

From Millennium Development Goals to Sustainable Development Goals: Transforming development communication to sustainability communication

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Abstract

At the highest international political level, the United Nations declared the Sustainable Development Goals (SDGs) in 2015 after having announced (and later not fulfilled) the Millennium Development Goals (MDGs) in 2000. This shift from the MDGs to the SDGs, in which the term development was replaced by the concept of sustainability, also demands a paradigm shift within the research field of development communication and communication for social change which needs to put the focus on sustainability, embracing the concept of sustainability communication as key when analyzing and practicing social change by the use of communication and media. The article unfolds this argument by explaining the political shift from the MDGs to the SDGs and the relevant research fields analyzing these different goals and then sketching the research areas of development communication and communication for social change as well as the one of sustainability communication. In bringing all these areas together, it is argued that the change of the political goals provokes the above mentioned paradigm shift in the research area of development communication. Transforming development communication into sustainability communication also allows to focus the broad term of communication for social change on a specific aim – which is sustainability.

Keywords

sustainability communication, development communication, communication for social change, empowerment communication, Millennium Development Goals, Sustainable Development Goals

1 Introduction

In 2000 the United Nations declared the eight Millennium Development Goals (MDGs) to overcome poverty and inequality worldwide – mainly in economic less and least developed countries. ¹ Fifteen years later, when the MDGs

While the term developing countries is criticized for its linear thinking and construction of the binary developed / not developed or underdeveloped, alternative terms like Global South and Global North or Western/non-Western countries are also not appropriate because of their geographical generalizations. Therefore, I use the term economic less developed countries - stressing that I hereby refer to countries whose difficult economic situation leads to diverse social problems - having in mind that this is not the only reason for the diverse problems within these countries and that the term is still inappropriate. I follow Mohanty (2002, p. 506) who argues: "We are still working with a very imprecise and inadequate analytical language."

should have been realized – but have not, although some progress has been made regarding several goals – the United Nations (UN) passed the Sustainable Development Goals (SDG) doubling and differentiating the goals while at the same time broadening the focus of the countries being responsible for action and the regions where to act – from only economic less and least developed countries to all countries worldwide.

In this article, it is argued that the transformation from the MDGs to SDGs also demands a paradigm shift in the research field of development communication and communication for social change – shifting the angle from development to sustainability, from development communication to sustainability communication. This also implies to narrow down questions of social change to sustainability, focusing the broad term communication for social change on sustainability communication.



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While theories of development communication and sustainability communication as well as empirical studies in the relevant research fields share questions of justice and participation, among others, there have been differences in the research questions and ambitions of the two fields as sustainability communication did not necessarily focus on social change itself. A complex part of the research field deals with phenomena of science communication which does not automatically imply that questions of social-ecological transformation and justice are posed or faced. But as the article will show, there is a smaller section in this research field of sustainability communication which puts media practices into the focus that try to contribute to sustainability - following similar aims that those practices have which are in the core interest of the research field of development communication. Pointing to these similarities and differences, overlaps of the research fields become obvious and when looking at the phenomena that the research fields are interested in, the necessity of a paradigm shift becomes apparent. Moreover, the UN and their current goals are a research object for both research fields - development communication and sustainability communication. On a theoretical level, the shift from the MDGs to the SDGs has not been reflected in the field of media and communication research in general and communication for development and social change in particular.

Moreover, although research in media and communication has stressed the relevance of sustainability as a research object and at the same time the responsibility of media and communication studies for sustainability (e.g., Kannengießer, 2020a), this argument has not been implemented concretely in the field of development communication and social change.

The article contributes to the research field of development communication demanding a paradigm shift in this field following the political processes on the international level when discussing the political goals of the United Nations. It is this phenomenon, the goals of the UN and its theoretical implications for the research field of development communication, which connects the article to the Thematic Section in which it is

published in as this section deals with the history of international organizations at their communication practices. The article puts the transformation of the MDGs to the SDGs and thereby goals of the United Nations into focus, and with it a phenomenon of more recent contemporary history, as well as the paradigm shift that is provoked by the shift in the goals within communication and media studies.

To unfold its argument, first, this article will describe the MDGs and SDGs and summarize briefly the relevant interdisciplinary research fields that have dealt with these goals to allow a basic understanding for the then following theoretical discussion. In this theoretical discussion, which will be at the center of the second part of this article, different theories of development communication will be summarized in their historical appearance. While all approaches of development communication focus in one way or the other on communication and social change, theories differ - mainly according to the then up-to-date paradigms of development politics. In a third and fourth part, the concept of sustainability communication is defined and the relevant research field summarized to bring the approaches of MDGs and SDGs as well as the theories in the field of development communication and sustainability communication together, arguing that the international political paradigm shift also demands a shift in the underlying theories of development communication and social change - putting sustainability into the focus.

2 From Millennium Development Goals to Sustainable Development Goals

The argument that a paradigm shift is needed in the research field of development communication, shifting theories of development communication and communication for social change to sustainability communication, is based on the change that can be perceived on the international level, where the UN declared the Sustainable Development Goals after the period of the Millennium Development Goals.

With the beginning of the new millennium, the United Nations passed the MDGs to combat hunger, poverty, and inequality and promote education, environmental sustainability, and global partnerships for development:

In September 2000, building upon a decade of major United Nations conferences and summits, world leaders came together at United Nations Headquarters in New York to adopt the Millennium Declaration, committing their nations to a new global partnership to reduce extreme poverty and setting out a series of time-bound targets – with a deadline of 2015 – that have become known as the Millennium Development Goals. (United Nations, n.d.)

The MDGs encompass: "1) the eradication of extreme hunger and poverty, 2) the achievement of universal primary education, 3) the promotion of gender equality and the empowerment of women, 4) the reduction of child mortality, 5) the improvement of maternal heath, 6) the combat of HIV/AIDS, Malaria and other diseases. 7) the assurance of environmental sustainability, and 8) the support of global partnerships for development." The United Nations Millennium Declaration, which is underlying the MDGs, stresses the responsibility of the heads of states and governments to "to uphold the principles of human dignity, equality and equity at the global level)" (General Assembly of the United Nations, 2000, p. 1).

