

Regional Communication for the Great Transformation towards Sustainability

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Abstract

Climate change, the Great Transformation and the dimensions of sustainability are stated, among others, in the SDGs of the United Nations. Most member states have ratified them by now. This milestone for global development must be broken down to the regional level. After all, the big challenge is to encourage people to take transformation towards sustainability into their own hands. A critical element of success is communication about and for sustainability. In the German Metropolitan Region of Nuremberg, a study was conducted to investigate which actors communicate which sustainability topics to

which target groups via which channels. One result is that the individual initiatives are not visible enough and are hardly networked with each other. This could be changed by means of a digital platform for sustainability that is accessible to all.

Introduction

“Humanity has the ability to make development sustainable to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED 1987: 15). Thus, the Brundtland Commission defined sustainable development in its final report “Our Common Future” (ibid.), and in this course introduced the idea of sustainability to a broad and global public for the first time. The report can be seen as the foundation for many other efforts in the context of sustainability at international level (e.g. Rio Conference, Agenda 21, Johannesburg Conference, Millennium Development Goals). This rather broad definition leaves vast room for interpretation and emphasis. However, sustainability comprises deeper levels that are embodied by environment, equity, and economy as stated by Brinkmann (2021: 2). In 2015, the United Nations established the Agenda 2030 for Sustainable Development, which was adopted by the member states. The 17 Sustainable Development Goals (SDGs) contained therein are considered a milestone for global development towards sustainability (Pufé 2017: 55) and a meta vision of fostering international partnerships. The Agenda intends to unify efforts and serve as a blueprint for global improvement of living conditions. The SDGs serve as a wholesome approach – every entity needs to be seen in its embedded context. Thus, regarding poverty and other deprivations, not only symptoms need to be addressed, but the cause (UN 2022).

The German Advisory Council on Global Change (WBGU 2011) advocates an all-encompassing transformation towards sustainability and therefore speaks of a Great Transformation, similar to the Neolithic and Industrial Revolutions (ibid.: 87). The Great Transformation is to bring about an “epochal upheaval” (ibid.: 89, translated by authors). In the context of this, the transformation processes triggered should not only include technological innovations, but also involve changes in society, culture and politics with the aim of guaranteeing “prosperity, stability and democracy within the boundaries of the earth system” (ibid.: 87, translated by authors).

The Great Transformation is a process that needs to be negotiated socially, involving a wide range of sectors and a large variety of different actors. Based, among other things, on this expert opinion, Schneidewind (2019, translated by authors) developed the

"Concept of Future Art". Future Art takes place in seven turns, which are considered necessary for sustainable development and thus form the core of the Great Transformation: "Turns are the stages of future art. Turns structure the development of the Great Transformation. They convey a vivid impression of the 'art of transformation'. In this context, turns start at different levels and are closely interlinked" (ibid.: 169, translated by authors). The Energy Turn, the Resource Turn, and the Prosperity/Consumption turn mark the three cornerstones of a civilization operating within planetary boundaries. In addition, there are four other necessary turns that collectively cover the majority of global sustainability challenges: the Mobility Turn, the Urban Turn, the Nutrition Turn, and the Industrial Turn. The SDGs refer to all of these turns.

Although the global scientific community engages in profound discourse and provides solid data, it seems that the transformation of theory and research into practice is lacking. At global level, each of the 17 SDGs is meant to be equally important. Zooming in, however, it becomes evident that local goals and SDGs are often different or even stand in conflict. Sustainable development and especially sustainability communication on local level carry a certain responsibility, since they are focusing on developments in our 'front yards'. Given this omnipresent proximity, sustainability communication thus means the provision of information for the citizens of the region, as well as providing a base for exchange and networking. Regional challenges become the defined action space for political decisionmakers and professional sustainability communicators.

Within this paper, we place global SDG framework in regional context and emphasize the importance of transparent, inclusive, and strategic sustainability communication and networking. Starting with a brief look at the state of the art in the broad field of sustainability and sustainability communication, we will demonstrate that regional perspective is an important approach to sustainable development. We will further highlight the potentials of applying a global framework to regional conditions. We will then emphasize the importance of strategic sustainability communication and how change processes can be accompanied and managed through communication, especially regarding the immense complexity of the climate crisis.

The following chapter introduces a study by Nuremberg Tech on regional sustainability communication and presents the study design, findings and a brief outlook. The study investigated who the regional communicators are, what kind of contents are disseminated and how, via which channels and to which target groups. An online sustainability platform was derived from the study as a possible solution to improve regional communication and the involvement of local sustainability stakeholders. A draft design for the platform is briefly outlined. The paper is concluded with a resumé.

The Current State of Sustainability Communication in the Region

This chapter first provides a brief insight into the current state of the art in the broad field of sustainability, before then looking at present sustainability communication in particular. In doing so, it will be elaborated that the regional scale, which has often been neglected so far, offers a rewarding opportunity for research, but also for further development of sustainability communication.

The demand for accessible and understandable scientific findings has vividly increased, not only in these past few years. The Covid-19 pandemic has proven that despite wishful thinking, change is inevitable and relentless. Normal and familiar ways of live have been critically challenged and there will be no turning back, as Weder *et al.* state (2021: vi). It has also strikingly demonstrated, how communication determines the acceptance of change and the willingness to accept restrictions and participate in measures. The pandemic, global health and climate change are not separate processes, but rather linked events that unsparingly challenge our worldview and reflect our actions as world society. Additionally, public databases could counteract privatization and economization of scientific data, which shall ensure and increase the scientific transparency (Sulston 2010).

