edited book develops a theoretical and empirical framework for sustainability communication. It integrates interdisciplinary perspectives from communications theory, psychology, sociology, educational sciences, systems theory and constructivism. Furthermore, it provides methods and concepts in a range of fields, such as corporate practice, education and media.

Moser SC, Dilling S (eds) (2007) Creating a climate for change. Communicating climate change and facilitating social change. Cambridge University Press, Cambridge

→ This book takes a comprehensive look at communication and social change specifically targeted to climate change. The contributors of this book have diverse backgrounds from government and academia to non-governmental and civic sectors of society.

Weingart P, Engels A, Pansegrau P (2000) Risks of communication: discourses on climate change in science, politics, and the mass media. *Public Underst Sci* 9(3):261–283

→ This article discusses the linkage between science, politics and the media with a focus on Germany. The article shows that there are specific discourse dynamics common to each of the three spheres, as well as some important disparities among them, which leads to different communication characteristics within each subsystem.

Practice-Oriented Reading

→ This practical ‘how-to’ guide provides a feasible starting point for creating and running effective campaigns. It is authored by Chris Rose, an environmental campaigner with vast experience in the non-governmental field. The book features several case studies and addresses key steps, strategies and tools for overcoming obstacles in communicating sustainability-related issues.

Rose C (2010) How to win campaigns: communications for change, 2nd edn. Earthscan, London/Washington, DC

Current Research

Newig J, Schulz D, Fischer D, Hetze K, Laws N, Lüdecke G, Rieckmann M (2013) Communication regarding sustainability: conceptual perspectives and exploration of societal subsystems. *Sustainability* 5(7):2976–2990. Available at: <http://www.mdpi.com/2071-1050/5/7/2976>

→ This recent contribution to the scholarly debate on sustainability communication provides an exploration of sustainability communication in six societal subsystems, based on the distinction between communication *of* and *about* sustainability. It shows how most subsystems undergo a shift from communication *of* towards communication *about* sustainability and discusses implications for future efforts in the field of sustainability communication.

Environmental Communication: a Journal of Nature and Culture; ISSN: 1752–4032 (Print), 1752–4040 (Online)

→ This peer-reviewed scholarly journal relates to the latest developments in the fields of environmental and sustainability related education, communication, social marketing, journalism, behavioral science, risk communication, public relations, health communication, governmental and corporate public awareness, as well as campaigns around the world.

References

- Adomßent M, Godemann J (2011) Sustainability communication: an integrative approach. In: Godemann J, Michelsen G (eds) Sustainability communication: interdisciplinary perspectives and theoretical foundation. Springer, Berlin, pp 27–38
- Barth M (2012) Social learning instead of educating each other. *GAIA* 21(2):91–94
- Bonfadelli H (2010) Environmental sustainability as challenge for media and journalism. In: Gross M, Heinrichs H (eds) Environmental sociology: European perspectives and interdisciplinary challenges. Springer, Dordrecht/New York, pp 255–278
- Brand K-W (2011) Sociological perspectives on sustainability communication. In: Godemann J, Michelsen G (eds) Sustainability communication: interdisciplinary perspectives and theoretical foundations. Springer, Dordrecht/New York, pp 55–68
- Egner H (2007) Surprising coincidence or successful scientific communication: how did climate change enter into the current public debate? *GAIA* 16(4):250–254
- Godemann J, Michelsen G (2011) Sustainability communication – an introduction. In: Godemann J, Michelsen G (eds) Sustainability communication: interdisciplinary perspectives and theoretical foundation. Springer, Berlin, pp 3–11
- Jackson T, Michaelis L (2003) Policies for sustainable consumption. Sustainable Development Commission, London
- Kaufmann-Hayoz R, Brohmann B, Defila R, Di Giulio A, Dunkelberg E, Erdmann L, Weiß J (2012) Societal steering of consumption towards sustainability. In: Defila R, Di Giulio A, Kaufmann-Hayoz R (eds) The nature of sustainable consumption and how to achieve it. Results from the focal topic “From knowledge to action – new paths towards sustainable consumption”. Oekom, München, pp 113–142
- Leake J, Hastings C (2010) World Misled over Himalayan Glacier Meltdown. *The Times*, 17 January 2010
- Luhmann N (1977) Differentiation of society. *Can J Sociol* 2(1):29–53
- Luhmann N (1989) Ecological communication. University of Chicago Press, Chicago
- Moser SC (2010) Communicating climate change: history, challenges, process and future directions. *Wiley Interdiscipl Rev* 1(1):31–53
- Neidhardt F (1993) The public as a communication system. *Public Understanding of Science* 2(4):339–350
- Nerlich B, Koteyko N, Brown B (2010) Theory and language of climate change communication. *Wiley Interdiscipl Rev* 1(1):97–110
- Newig J (2011) Climate change as an element of sustainability communication. In: Godemann J, Michelsen G (eds) Sustainability communication: interdisciplinary perspectives and theoretical foundation. Springer, Berlin, pp 119–128
- Newig J, Voss J-P, Monstadt J (2008) Governance for sustainable development: coping with ambivalence, uncertainty and distributed power. Routledge, London
- Newig J, Schulz D, Fischer D, Hetze K, Laws N, Lüdecke G, Rieckmann M (2013) Communication regarding sustainability: conceptual perspectives and exploration of societal subsystems. *Sustainability* 5(7):2976–2990
- Rowe G, Frewer LJ (2005) A typology of public engagement mechanisms. *Sci Technol Hum Values* 30(2):251–290
- Vare P, Scott WR (2007) Learning for a change: exploring the relationship between education and sustainable development. *J Educ Sustain Dev* 1(2):191–198
- Ziemann A (2011) Communication theory and sustainability discourse. In: Godemann J, Michelsen G (eds) Sustainability communication: interdisciplinary perspectives and theoretical foundation. Springer, Berlin, pp 89–96