Research has analyzed the MDGs from different angles and with a focus on different topics: Studies focus on biodiversity (Sachs et al., 2009) and forestry (Garrity, 2004), on health issues (Dodd & Cassels, 2006) and human rights (Nelson, 2007), to give some examples – ecological and social aspects in the MDGs and their relevance for development have been taken into account. While some have stressed the importance of the MDGs (Fukuda-Parr, 2004), others criticized them from a perspective of "the South" (Easterly, 2009; Samir, 2006), or pointed to the limitations of the MDGs (Fehling, Nelson, & Vankatapuram, 2013).

Also, media and communication research has put the MDGs into its focus, analyzing how the goals are covered in certain me-

dia content (e.g., Kayode & Adeniran, 2012; McArthur & Zhang, 2018) or looking at the role information and communication technologies have for achieving the MDGs (e.g., case studies in Kaur & Tao, 2014; Vilanilam, 2009).

In the Millennium Development Goals Report from 2015, the United Nations state that there is a "reason to celebrate" (United Nations, 2015, p. 4), as they perceive a great success regarding the fulfillment of the eight different goals. That the reason to celebrate might be euphemistic becomes obvious when looking at the SDGs which have been declared by the UN in 2015. As the MDGs have not been fulfilled they are integrated or modified into the SDGs which now encompass 17 goals.

While in the MDGs, sustainability has been reduced to ecological aspects in goal number 7 to "ensure environmental sustainability" (see above), the SDGs apply a broader understanding of sustainability integrating ecological, economic, and social aspects (for a detailed definition of the concept of sustainability, see below).

In the Agenda 2030 (General Assembly of the United Nations, 2015) that is underlying the SDGs, the heads of states admit the shortcomings of the realization of the MDGs (General Assembly of the United Nations, 2015, p. 1) and express the overall ambition: "We are resolved to free the human race from the tyranny of poverty and want and to heal and secure our planet." (General Assembly of the United Nations, 2015, p. 1). The 17 concrete goals that are listed and explained in the Agenda 2030 are:

where, Goal 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture, Goal 3. Ensure healthy lives and promote well-being for all at all ages, Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all, Goal 5. Achieve gender equality and empower all women and girls, Goal 6. Ensure availability and sustainable management of water and sanitation for all, Goal 7. Ensure access to affordable, reliable, sustainable and modern energy for

Figure 1: The Sustainable Development Goals

SUSTAINABLE GALS DEVELOPMENT



Source: www.un.org/sustainabledevelopment.

all, Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all, Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation, Goal 10. Reduce inequality within and among countries, Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable. Goal 12. Ensure sustainable consumption and production patterns, Goal 13. Take urgent action to combat climate change and its impacts, Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development, Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss, Goal 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels, Goal 17. Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development (General Assembly of the United Nations, 2015, p. 1; see Figure 1).

One hundred and sixty-nine targets specify the 17 goals. While some goals such as the eradication of poverty and hunger in goals number 1 and 2 or the attainment of gender equality refer back to the MDGs, others such as the insurance of access to energy in goal number 7 or the promotion of economic growth in goal number 8 are new goals.

Although the Agenda 2030 aims at fulfilling the SDGs until 2030, research has already analyzed the goals from different perspectives: from health (Buse & Hawkes, 2015) to gender (Esquivel & Sweetman, 2016), from education (Owens, 2017) to governance (Vijge et al., 2020). For different case studies on the SDGs see Hickmann, Lederer, Marquardt, Schwindenhammer, and Weiland (2021). Different aspects of the SDGs have been analyzed – also from a critical perspective, as e.g., contradictions within the goals can be perceived as it is questionable if economic growth, which is part of goal 8, can be sustainable at all.

Also, media and communication research has been analyzing the SDGs: e.g., the role of information and communication technologies *in* the SDGs (Wu, Guo, Huang, Liu, & Xiang, 2018) or the potential of information and communication technologies *for* the achievement of the SDGs (Kurz, 2021;

Sachs et al., 2016) as well as the relevance of artificial intelligence in achieving the SDGs (Vinuesa et al., 2020).

Looking at the shift from the MDGs to the SDGs by briefly comparing them, it can be stated that the SDGs are not only more complex than the MDGs and more precise, but they also put all nations worldwide into a responsible position of acting for a sustainable development: While the MDGs stated the responsibility of all countries, the location where the necessity of action for development was mainly perceived in economically less developed countries. In the SDGs all nations become relevant not only regarding their responsibilities but also as localities where action needs to be taken, e.g., in form of responsible consumption in today's consumer societies in European or Northern American countries in goal number 12. Moreover, as stated above, the SDGs follow a broader understanding of the term sustainability than the MDGs did - which will become clearer in the following section.

On a theoretical level, the shift from the MDGs to the SDGs has not been reflected in the field of media and communication research in general and communication for development and social change in particular. Therefore, on the basis of the explanations about the MDGs and the SDGs, theories in development communication will be sketched to be able to argue that also a shift has to be undertaken on a theoretical level. turning development communication into sustainability communication. On the basis of the above given explanations about the MDGs and SDGs, in the following sections, first, different theories in the research field of development communication are presented. Second, the concept of sustainability communication is defined and the relevant research field of sustainability communication sketched to finally argue that a paradigm shift is again needed in theories and practices in the field of development communication or communication for social change to face current socio-ecological challenges worldwide.

3 Development communication and communication for social change

Development communication was defined as "the sharing of knowledge aimed at reaching a consensus for action that takes into account the interests, needs and capacities of all concerned" (Servas, 2002, p. 1). There are numerous publications which give overviews about the different theoretical approaches within the field of development communication and social change (e.g., Hamidi & Mielke Möglich, 2021; Melkote & Steeves, 2015; Wilkens, Tufte, & Obregon, 2014).