Niklas Luhmann commented in 1986: “if there is no communication about a topic, there will be no social change” (Bollow *et al.*, 2014: 369; translated by authors). Bollow *et al.* refer to Luhmann and his thesis to emphasize the role of communication in a critical discourse within society regarding environmental issues and sustainable development. The perception of what is determined by society to be a serious issue, depends on the access to

and the assessment of knowledge through societal actors, as he stresses (ibid. 2014: 370). Hence, the role of media and in more recently, social media, are undeniably essential (de Witt 2011). However, direct communication of social groups, individuals and public forums on sustainability should not be underestimated – especially in regional and local contexts.

Sustainability is one of the most important buzzwords in present business, science and the media. Sustainability is scientifically addressed and researched from a wide variety of perspectives and disciplines. Due to this mixed situation, an interdisciplinary understanding of sustainability is necessary. As a result, a multidisciplinary sustainability research is emerging, which is becoming increasingly diversified, inter- and transdisciplinary (Kluwick & Zemanek 2019: 11). The transdisciplinary approach is also becoming popular in transformation research, linking scientific knowledge about sustainable transformation processes with the practical knowledge of other societal actors, such as economic actors or actors from civil society. In addition, scientists are working on a transformative science in which science itself becomes a driver of the Great Transformation and initiates, shapes and accompanies processes of sustainable development (Schneidewind 2019: 429ff.). In summary, it can be pointed out that a lot is in motion in the broad field of sustainability, also due to current crises such as climate change, migration or the corona pandemic.

As just stated, the arenas of sustainability are numerous and the actors are diverse, which means that the term often remains abstract and blurred and there is often no uniform understanding of its meaning. In addition, local as well as cultural specifics have to be considered, which further complicates the understanding of sustainability. There is however widespread agreement that sustainability consists of balancing the three dimensions: ecologic, economic and social (Pufé 2017: 23ff.). After all, sustainability is considered a “future-oriented guiding principle or paradigm” (Hauff 2020: 13, translated by authors), which was concretized by the 2030 Agenda and thus became more operational. Following the SDGs, numerous studies were published on the implementation of the 17 goals at different scales. Member countries all over the world have translated the goals into national sustainability strategies. Based on the motto ‘think

global, act local', this also led to an increasing number of case studies on the translation of the SDGs to the local level. Several cities have developed sustainability reporting based on the SDGs using a wide range of indicators (see publications and case studies on sdgs.un.org). And even companies are aligning their business with the SDGs to make their operations more sustainable.

Additionally, the term sustainability has been highly politicized, as well as morally charged. Hence, people are strongly opinionated before even engaging with the numerous possibilities of sustainability itself. As Weder *et al.* (2021: v) describe it: "The degree of knowledge and therefore understanding of sustainability as concept of regeneration, of restoration and alternative to neoliberalism and capitalism is rather low – and rather revolutionary". The apparent lack of common-sense, understanding and vocabulary hinders to exploit untapped potentials and efficiently manage available options. Gottwald & Weder (2021: 178) argue that the SDGs require "globally aligned cultural forms of communication", thus, the overall framework of the global SDGs becomes a negotiation of common values. Creating the superordinate and common comprehension of sustainability and actions, demands for neat and strategic communication. At this point it should be briefly noted that sustainability communication has not been specifically manifested as an UN sustainability goal.

Weder advocates for sustainability as master framework to tackle the challenges and respond to the opportunities of the future, such as the SDGs. Regarding sustainability becoming a morally and emotionally charged term and in addition with the complex, threatening nature of the climate crisis and the severe need for strategic understanding, quality communication is rare. Additionally, Weder's findings suggest: "a hyperpositivism of sustainability communication and a lack of problematization" (Weder *et al.*, 2021: 103).

Sustainability communication is still a relatively young field of research and practice. It developed a few years ago from environmental communication in order to include not only ecological aspects but also the other dimensions of sustainable development in communication research. Being positioned at the intersections of *environmental communication*, *CSR communication* and *communication for social change* and *science communication*, sustainability communication established itself as a global inter- and

transdisciplinary field of research (Bucchi & Trench 2021), as well as an object of study for critical scientific reflection beyond those areas.

Science and risk communication were and are also significantly involved in the development of sustainability communication (Bollow *et al.* 2014: 370). To date, no separate theoretical framework has been developed for sustainability communication; instead, various theoretical frameworks from different academic disciplines have been drawn upon. These range from systems theory, communication and media theory approaches, to sociological and psychological principles (*ibid.*: 372). As a result, there is a great wealth of research fields and publications in the area of sustainability communication, as well as an almost unmanageable number of activities (*ibid.*: 379f.). Editors Weder *et al.* published a handbook on sustainability communication in 2021 to provide an approach to sustainability communication in a transdisciplinary research field. The reader includes theoretical approaches, concepts and methods as well as different perspectives on communication practices that influence sustainable development. The SDGs also served as the guiding paradigm for the anthology. However, the regional perspective in sustainability communication is not reinforced to the reader (Weder *et al.* 2021). There are hardly any other publications that explicitly focus on the region as a geographic entity, especially not from a communicative-strategic perspective. Most research in the field of sustainability communication concentrates on the global, national or local level, the region remains uncharted. For this reason, we will now briefly discuss the potential of the regional perspective for communicating sustainability.

Regionalisation has certainly gained prominence as a countermovement to the globalisation trend. There is even talk of a “renaissance of the regional” (Sinz 2018: 1978, translated by authors). In the context of advancing globalisation and lack of transparency, regions offer clear areas for identification and action as a kind of counter-model to tendencies towards centralisation and alienation in politics and society (*ibid.*). At the same time, the regional is described by Felgenhauer (2013: 48, translated by authors) as the “motor and driving force of innovation”, which is justified by the “uncomplicated everyday practical networking of actors and the local dissemination of knowledge” (*ibid.*). In principle, a region always represents the answer to a question and is therefore always

earmarked (Sinz 2018: 1977). If a problem is identified in a specific area, a regional network of different municipalities, organizations and civil society can work out a context specific solution (Bernhard 2014: 84).