Early approaches within the field of development communication follow the aim of "modernization." Prominent actors of this paradigm were Daniel Lerner and Wilbur Schramm. Modernization theories constructed a binary system consisting of "developed" and "less developed" countries – the latter striving (or were forced to strive) for "modernization." Media were perceived as playing a crucial role within this "modernization process." Schramm (1964, pp. 141, 144) argued:

It goes without saying that underdeveloped countries have underdeveloped communication systems, too. [...] In the service of national development, the mass media are agents of social change. [...] It is generally the increasing flow of information that plants the seed of change.

Following the above given definition of the term development communication which stresses that the sharing of ideas is in the core of the concept, mass media were perceived as "the vehicles for transferring new ideas from the West to the Third World and from urban areas to rural countryside" (Melkote, 2002, p. 424).

Modernization theory was widely criticized for the construction of this binary and the linear thinking of development, its Eurocentrism and its ignorance of negative side effects of modernization (e.g., Becker, 1984, p. 27). Responding to this critique and acknowledging the role of "developed" countries, "dependence theories" stressed that the "underdevelopment" of countries in Africa, Asia, and Latin America resulted from colonialism and imperialism (Baars, 2000, p. 349). Dependency theory was mainly de-

veloped by Latin American social scientists: "The 'dependistas' were primarily concerned with the effects of dependency in peripheral countries, but implicit in their analysis was the idea that development and underdevelopment must be understood in the context of the world system" (Servas, 2002, p. 8). The role of media was perceived as being embedded in these processes of dependency (Hepp, 2006, p. 42).

In the 1990s a further turn happened in the field of development communication stressing the relevance of the people: the concepts of empowerment communication (e.g., UNDP, 2006) and participatory communication (e.g., Morris, 2003; Tufte & Mefalopulos, 2009). This paradigm shift happened in line with the diffusion of the Internet in many parts of the world, which seemed to be a technology that allowed the participation of local and marginalized people in contrast to mass media where mostly only media professionals were producing the media content. Community media, often community radio (Kannengießer, 2006), provided an exception in the era of mass media as here also non-media-professionals were able to express their voice via media in many countries in Africa, Asia, and Latin America.

Similar to empowerment communication, also the concept of participatory development communication "is about encouraging community participation with development initiatives through a strategic utilization of various communication strategies" (Bassette, 2004, p. 1), while

Communication for Empowerment is an approach that puts the information and communication needs and interests of disempowered and marginalized groups at the center of media support. The aim of communication for empowerment is to ensure that the media has the capacity and capability to generate and provide the information that marginalized groups want and need and to provide a channel for marginalized groups to discuss and voice their perspectives on the issues that most concern them. (UNDP, 2006, p. 8)

This citation also shows that UN organizations played (and play) a crucial role within the paradigm shifts and definitions of development communication.

The MDGs were declared within this paradigm of development communication focusing on the people in economic less developed countries which should be empowered also through the use of media (technologies).

With intensifying globalization processes and the development of the "network society" (Castells, 2000; van Dijk, 2006) in which networks are the main metaphor of society, the translocal character of empowerment communication increases as more and more international networks of (non-governmental) actors and organizations are formed which use media and communication as tools for empowerment (Kannengießer, 2017a).

The internationalization of communication and media studies due to the globalization of academia also let to the demand of de-westernizing the discipline (e.g., Curran & Park, 2000; Waisbord, 2015) which also meant and still means for the field of development communication that not only phenomena in African, Asian and Latin American countries are research objects of the field but that scholars from these countries and their studies, theories and perspectives must get an increasing relevance in media and communication studies worldwide.

A more recent perspective in the field of development communication is the more general concept of communication for social change. While the term development communication never lost its implication of modernization and dependency, the concept of communication for social change stressed the relevance of societal transformation striving for more social justice. "Communication for social change is a way of thinking and practice that puts people in control of the means and content of communication processes" (Gumucio-Dagron & Tufte, 2006, p. xix). Tufte (2017) stresses the relevance of citizens in processes of communication for social change.

Hamidi and Mielke Möglich (2021, p. 572) already stress the relevance of the SDGs and sustainability communication for the research field of communication for social change, but reduce sustainability to its ecological dimension (Hamidi & Mielke

Möglich, 2021, p. 573) and argue that communication for social change focuses on the structural conditions of social inequalities (Hamidi & Mielke Möglich, 2021, p. 575). In the following section, a broader understanding of the term sustainability is unfolded while at the same time a more differentiated understanding of sustainability communication is being used which assumes that not only the structural terms need to be analyzed in the field of development communication but also discourses and practices.

4 Four research fields in sustainability communication

The shift from the MDGs to the SDGs, that was explained above, as well as the description of the research field of development communication led to the question if another paradigm shift is necessary within the research field of development communication introducing the concept of sustainability communication.

To undertake this argument, I will define the terms sustainability and sustainability communication and then briefly outline the research field of sustainability communication, finally bringing together all sections of the article arguing that we need a theoretical shift in the research field of development communication following the political turn from the MDGs to the SDGs (some parts of the first section of this subchapter have been taken from Kannengießer, 2021).

The article follows the broad definition of sustainability that was defined by the "Brundtland report", understanding sustainable development as a "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (World Commission on Environment and Development, 1987). The Brundtland report has been criticized for different aspects, e.g., arguing for sustainable economic growth, while economic growth cannot be sustainable as growth exploits natural resources that are finite (e.g., Hopwood, Mellor, & O'Brien, 2005, p. 40). Nevertheless, the broadness of this definition allows to address ecological, economic, social, and cultural aspects of sustainability. Moreover,

following this definition, not only *inter*-generational justice needs to be demanded (claiming to allow future generations to fulfill their needs) but also *intra*-generational justice, calling for realizing a "good life" for all people who are living on earth nowadays – and not only people but all creatures. The Brundtland report and also the SDGs put the term *sustainable development* and thereby a process that strives for sustainability into the focus. Sustainability itself can be perceived as a normative concept which implies interand intra-generational justice.