As a result, regions are defined and constituted less by administrative borders than by networks (Bernhard 2014: 87). This network-based understanding of a region includes, for example, city-surroundings associations, voluntary municipal associations, but also cross-border cooperation areas and regional development concepts (Sinz 2018: 1982). Characterized by informal planning, personal contacts, and close networking, such regions result from a shared idea about the further development of the spatial section: "It [the region] is always dependent on a communicative act of abstraction, on an idea, on a conception that requires communal construction and individual appropriation" (Felgenhauer 2013: 48, translated by authors). Spaces are constructed through human action; the same applies to a region that does not function detached from its environment like a closed container, but rather on the practices and interactions (Sinz 2018: 1977).

The high level of complexity associated with the Great Transformation can be reduced at the regional level, since local problems can be dealt with in smaller sub-areas. National sustainability strategies focus on the big picture and therefore take fewer regional specifics into account (Brinkmann 2021: 69). A regional approach thus offers the advantage that a municipality does not have to address all transformation fields equally, but specialization tailored to the region is possible (ibid.: 233). Brinkmann (ibid.) sees another positive aspect in the possibility of tackling larger projects in a regional network, as this means that greater financial and human capital can be made available.

The region therefore offers several benefits in terms of proximity, manageable complexity, and direct impact on the citizens' lived realities. In short, smaller entities like regions can influence the greater system and push the Great Transformation for sustainable development. We are already familiar with the guiding framework of the UN's Sustainability Development Goals – on global scale. Apparently, the regional context and dominant agendas determine the specific weighting of each of the 17 SDGs. Balancing and including the regional stakeholders for a wholesome change demands networking and management. This transformation process is based on strategic sustainability

communication. Therefore, the following chapter provides a more detailed explanation of how sustainability communication can be designed and what relevance it has for a region and its citizens.

The Relevance of Sustainability Communication in the Region

Research has shown that cultural context frames the perception and handling of ecological problems. Local context, for example, conditions the role of the individual within a society and the participation of civil societies in political discourse. “Sustainability communication is thus a process of mutual understanding dealing with the future development of society at the core of which is a vision of sustainability. ... In summary it can be said that human behaviour, social values and attitudes towards the world and environment are mediated by communication” (Godemann & Michelsen 2011: 6, translated by authors).

It is a major challenge to translate global political, economic and social sustainability goals into regional agendas and practices. To do this, it is essential to take cultural realities into account and to integrate them effectively into strategic communication. Regional actors from politics, economics, media and civil society need to be aware of each other, exchange ideas and cooperate. This requires an exchange about their ideas, goals, strategies and measures, but also about their obstacles and resources. To ensure overall participation of the citizens and their commitment to sustainability, they need to be empowered and provided with information, as well as contextualization. Hence, the focus of sustainability communication needs to be placed on communication strategy and tools.

The communication patterns used are as diverse as their actors: different actors provide different data, facts and disseminate them via different channels and platforms. Scientists, for instance, predominantly rely on scientific journals rather than public forums. However, it is a difficult process to establish common understanding, vocabulary and definition of sustainability, even within academic discourse. For example, over time,

sustainability communication has dominated the vocabulary and taken over environmental communication (Bollow *et al.* 2014: 369).

There are a few tools to implement sustainability in a local context. One example is the creation of the Dashboard of Sustainability (DS), which gives insights and describes the conditions of the local or urban context (Scipioni *et al.* 2009). The tool was developed in the late 1990s and enables the measurement of different dimensions of sustainability, hence, economic, ecological and social indicators were developed to monitor and make phenomena visible. These indicators serve as foundation for decisions and strategies for sustainable development.

In the past, local news media were responsible for the communication of public issues. In recent times, however, the social media seem to increasingly invaded this space. A vital question is therefore: is sustainability actually on the local journalism agenda?

Local journalism is an under-recognized body, both in daily practice and scientific research and has been taken for granted (Hess & Waller 2017: 1). The Australian scholars Hess and Waller point out that even globally, only a few researchers are working on this subject, despite the fact that “(l)ocal news has also been an important sphere of influence as a forum of discussion and debate on matters of public interest and as a check on powerful players in politics, commerce, [and] public life” (ibid.). Hence, local news determines the conditions of how topics are being perceived, discussed and what remains in public discourse and memory. But what exactly means local? Hess and Waller (ibid.: 6) take efforts to define the term: “a concept that connects geography and place with a sense of belonging. To be considered a ‘local’ implies that our feet are planted firmly on the ground somewhere and that our physical surroundings are deeply and comfortably familiar. We invest in a locality – socially, economically, culturally and psychologically.” It is a personal and vividly determined by cultural framing. The authors emphasise that the way of consuming local news is highly determined by the cultural practices, hence, history and geography are vital to understand local news and their perception (ibid.: 5).

Therefore, it is understandable, that local-news values differ from those of national journalism. The focus is essentially placed on “(p)roximity and scope, timeliness, conflict and conflict resolution, narrative appeal, actions of elites and prominent individuals,

human interest, the unusual and unexpected, [and] advocacy” (ibid.: 89). However, the media landscape is transforming in the 21st-century. The old media, such as television, radio and print, are and will remain a central component of media systems worldwide. The internet and especially social media platforms are “a key source for the latest news and information”. All these analogue and digital channels are used to distribute information, news, but also entertainment for billions of people. However, the liberalization of the media markets and technological improvements have significantly changed the national media landscapes (UNDP 2019: 11).

Sustainability might be one of the most communicated topics. But it cannot be reduced in its complexity to climate change or environmental protection or sustainable lifestyle. The term is used inflationary, especially in politics and economics. But popular mass media still find it difficult to address sustainability aspects that lie at cross-purposes with traditional departments (Dernbach 2021).

Effective and strategic communication is vital for sustainability and sustainable strategies. Sustainability communication has to be simple, direct and precise at all times, both internally within organizations and externally with various stakeholders, whether verbally or in writing (Genç 2017). According to Genç (2017), there are three fundamental and interconnected modes. He differentiates them as communication either *of*, *for* or *about* sustainability. Genç states that these modes determine the perception and transported policy of sustainable change:

Communication *of* sustainability is a mono-directional process with a sender-receiver flow. Herein, the sender aims to receive the public’s and decision maker’s attention, while providing information about an issue of sustainability. It is characterized by an educating intention, which leads to a defensive and legitimizing rhetoric of one’s own behaviour (ibid.: 515).

Communication *about* sustainability however is distinct, as it intends an exchange and discussion of information, interpretations, and opinions. It is a structured communication of concerns, facts, arguments and claims by establishing a common understanding of the issue at hand, the respective goals, and the responsibility to act (ibid.: 514f).

Communication *for* sustainability focuses strongly on the normative aspects of sustainable development and establishes societal transformation based on normative goals. It advocates social learning and a collaborative development of solutions for sustainability issues and challenges (ibid.: 515).

It is a process of building upon all communication modes while including all stakeholders in the discourse of sustainable change. Genç's model was taken up in the study by the Tech Nuremberg, which is presented in the following chapter. It provides interesting results on the different modes of communication of sustainability actors in the Nuremberg Metropolitan Region.

Case Study: Sustainability Communication in the Metropolitan Region Nuremberg

Against the backdrop of the Great Transformation in the region outlined above and the need to communicate of, about and for sustainability, a multi-phase research project has been conducted at Tech Nuremberg. The Metropolitan Region Nuremberg was selected as the study area, which will be briefly presented in the following section, also regarding the implementation of the SDGs. Subsequently, the research question is addressed and the study design is described. Next, the detailed methodology and the results of the two study phases are each presented individually. The chapter concludes with an outlook on a possible tool for sustainability communication in the Metropolitan Region Nuremberg.

The Metropolitan Region Nuremberg

The Metropolitan Region Nuremberg (MRN) comprises 11 independent cities and 23 counties in the state of Bavaria in Germany, with 3,6 million residents over 21,800 km². About 2 million are employed and the economic development is showing a positive trend despite several crisis. Global players like Siemens, Adidas, Puma and Schaeffler contribute in great part to the economic progression. Furthermore, the MRN is home to 20 higher

education institutions, including 53 research facilities for 93,000 students. In sum, it is a thriving, opportunity-rich and financially privileged area.

The special regional context was also the starting point for the city of Nuremberg when translating the globally applied SDGs to local level. The focus was on the regional conditions on site, the local initiatives and the performance of the municipality itself regarding sustainability. On a global scale, all 17 SDGs are equally important. Taking a closer look on the weighting of the SDGs in the context of the Metropolitan Region Nuremberg, differences become visible. The following chart gives an overview of the discrepancies and foci in Nuremberg. It bases on the extent and share of the respective SDG in the sustainability report of the city Nuremberg (Sustainability Report Nuremberg, 2019). Three SDGs gained the least space within the report: SDGs 10 *Reduced Inequalities* and 14 *Life Below Water* were discussed on one page each. SDG 17 *Partnerships for the Goals* was given only three pages. On the other side, the most prominent SDG in Nuremberg is number 11 *Sustainable Cities and Communities*, which is being discussed over 22 pages. SDG 12 *Responsible Consumption and Production* follows with 16 pages. With 10 pages each, SDG 3 *Good Health and Well-Being*, as well as number 6 *Clean Water and Sanitation* are equally represented in the report (Sustainability Report Nuremberg 2019).