Following a broad understanding of sustainability, the term sustainability communication is defined:

as all communicative practices, mediated or non-mediated, which deal with any aspect of sustainability (either related to the ecological, economic and/or social dimension), that is, referring to any aspect which deals with the consistency of current phenomena and developments with future as well as present needs of all living creatures. (Kannengießer, 2021)

These definitions of sustainability and sustainability communication go along with the idea of the SDGs, stressing the relevance of action by all nations in all regions aiming at meeting the needs of all people worldwide as well as future generations. Sustainability is an issue in all dimension of media communication: in media production, media content, media reception, and media practices.

Therefore, in media and communication research sustainability is an object which is analyzed 1) in relation to the producers of media content in e.g., journalism studies, public relation studies, or studies in corporate communication; 2) regarding the representations of sustainability in media content and its distribution; 3) focusing the reception of these media representations and the effects of these representations on media users, and 4) dealing with the appropriation and production of media technologies with which different actors try to contribute to sustainability. What the first three research areas have in common is a current focus on the ecological dimension of sustainability and here mainly climate (change) communication.

In some of these areas, an overlap between sustainability communication and development communication can be identified. Especially in the fourth area which analyzes how media and communication can be used to contribute to sustainability. the relevance of economic less developed countries is analyzed either as they are the localities where resources for digital media technologies are extracted under not sustainable conditions (Bleischwitz, Dittrich, & Pierdicca, 2012), or as digital media technologies are disposed under socio-ecological severe conditions in these contexts (e.g., Gabrys, 2011; Kaitatzi-Whitlock, 2015) but also as in these countries media are used to contribute to sustainability (Harvey, 2011; Young & Mc-Comas, 2016).

To better understand the demand for a shift in the theories of social change and development communication toward sustainability communication, the four research areas that have been identified are sketched.

A first research field that focuses the producers of media content takes a closer look at these actors and analyzes not only the actors themselves but also the way journalists, public relations actors, actors within both non-governmental organizations and corporations, produce media content related to sustainability. For example, studies analyze the perceptions of journalists of climate change (Brüggemann & Engesser, 2014, 2017); examine networks between journalists and public relations actors (Lück, Wozniak, & Wessler, 2016), or put the focus on sustainability communication by corporations and non-profit organizations (Ott, Wang, & Bortree, 2016).

A second research field puts the media content into focus analyzing how issues of sustainability are represented in different media: The main focus has been on print media analyzing representations of sustainability e.g., in German newspapers (Fischer, Haucke, & Sundermann, 2017) or comparing English speaking print media in Thailand, Malaysia, Vietnam, Indonesia, the Philippines, and Hong Kong (Nash & Bacon, 2006). Only few studies deal with visual elements of media communication, e.g., in climate reporting (Hahn, Eide, & Ali, 2012). Also, the content of online media such as weblogs

(e.g., Vollberg, 2018), or social networking sides is focussed, Twitter being one of the most popular objects of research analyzing online discourses on climate change (e.g., Jang & Hart, 2015; Kirilenko & Stepchenkova, 2014; Pearce, Holmberg, Hellsten, & Nerlich, 2014). Moreover, the *distribution* of media content and its socio-ecological effects is analyzed, e.g., the emissions of video or audio streaming (Cook, 2017).

A third research area is located in media reception and effect studies analyzing how the users perceive media content which deals with sustainability and how this content effects users.2 As stated above, the focus is on climate communication in this research area. Studies in this area show contrary effects of mass media on recipients' attitudes and behavior: On the one hand, they argue that mass media have an effect on recipients' attitudes (Leiserowitz, Maibach, Roser-Renouf, Smith, & Dawson, 2012) although, on the other hand, studies argue that media have little effect on recipients' attitudes and behavior (e.g., Peters & Heinrichs, 2005). Alternatively, it is argued that the media effects on recipients are ambivalent and that no longterm effects can be perceived (Arlt, Hoppe, & Wolling, 2010, p. 22). Besides media effects, the expectations of recipients regarding media content are examined (Olausson, 2011; Taddicken & Wicke, 2019).

A fourth research field analyzes how different actors appropriate and produce media technologies to contribute to a sustainable society. Repairing is analyzed as one example for the appropriation of media technologies through which people try to act in a more sustainable way with the media devices they use. Studies show that people repair the media devices they own to prolong the lifespan of existing media apparatuses to avoid the production of waste and to conserve resources (Kannengießer, 2017b). The practice of repair is also analyzed in economic less developed countries (e.g., Jackson, Pompe, & Krieshok, 2011), although not from a perspective of sustainability but through the lens of theories of communication for development and social change. Another part of this fourth research

² The following section describing this research area has been taken from Kannengießer (2021).

field deals with the *production* of media technologies aiming at contributing to sustainability. Here, media technologies that should be produced under fair working conditions with sustainable resources are analyzed (e. g., Kannengießer, 2020b; van der Velden, 2014, 2018).

Across the studies which analyze the production and appropriation of digital media technologies with the aim of sustainability, it becomes apparent that the *materiality* of media technologies is highly relevant for media practices with which people try to contribute to sustainability. People question the socio-ecological effects of the production and disposal of media technologies, which mainly happen in economic less developed countries (see above), and try to avoid contributing to these effects with their media practices, for example, by repairing media technologies or by producing fair media devices (Kannengießer, 2020b).

This brief summary of the research field of sustainability communication shows that although studies analyzing sustainability communication do not necessarily deal with social transformation as the field of development communication and communication for social change does. Still, questions of socio-ecological transformation and justice and the question how media (as content and technologies) can be used to contribute to sustainability are posed.