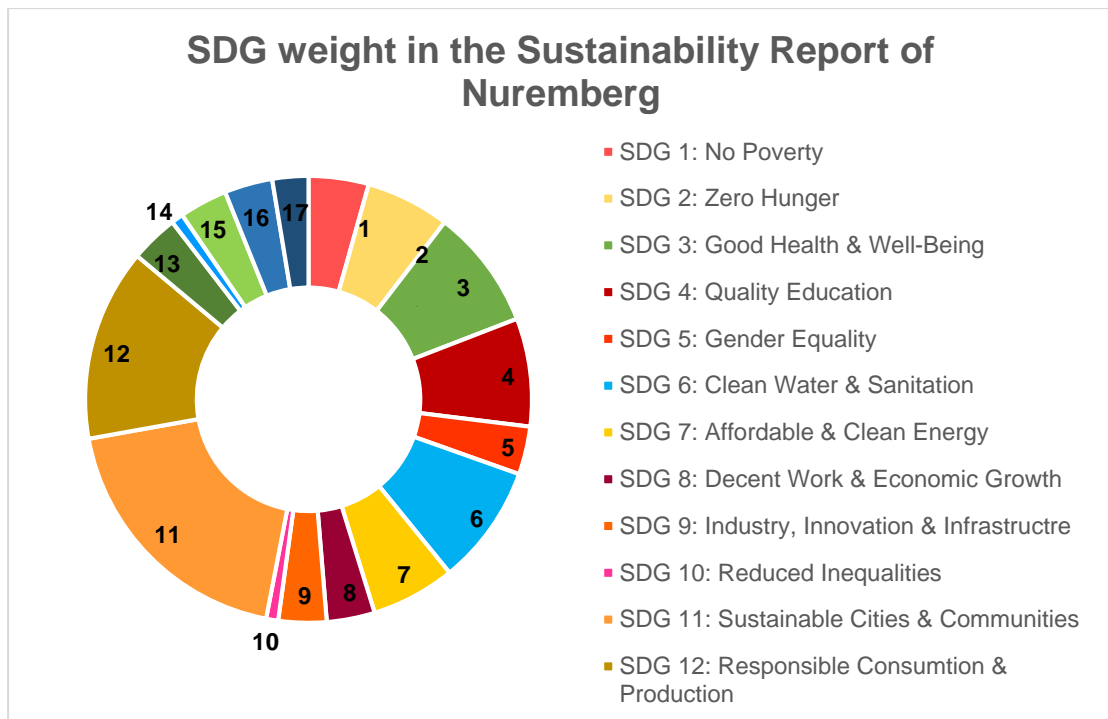


Figure 1: SDG weight in the Sustainability Report of Nuremberg

The Sustainability Report Nuremberg (2019) is an example of how difficult it is to reach common ground, especially regarding the diversity of interests, conflicts of interests and agendas, as well as their stakeholders. The report emphasises the need for a transparent and participatory decision making, still, a complex process to ensure inclusivity and common efforts despite the common goals. The report gives the example of further using a local industrial area which offers great logistic possibilities but brings forward a series of aspects to consider: soil and water quality, diversity of flora and fauna, landscape, as well as society and health are key themes in this regard. Basically, SDGs have the potential to stand conflict. The case of using the industrial area illustrates the balancing act between SDGs 8 and 9 (Decent Work and Economic Growth; Industry, Innovation and Infrastructure) with number 11 (Sustainable Cities and Communities). Furthermore, within SDG 11 the report finds a conflict between mobility and compensation areas. This emphasises the need for exchange and visibility of best practice examples, individual solutions adjusted to local contexts (Sustainability Report Nuremberg, 2019: 135-139).

Research Question and Methodology

The study from 2021 analysed the sustainability stakeholders of the Metropolitan Region Nuremberg and their communication patterns. We investigated the major framework of sustainable transformation of the region depending on political, economic actors, as well as local media and civil society and their communication patterns. The study shed light on the extent of trans- and interdisciplinarity of the diverse stakeholders and the previously introduced different modes of communication of the respective actors (Genç, 2017).

To take advantage of the regional potential, interconnect the stakeholders, and empower the citizens, we need to know the background. Here from, a research question was developed:

Who are the actors, which major themes do they communicate, who are their target groups and via which channels do they communicate?

In addition, the following four main hypotheses were formed:

1. **All actors communicate in several directions:** The aim is to analyze through which communication directions actors communicate and whether the tendencies of communication of different actors can be identified.
2. **Several representation formats are used simultaneously by the actor groups:** This hypothesis is intended to analyze which representation formats are used by the respective actor groups, considering that no actor is limited to only one representation format.
3. **Actor groups communicate few and similar topics:** In terms of content, sustainability communication of various actors is divided into different topic areas. Several topic areas can apply at the same time. The different topic areas are based on different starting positions of the 17 SDGs. Furthermore, the topics are regionally limited to Nuremberg and the hypotheses are designed for the region only.

4. **Actors identifiably direct their communication to a specific main target group:** The analysis should be used to identify which specific and relevant main target group actors are addressing.

At the heart of this project stands the stakeholder analysis, which intended to give insights on the status quo of (strategic) sustainability communication in the MRN. Furthermore, to generate knowledge on how to optimize the communication and networking of sustainability stakeholders, as well as the information offers regarding sustainability for citizens. The stakeholders have been categorized as: political stakeholders (parties, public/municipal facilities, political initiatives), civil society stakeholders (social/ecological actors), economic stakeholders (retail industry, energy supplier, manufacturing sector, banks and insurance companies, organizations, and associations) and institutional stakeholders (educational/research facilities, religious institutes).

The study consisted of two phases:

In the first phase, a quantitative web analysis of regional sustainability actors was carried out. The data were collected over a three-month period until end of November 2020. In total, 55 of 63 identified stakeholders were assessed and followed a quantitative systematic. A codebook was used to record coding rules and definitions about the data to be collected. The data were continuously recorded in a tabular category system and then transferred to a functional code sheet. This was created in Microsoft Excel and ensured standardized measurement. The variables to be examined of different characteristic values were thereby divided into the corresponding categories and examined with regard to the actors, channels, presentation forms/formats, themes, communication modes, target groups, cooperations and organizational structure of the communication. An input mask implemented in Visual Basics represented the central instrument of the survey and ensured automatic recording. In a preliminary test, the functionality of the code sheet was tested and further adjustments were made.

The second phase of the THN project was of qualitative nature and based on a pre-set questionnaire. The in-depth interviews with key actors from the MRN focused primarily on the understanding of sustainability, the activities and projects, the challenges

of the (voluntary) tasks, the forms and barriers of internal (e.g. to members) as well as external sustainability communication.

Findings of the First Phase

Main Themes

When comparing the distribution and frequency of the communicated subjects in different stakeholder groups, no significant patterns could be identified. Overall, the topics communicated most frequently were *Energy*, *Sustainable Economy*, *Transport/ Mobility*, *Biodiversity*, *Sustainability in Daily Life* and *Social Issues*. The themes of *Inclusion* and *Peace* were by far the least discussed. Although the subject of *Agriculture* was by far the most frequently addressed by the group of political actors (59 %), it does not lead the ranking overall. The group of civil society actors communicated *Social Issues* most frequently at 35 %, followed by *Sustainability in Daily Life*. Not surprisingly, the topic of *Sustainable Economy* was communicated most by the economic actors with 54 %.

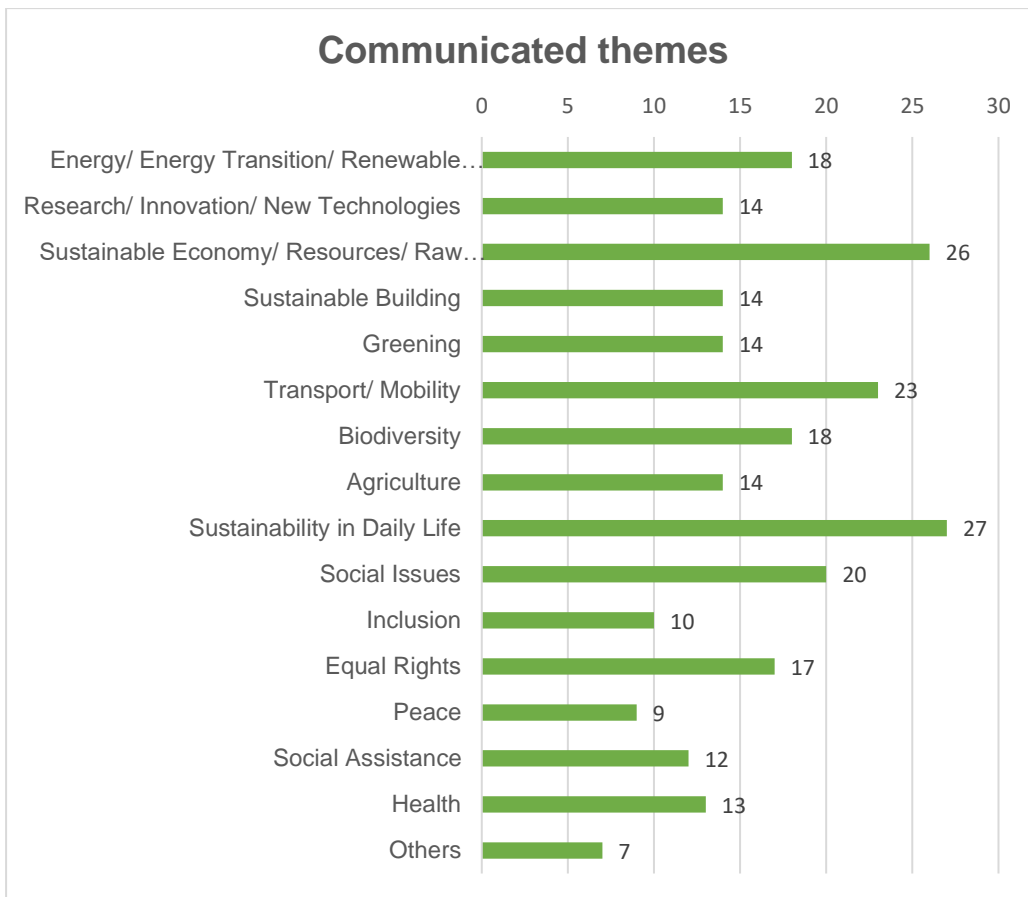


Figure 2: Communicated themes

Channels

The channels used by the different stakeholders were as diverse as the themes and agendas they communicated. Digital channels like websites and social media show a strong tendency, however, analogue channels and events are utilized as well. The lowest costs and highest reach are provided by digital channels and social media.

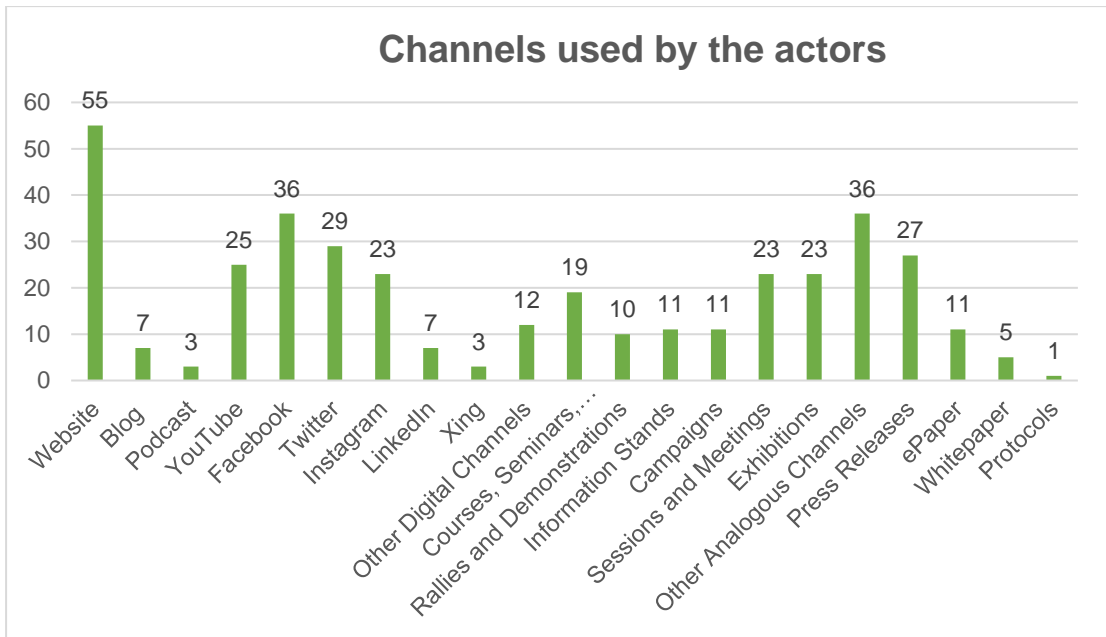


Figure 3: Channels used by the actors

Target Groups

Noticeably, political and economic stakeholders have been displaying a higher diversity of communication tools and target groups. The study concluded that this might be linked to their access to financial means.