In the upcoming section, the previous sections about the different UN goals as well as the summaries of the research fields on development communication and communication for social change and sustainability communication are brought together, to unfold the main argument of the article that a paradigm shift is needed in the field of development communication embracing the concept of sustainability communication to follow the shift in international politics.

5 From the MDGs to the SDGs – Transforming development communication to sustainability communication

Bringing theories of communication for development and social change together with

approaches of sustainability communication and linking both to the shift from the MDGs to the SDGs on the global political level, at least three theoretical assumptions can be expressed:

- 1) Theories of communication for development have a long tradition in media and communication research and are interlinked with the MDGs on a global political level. These theories as well as political goals focus on economic less and least developed countries as the localities where social change is needed. Moreover, these theories and goals can be perceived as being in the tradition of modernization theory constructing the idea of a linear process of development that strives for (economic) "developed" states using also media and communication for this process.
- 2) Theories and approaches of sustainability communication are interlinked with the SDGs not only demanding action by all nations worldwide regarding a sustainable future but also stressing the relevance of inter- and intra-generational justice. The development is constructed less linear as interdependencies between different nations are revealed. Moreover, the political areas in which action needs to be taken, are more complex compared to the MDGs and thereby, also media and communication have a more complex role which is true for all dimensions, namely media content, production, and appropriation.
- 3) Taking the first two assumptions together, it is argued that theories of communication for development and social change need to follow the shift from the MDGs to the SDGs widening the scope regarding relevant regions where social change needs to be taken as broadening the group of actors which is responsible for this action and lastly, acknowledging that a socio-ecological transformation needs to take place worldwide in all societal areas. Media and communication can play a crucial role in supporting the realization of these goals while at the same time (as the research field of media practices and sustainability that was summarized above shows), shaping media technologies and current processes of digitization more

sustainable is an additional goal which is not included in the SDGs but is of pressing relevance when looking at the above mentioned socio-ecological effects of the production, appropriation and disposal of digital media technologies.

6 Conclusion: Facing political and theoretical challenges through a shift from development communication to sustainability communication

In this article, it was argued that the transformation from the MDGs to SDGs also demands a paradigm shift in the research field of development communication and communication for social change – shifting the angle from development to sustainability, from development communication to sustainability communication and narrowing down the broad concept of communication for social change to sustainability.

To unfold this argument, the MDGs and SDGs and their relevant research areas were described. Already here, studies have been referred to which stress the relevance of media and communication for development and sustainability – relating to the specific goals.

Then the research areas of development communication and communication for social change as well as sustainability communication have been sketched. In the latter, also the relevance of economic less developed countries has been revealed – being localities where resources for digital media technologies are extracted under not sustainable conditions, or where digital media technologies are disposed under socio-ecological severe conditions. But it was also pointed to the fact that media are used to contribute to sustainability in economic less developed countries.

Theories of development communication and sustainability communication analyze phenomena and processes of social change – the former focusing economic less developed countries, the latter broadening the perspective and looking at all countries worlwide but also at the interrelation between North and South, East and West. Often these theories take a normative perspective,

theorizing how media and communication can be used for social change to face the challenges in economic less developed countries within the theories of development communication, or to shape all societies worldwide in a more sustainable way.

Taking this normative perspective theories in development communication and sustainability communication go along with the MDGs and the SDGs - the former aiming at development in economic less developed countries and the latter aiming at sustainability in all countries worldwide. Although it was argued that these goals also have to be perceived from a critical perspective, as the SDGs for example imply contradictions among themselves, nevertheless they aim for a more just world and according to the Brundtland definition of sustainability aim at meeting the needs of current and future generations. What distinguishes the goals is for example a shift regarding responsibility: While the MDGs focused on actions that needed to be taken in economic less developed countries, the SDGs call for action worldwide and stress the responsibilities for the industrialized consumer societies.

Accordingly, a shift in the paradigm within the field of development communication and communication for social change, replacing development communication through sustainability communication stresses the relevance of media and communication for social change in all countries and thereby also allows to reflect the responsibilities of actors worldwide from a normative perspective. Moreover, relating the theory of sustainability communication to the SDGs allows for broadening the research focus taking into account all relevant research fields that are represented by the 17 goals. Finally, transforming the concept of development communication into sustainability communication allows to ask how future generations will be able to fulfill their needs and not only take current generations and their needs into account.

Having said that we can identify a responsibility of media and communication research (Kannengießer, 2020a), which also applies to the research field of development communication: Scholars within this research field not only need to analyze chal-

lenges and problems regarding development and sustainability but also phenomena and processes which aim at sustainability and socio-ecological transformation – to contribute to the option for current and future generations to live a good life.

Conflict of Interest

The author declares no conflict of interests.

References

- Arlt, D., Hoppe, I., & Wolling, J. (2010). Klimawandel und Mediennutzung. Wirkungen auf Problembewusstsein und Handlungsabsichten [Climate change and media use. Effects on problem awarenes and intentions to act]. *Medien & Kommunikationswissenschaft*, 58(1), 3–25. https://doi.org/10.5771/1615-634x-2010-1-3
- Baars, C. (2000). Entwicklungschance oder der Weg in eine neue Abhängigkeit? Das Internet in Afrika [Chances for development or way into a new dependency? The Internet in Africa]. In S. Brüne (Ed.), Neue Medien und Öffentlichkeiten. Politik und Tele-Kommunikation in Afrika, Asien und Lateinamerika (pp. 338–375). Hamburg, Germany: Deutsches Übersee Institut.
- Bassette, G. (2004). Involving the community.

 A guide to participatory development communication. Ottawa, Canada: Southbound Penang.
- Becker, J. (1984). Informationstechnologie in der Dritten Welt. Eine kritische Analyse theoretischer und empirischer Studien [Information technologies in the Third World. A critical analysis of theoretical and empirical studies.]. Frankfurt am Main, Germany: IDD Verlag für Internationale Dokumentation Flach.
- Bleischwitz, R., Dittrich, M., & Pierdicca, C. (2012). Coltan from Central Africa, international trade and implications for any certification. *Resources Policy*, 37(1), 19–29. https://doi. org/10.1016/j.resourpol.2011.12.008
- Brüggemann, M., & Engesser, S. (2014). Between consensus and denial: Climate journalists as interpretive community. *Science Communication*, 36(4), 399–427. https://doi.org/10.1177/1075547014533662

- Brüggemann, M., & Engesser, S. (2017). Beyond false balance: How interpretive journalism shapes media coverage of climate change. *Global Environmental Change, 42*, 58–67. https://doi.org/10.1016/j.gloenvcha.2016.11.004
- Buse, K., & Hawkes, S. (2015). Health in the sustainable development goals: Ready for a paradigm shift? *Global Health, 11*(13), 1–8. https://doi.org/10.1186/s12992-015-0098-8
- Castells, M. (2000). *The rise of the network society*. Oxford, UK: Blackwell Publishers.
- Curran, J., & Park, M.-P. (2000). Beyond globalization theory. In J. Curran & M.-P. Park (Eds.), De-westernizing media studies (pp. 2–15). London, UK: Routledge.
- Cook, G. (2017). Clicking clean: Who is winning the race to build a green Internet? Washington, DC: Greenpeace. Retrieved from http:// www.clickclean.org/germany/de/
- Dodd, R., & Cassels, A. (2006). Health, development and the Millennium Development Goals. *Annals of Tropical Medicine & Parasitology*, 100(5-6), 379–387. https://doi.org/10.1179/136485906X97471
- Easterly, W. (2009). How the Millennium Development Goals are unfair to Africa. *World Development*, *37*(1), 26–35. https://doi.org/10.1016/j.worlddev.2008.02.009
- Esquivel, V., & Sweetman, C. (2016). Introduction: Gender and the Sustainable Development Goals. *Gender and Development*, 24(1), 1–8. https://doi.org/10.1080/13552074.2016.11 53318
- Fehling, M., Nelson, B. D., & Vankatapuram, S. (2013). Limitations of the Millennium Development Goals: A literature review. *Global Public Health*, 8(10), 1109–1122. https://doi.org/10.1080/17441692.2013.845676
- Fischer, D., Haucke, F., & Sundermann, A. (2017). What does the media mean by "sustainability" or "sustainable development"? An empirical analysis of sustainability terminology in German newspapers over two decades. Sustainable Development, 25(6), 610–624. https://doi.org/10.1002/sd.1681
- Fukuda-Parr, S. (2004). Millennium Development Goals: Why they matter. *Global Governance*, 10(4), 395–402. https://doi.org/10.1163/19426720-01004001
- Gabrys, J. (2011). Digital rubbish: A natural history of electronics. Ann Arbor, MI: University of Michigan Press.

- Garrity, D. P. (2004). Agroforestry and the achievement of the Millennium Development Goals. *Agroforestry Systems*, 61(1-3), 5-17. https://doi.org/10.1023/B:AGFO.0000028986.37502.7c
- General Assembly of the United Nations. (2015).

 Transforming our world: The 2030 Agenda
 for Sustainable Development. Retrieved from
 https://sdgs.un.org/2030agenda
- General Assembly of the United Nations. (2000).

 United Nations Millennium Declaration.
 Retrieved from https://www.un.org/en/
 development/desa/population/migration/
 generalassembly/docs/globalcompact/A_
 RES_55_2.pdf
- Gumucio-Dagron, A., & Tufte, T. (2006). Roots and relevance. Introduction to the CFSC anthology. In A. Gumucio-Dagron & T. Tufte (Eds.), Communication for social change. Anthology: Historical and contemporary readings (pp. xivxxxvi). South Orange, CA: CFSC Consortium.
- Hahn, O., Eide, E., & Ali, Z. S. (2012). The evidence of things unseen. Visualizing global warming. In E. Eide & R. Kunelius (Eds.), Media meets climate. The global challenge for journalism (pp. 221–246). Goteborg, Sweden: Intl Clearhouse.
- Hamidi, K., & Mielke Möglich, A. (2021). Kommunikation für Sozialen Wandel [Communication for social change]. *Publizistik*, 66(3-4), 565-588. https://doi.org/10.1007/s11616-021-00679-8
- Harvey, B. (2011). Climate airwaves: Community radio, action research, and advocacy for climate justice in Ghana. *International Journal* of Communication, 5, 2035–2058. Retrieved from https://ijoc.org/index.php/ijoc/article/ view/1364/673
- Hepp, A. (2006), Transkulturelle Kommunikation [Transcultural communication]. Wiesbaden, Germany: VS.
- Hickmann, T., Lederer, M., Marquardt, J., Schwindenhammer, S., & Weiland, S. (2021). The 2030 agenda for sustainable development:

 Transformative change through sustainable development goals? *Politics and Governance*, 9(1). Retrieved from https://www.cogitatiopress.com/politicsandgovernance/issue/viewIssue/239/PDF239
- Hopwood, B., Mellor, M., & O'Brien, G. (2005). Sustainable development: Mapping different approaches. *Sustainable Development, 13*(1), 38–52. https://doi.org/10.1002/sd.244