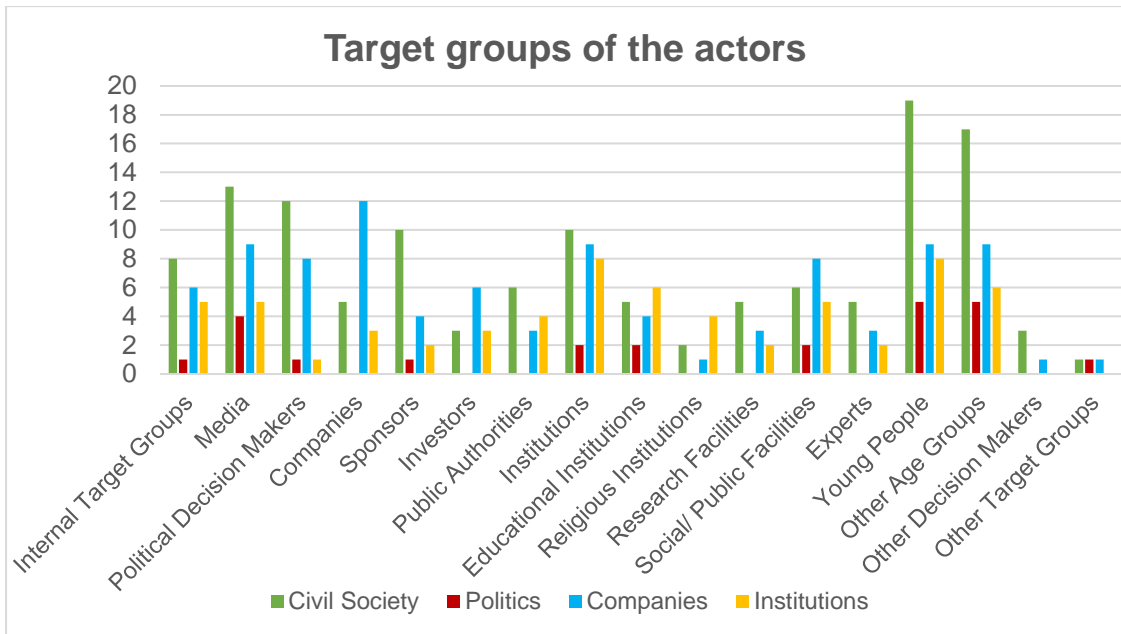


Figure 4: Target groups of the actors

Direction

Usually, communication is unidirectional, thus showing a tendency in sustainability communication. The following chart presents the communication modes of the analysed stakeholders. With regard to the previously established condition that communication *for* and *about* communication, requires communication *of* sustainability, the results are comprehensible. It is noticeable, that civil society stakeholders communicate predominantly about sustainability as opposed to other categorized stakeholders. This suggests that they seek dialogue to exchange and discuss, with the aim of mutual understanding and alignment of goals. However, regarding the implications of different communication modes, more research needs to be conducted.

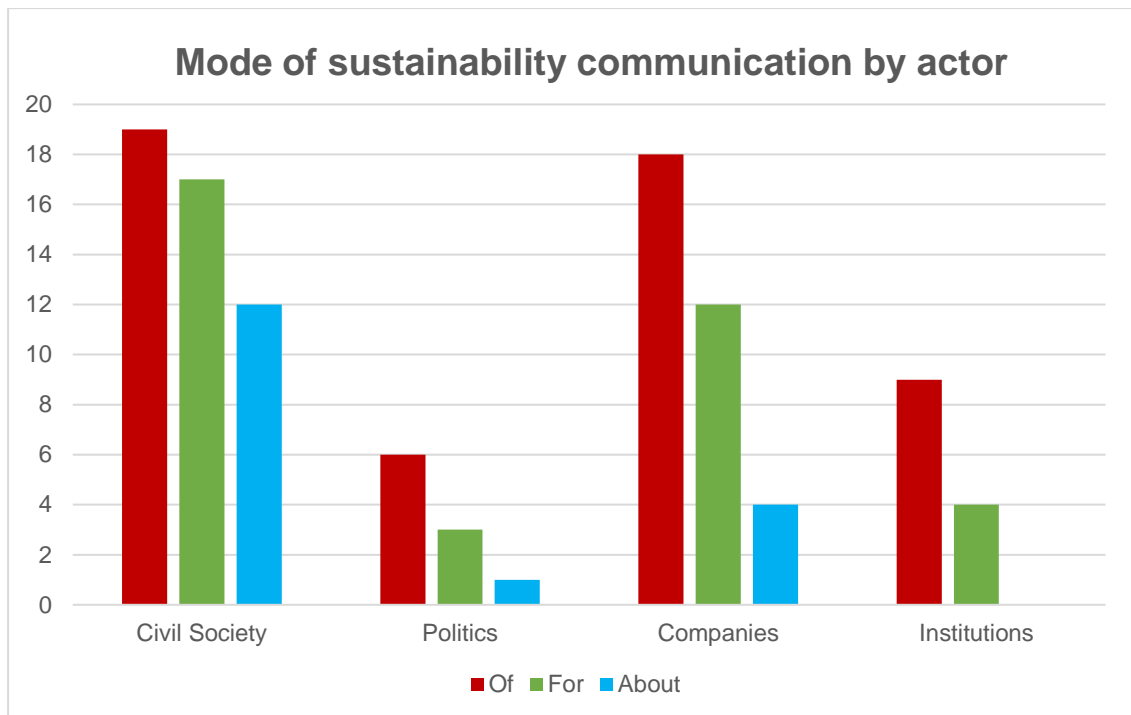


Figure 5: Mode of sustainability communication by actor

Findings of the Second Phase

In the second part of the study, qualitative interviews were conducted with key regional players in the field of sustainability in the metropolitan region. The aim was above all to gain insight into the actors' understanding of sustainability. By way of example, we briefly present two interviews that were conducted with actors from Erlangen. We will then go on to the general results from this phase of the study.

Interview Example

The city of Erlangen is located in the administrative district of Central Franconia and, together with the cities of Fürth and Nuremberg, forms the central city triangle of the metropolitan region. With a population of around 112,400, the independent city is the smallest of Bavaria's eight major cities and home to a university (approx. 39,000 students). Sustainability communication is promoted in Erlangen by the city, which is pushing ahead

with new projects. In 2020, the Sustainability Advisory Board and Sustainability Forums were established. In 2020, the City of Erlangen published its first sustainability report. The goal is to implement the 2030 Agenda with the 17 SDGs of the United Nations at municipal level.