- Jackson, S. J., Pompe, A., & Krieshok, G. (2011). Things fall apart: Maintenance, repair, and technology for education initiatives in rural Namibia. *Proceedings of the 2011 iConference* (pp. 83–90). New York, NY: ACM Press. https://doi.org/10.1145/1940761.1940773
- Jang, S. M., & Hart, P. S. (2015). Polarized frames on "climate change" and "global warming" across countries and states: Evidence from Twitter big data. *Global Environmental Change*, 32, 11–17. https://doi.org/10.1016/j. gloenvcha.2015.02.010
- Kaitatzi-Whitlock, S. (2015). E-waste, humanwaste, inflation. In R. Maxwell, J. Raundalen, & N. Lager Vestberg (Eds.), Media and the ecological crisis (pp. 69–84). New York, NY: Routledge.
- Kannengießer, S. (2006). Radio as an alternative public sphere: The democratic potential of community radio in Southern Africa The Zambian example. In G. Föllmer & S. Thiermann (Eds.), Relating radio. Communities, aesthetics, access. Beiträge zur Zukunft des Radios (pp. 132–139). Leipzig, Germany: spector books.
- Kannengießer, S. (2017a). Translocal empowerment communication: Mediated networks of civil society organizations for political empowerment. *Northern Lights*, *15*, 51-67.
- Kannengießer, S. (2017b). "I am not a consumer person" Political participation in Repair Cafés. In J. Wimmer, C. Wallner, R. Winter, & K. Oelsner (Eds.), (Mis)Understanding political participation. Digital practices, new forms of participation and the renewal of democracy (pp. 78–94). London, UK: Routledge.
- Kannengießer, S. (2020a). Nachhaltigkeit und das "gute Leben" Zur Verantwortung der Kommunikations- und Medienwissenschaft in digitalen Gesellschaften [Sustainability and the Good Life. On the responsibility of communication and media studies]. Publizistik, 65(1), 7–20. https://doi.org/10.1007/s11616-019-00536-9
- Kannengießer, S. (2020b). Fair media technologies: Innovative media devices for social change. *The Journal of Media Innovations*, 6(1), 38–49. https://doi.org/10.5617/jomi.7832
- Kannengießer, S. (2021). Media reception, media effects and media practices in sustainability communication. In M. Karmasin, L. Krainer, & F. Weder (Eds.), *Handbook of sustain-*

- ability communication (pp. 323–338). Wiesbaden, Germany: Springer.
- Kaur, H., & Tao, X. (Eds.). (2014). ICTs and the Millennium Development Goals. A United Nations perspective. Boston, MA: Springer. https://doi.org/10.1007/978-1-4899-7439-6
- Kayode, J., & Adeniran, R. (2012). Nigerian newspaper coverage of the Millennium Development Goals: The role of the media. *Itupale Online Journal of African Studies*, 4, 1–17.
- Kirilenko, A. P., & Stepchenkova, S. O. (2014). Public micro-blogging on climate change: One year of Twitter worldwide. Global Environmental Change, 26, 171–182. https://doi.org/10.1016/j.gloenvcha.2014.02.008
- Kurz, R. (2021). Sustainability communication in case of emergency: The role of NGOs in implementing the SDGs. In F. Weder, L. Krainer, & M. Karmasin (Eds.), The sustainability communication reader. A reflective compendium (pp. 463–484). Wiesbaden, Germany: Springer.
- Leiserowitz, A., Maibach, E. W., Roser-Renouf, C., Smith, N., & Dawson E. (2012). Climategate, public opinion, and the loss of trust. *American Behavioral Scientist*, *57*(6), 818–837. https://doi.org/10.1177/0002764212458272
- Lück, J., Wozniak, A., & Wessler, H. (2016). Networks of coproduction. How journalists and environmental NGOs create common interpretations of the UN climate change conferences. *International Journal of Press/Politics*, 21(1), 25–47. https://doi.org/10.1177/1940161215612204
- McArthur, J. W., & Zhang C. (2018). Measuring the diffusion of the Millennium Development Goals across major print media and academic outlets. *Global Policy*, 9(3), 313–326. https://doi.org/10.1111/1758-5899.12553
- Melkote, S. (2002). Development communication. In W. B. Gudykunst & B. Mody (Eds.), *Handbook of international and intercultural communication* (pp. 419–436). London, UK: Sage.
- Melkote, S., & Steeves, H. L. (2015). Communication for development. Theory and practice for empowerment and social justice (3rd ed.). Los Angeles, CA: Sage.
- Mohanty, C. T. (2002). "Under Western Eyes" revisited: Feminist solidarity through anticapitalist struggles. *Journal of Women in Culture and Society. Chicago, 8*(2), 499–535. https://doi.org/10.1086/342914

- Morris, N. (2003). A comparative analysis of the diffusion and participatory models in development communication. *Communication Theory*, *13*(2), 225–248. https://doi. org/10.1111/j.1468-2885.2003.tb00290.x
- Nash, C., & Bacon, W. (2006). Reporting sustainability in the English-language press of Southeast Asia. *Pacific Journalism Review,* 12(2), 106–135. https://doi.org/10.24135/pjr. v12i2.865
- Nelson, P. J. (2007). Human rights, the Millennium Development Goals, and the future of development cooperation. World Development, 35(12), 2041–2055.
- Olausson, U. (2011). "We're the Ones to Blame": Citizens' representations of climate change and the role of the media. *Environmental Communication*, 5(3), 281–299. https://doi. org/10.1080/17524032.2011.585026
- Ott, H., Wang, R., & Bortree, D. (2016). Communicating sustainability online: An examination of corporate, nonprofit, and university websites. *Mass Communication and Society*, 19(5), 671–687. https://doi.org/10.1080/15205436.2016.1204554
- Owens, T. L. (2017). Higher education in the sustainable development goals framework. *European Journal of Education, 52*(4), 414–420. https://doi.org/10.1111/ejed.12237
- Pearce, W., Holmberg, K., Hellsten, I., & Nerlich, B. (2014). Climate change on Twitter: Topics, communities and conversations about the 2013 IPCC Working Group 1 Report. *PLOS ONE*, 9(4), 1–11.
- Peters, H. P., & Heinrichs, H. (2005). Öffentliche Kommunikation über Klimawandel und Sturmflutrisiken. Bedeutungskonstruktion durch Experten, Journalisten und Bürger [Public communication about climate change and flood risks. Construction of meanings by experts, journalists and citizens.]. Jülich, Germany: Forschungszentrum Jülich GmbH.
- Sachs, J. D., Baillie, J. E. M., Sutherland, W. J., Armsworth, P. R., Ash, N., Beddington, J. ... Jones, K. E. (2009). Biodiversity conservation and the Millennium Development Goals. *Science*, 325(5947), 1502–1503. https://doi. org/10.1126/science.1175035
- Sachs, J. D., Modi, F., Figueroa, H., Machado Fantacchiotti, M., Sanyal, K., ... Spencer-Cooke, A. (2016). How information and communications technology can accelerate action on the Sustainable Development Goals.

- New York, NY. Retrieved from https://www.ericsson.com/assets/local/news/2016/05/ict-sdg.pdf
- Samir, A. (2006). The Millennium Development Goals: A critique from the South. *Monthly Review*, 57(10), 1–15. https://doi.org/10.14452/MR-057-10-2006-03_1
- Schramm, W. (1964). Mass media and national development. The role of information in the developing countries. Stanford, CA: Stanford University Press.
- Servas, J. (2002). By way of introduction. In J. Servas (Ed.), Approaches to development communication (pp. 1–22). Paris, France: UNESCO.
- Taddicken, M., & Reif, A. (2016). Who participates in the climate change online discourse? A typology of Germans' online engagement. *Communications*, 41(3), 315–337. https://doi. org/10.1515/commun-2016-0012.
- Taddicken, M., & Wicke, N. (2019). Erwartungen an und Bewertungen der medialen Berichterstattung über den Klimawandel aus Rezipierendenperspektive [Expectations and judgements of media reporting about climate change by recipients.]. In I. Neverla, M. Taddicken, I. Lorcher, & I. Hoppe (Eds.), Klimawandel im Kopf. Studien zur Wirkung, Aneignung und Online-Kommunikation (pp. 145–172). Wiesbaden, Germany: Springer VS. https://doi.org/10.1007/978-3-658-22145-4_6
- Tufte, T. (2017). Communication and social change. A citizen perspective. London, UK: Wiley.
- Tufte, T., & Mefalopulos, P. (2009). *Participatory communication*. *A practical guide*. New York, NY: World Bank.
- UNDP [United Nations Development Programme]. (2006). Communication for empowerment: Developing media strategies in support of vulnerable groups. Practical guidance note. New York, NY: United Nations Development Programme.
- United Nations. (n. d.). We can end poverty. Millennium Development Goals and beyond. Background. Retrieved from https://www.un.org/millenniumgoals/bkgd.shtml
- United Nations. (2015). The Millennium Development Goals Report. New York, NY. Retrieved from https://www.un.org/millennium-goals/2015_MDG_Report/pdf/MDG%20 2015%20rev%20(July%201).pdf

- van der Velden, M. (2014). Re-politicising participatory design: What we can learn from Fairphone. In M. Strano et al. (Eds.), *Proceedings culture, technology, communication* (pp. 133– 150). Oslo, Norway: Springer International Publishing.
- van der Velden, M. (2018). ICT and sustainability: Looking beyond the anthropocene. In D. Kreps, C. Ess, L. Leenen, & K. Kimppa (Eds.), This changes everything – ICT and climate change: What can we do (pp. 166–180)? Wiesbaden, Germany: Springer.
- van Dijk, J. (2006). *The network society. Social* aspects of new media (2nd ed.). London, UK: Sage.
- Vijge, M. J., Biermann, F., Kim, R. E., Bogers, M., van Driel, M., Montesano, F. S., ... Kanie, N. (2020). Governance through global goals. In F. Biermann & R. E. Kim (Eds.), Architectures of earth system governance (pp. 254–274).
 Cambridge, MA: Cambridge University Press.
- Vilanilam, J. V. (2009). Development communication in practice. India and the Millennium Development Goals. Los Angeles, CA: Sage.
- Vinuesa, R., Azizpour, H., Leite, J., Balaam, M., Dignum, V., Domisch, S., ... Fuso Nerini, F. (2020). The role of artificial intelligence in achieving the Sustainable Development Goals. *Nature Communications*, 11(233), 1–10. https://doi.org/10.1038/s41467-019-14108-y
- Vollberg, S. (2018). Grüne Blogosphäre? Zur Charakterisierung und Bedeutung nachhaltigkeitsorientierter Weblogs [Green blogosphere? Characterization and meanings of sustainability oriented weblogs]. In S. Kannengießer & I. Weller (Eds.), Konsumkritische Projekte und Praktiken. Interdisziplinäre Perspektiven auf gemeinschaftlichen Konsum (pp. 179–194). München, Germany: Oekom Verlag.
- Waisbord, S. (2015). De-westernization and cosmopolitan media studies. In C.-C. Lee (Ed.), Internationalizing "international communication" (pp. 178–200). Ann Arbor, MI: University of Michigan Press.
- Walter, S., Brüggemann, M., & Engesser, S. (2018). Echo chambers of denial: Explaining user comments on climate change. *Environmental Communication*, 12(2), 204–217. https://doi.org/10.1080/17524032.2017.1394893
- Wilkens, K. G., Tufte, T., & Obregon, R. (Eds.). (2014). *The handbook of development com-*

- *munication and social change.* London, UK: Wiley.
- World Commission on Environment and Development. (1987). Report of the World Commission on Environment and Development:
 Our common future. Retrieved from https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf
- Wu, J., Guo, S., Huang, H., Liu, W., & Xiang, Y. (2018). Information and communications
- technologies for Sustainable Development Goals: State-of-the-art, needs and perspectives. *IEEE Communications Surveys & Tutorials*, 20(3), 2389–2406. https://doi. org/10.1109/COMST.2018.2812301
- Young, C., & McComas, K. (2016). Media's role in enhancing sustainable development in Zambia. *Mass Communication and Society, 19*(5), 626–649. https://doi.org/10.1080/15205436. 2016.1201688