In Erlangen, we conducted two interviews with a representative of the Department of Ecology and Sustainability of the University of Erlangen and the chairman of a local car sharing association:

To the representative of the university department, sustainability means aligning her work with ecological and social criteria: "I want to reduce my personal CO₂ footprint. I fly as seldom as possible, try to reduce waste, take the train as often as possible, and watch what I eat. Likewise, I'm involved in social sustainability subjects, such as, equality and feminist issues." Due to the corona pandemic, employees draw attention to their work and projects via Instagram. They also distribute flyers and collect signatures for various causes. Exchange with other sustainability actors mainly takes place via group chats in different media: "In various university groups from Nuremberg and Erlangen, we exchange ideas on sustainability topics and also meet regularly once a month. I am in contact with other universities via Telegram and Instagram groups," explains the representative. She is informed about the other networks via the respective newsletters by e-mail.

To the association's chairman, sustainability means slow, steady work at a sustainable, ecological and social level, focusing especially on rural areas. There is a lively exchange mainly with political parties and other political circles, mobility associations and ecological organizations. Communication takes place via personal contact, email or telephone.

Summary of Results

The expert interviews supported the findings of the first phase. Several different political, economic, ecologic, institutional, social and civil society actors and projects were identified, with a great diversity in quantity, profile and activity. However, a distinct lack

of networking, exchange and joint efforts beyond an inner circle was found. In addition, the covid pandemic has dried out the most important channel of communication and exchange: personal contact. The interviews suggested that the digital channels cannot replace the vital face to face exchange, but are merely an addition for providing information and consultation. Nevertheless, further developing digital channels and opportunities, such as an online platform on sustainability, seems to be a welcome initiative. It is interesting that the interviews brought forward clear-cut conditions for conducting such projects. Key statements suggest that involved actors and target groups need to be addressed respectively. Furthermore, within the framework of reducing the complexity of sustainability, pragmatic, practical and tangible, comprehensible language, based on information from politics and science, complemented by news and local service information is needed. On a brief note, the interviews have been focusing on personal information, their understanding of sustainability, aims and objectives. Additionally, evaluation of activities, feedback and results, as well as the utilized channels and their self-perceived chances and challenges were taken into account. The interviewed persons' opinions on a new sustainability platform, characteristics, surface, possible support and cooperation, as well as content was also part of the inquiries. Finally, their willingness to support the platform financially, as well as current, ongoing and future sustainability projects, was discussed.

The study also found, that even specialized and professional actors fail to be recognized as a general information base. Local media certainly engage with sustainability, but they lack human resources and capacity. Furthermore, the focus on 'one topic only' contradicts the nature of daily news outlets. Therefore, anchoring sustainability as integral part of news reportage becomes quite a challenge.

Another hinderance are stakeholders' cooperation patterns. The analysis has not found any significant interconnection or networking activities between stakeholders, rather practical cooperation and a generally low diversity. Also, the dissemination of information via offline and online channels, aims for a heterogeneous set of target groups. The absence of strategic and significant interconnectivity and strong impact is eminent – organized collective actions are needed.

Outlook: A possible Tool for the Region

Phases one and two suggest, that an online platform for sustainability could be a vital and essential tool for fostering education, networking and exchange, therefore, contribute to the Great Transformation. In the final phase of the project, the research group has conceptualised and designed a platform, currently the pilot version is in progress. The intention of this platform is to interconnect stakeholders, function as information database for citizens, provide an overview of all facets of (regional) sustainability (i.e., SDGs), as well as encourage tangible sustainable change through positive and visible communication and last, foster identification with the region and the visibility of local projects. The platform is envisioned as an independent information provider, ideally operated by journalists and conducted by professional journalistic standards, which includes an editing desk, employees and desirably freelancers from different institutions. Additionally, the online platform could be a subject in lectures or courses of higher education institutions. This tool could offer a realm of high quality and diverse content, a display of local best practice examples and interactive tools such as chats or community calendars. The local focus offers the benefit of fostering a common sense of belonging and responsibility, encouraging exchange across social groups and generations, as well as economic and political players.

The local cultural conditions determine the awareness and handling of the global climate crisis. This gives various reasons and angles to engage with sustainability, tailored to a specific local context. The strategic communication of sustainability and a network of its stakeholders can unfold significant impact on regional level.

Resumé

Think global, act local is the main motto of sustainable change. With a global framework, the 17 SDGs, common guidelines are provided. Envisioning the massive complexity of global implications of the climate crisis, we approached the implementation

of SDGs in a regional context. Executing the SDGs on regional level offers great potentials but it is also determined by local conditions that pose several obstacles.

The Sustainability Report 2019 provided by the city of Nuremberg has shown that executing sustainable measures and development is accompanied by a balancing act between interests, agendas, stakeholders – but also SDG ranking. The report illustrated examples, where not only interests but also several SDGs were conflicted. Therefore, each situation needs a tailored solution and transparent decision making and strategic sustainability communication are called for. To ensure the involvement of all stakeholders, especially the citizens of a region, sustainability literacy becomes essential. It determines the outcome of sustainable change on a daily basis, as well as the awareness and necessity on eco-political levels. On a brief note, science needs to increase its visibility in day-to-day life.

The study of Nuremberg Tech has suggested that an online platform functioning as exchange base for the regional stakeholders and their respective themes, could facilitate a strategic sustainability communication and channel efforts for the Great Transformation. Increased proximity for and with citizens, as well as defined responsibilities bear the potential of providing vital infrastructure. Anchoring sustainability within society and establishing it as integral aspect of social conduct, can be achieved via thorough and strategic sustainability communication.

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