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Participatory agenda setting as a process — of people, ambassadors and translation: a case study of participatory agenda setting in rural areas

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Abstract

This paper presents a case study of a participatory agenda setting process in rural areas, with the aim of establishing at which points participation was achieved and via which channels and processes the results of said participation were introduced into local and overarching policy agendas. We argue that participatory agenda setting involves two central challenges, namely the development of dialogue formats and procedures that enable members of the public to take part in the process, and the selection and use of the appropriate channels for conveying their input to the relevant decision-makers. Agenda setting is thus a process during which concepts and issues are collaboratively uncovered or developed and then integrated, via networks, into policy and research strategy. Accordingly, this process encompasses the actors involved in the agenda setting process, the procedures that make participation possible, and the channels via which the results are then transferred.

Keywords: Participatory agenda setting, Rural areas, Translation, Agenda setting process, Participatory methodology, Needs assessment, Social foresight

Introduction

Agenda setting is a process in which the streams of problems, policy and politics come together to place an issue on the policy agenda [23]. In contrast to forward-looking analyses such as forecast and foresight processes or technology assessment, agenda setting has a normative component: it is concerned with not just identifying possible, probable and feasible future developments, but also defining goals within this sphere of possibility. Agenda setting can thus be described as "design-oriented foresight" [22].

Given this normative component, what is especially pertinent to agenda setting—as compared to probabilistic methods for investigating the future—is the question of which perspectives and whose voices to include in the

identification of desirable goals. This applies to agenda setting processes in the field of policymaking, as well as in research and innovation. In addition to determining whose perspectives are relevant, it is important to differentiate between the levels of impact of different kinds of agendas. Thus, for instance, there is a clear difference between meta-agendas that define global political aims, such as the United Nations' Sustainable Development Goals (SDGs) and specific agendas for organisations or regionally defined spaces. In short, the narrower the scope and geographic focus, the easier it is to set specific and detailed agendas—yet the more limited their reach. This analytical distinction makes it possible not only to differentiate more clearly between distinct levels of impact within agenda setting, but also to recognise and take into account connections and interdependencies between these different levels. Thus, for instance, the real-isation of the aforementioned SDGs depends upon their

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being incorporated into national and regional policy agendas. In order to operationalise agenda setting on a given level, it is therefore necessary to establish who is responsible for setting the agenda in question, to what end, in terms of which overarching objective, for which geographical area, and for when—or in other words—the actors in the agenda setting process, the content of the agenda, the underlying normative assumptions or overarching agendas, the region in question, and the time frame of the agenda. Furthermore, it is necessary to clarify to whom the agenda applies—i.e. who the stakeholders are—and which actors will need to be called upon to help achieve the objectives in question by acting as advocates. Lastly, especially for participatory agenda setting processes, two challenges are of key importance: the development of dialogue formats and methods that enable members of the public to contribute their perspectives, and the deliberate selection and use of particular channels for conveying the public's contributions and findings to the relevant decision-makers.

By means of a case study of a participatory agenda setting process as implemented via a social foresight lab, this paper explores two aspects of the above, namely the integration of members of the public into agenda setting processes and the interlinking of policy agendas, research agendas and regional agendas in the development of visions for rural spaces. In our examination of said social foresight lab, we aim to determine at which points participation was achieved and via which channels and processes the results of said participation were incorporated into both local and overarching policy agendas. In order to contextualise this case study, we discuss the opportunities and challenges presented by participatory agenda setting and the specific characteristics of rural areas below. We contextualise our case study in the RRI framework and point out suggestions for further research.

The social foresight lab in our case study forms part of the "Broadening horizons—changing perspectives" research project.[1] The starting point for both the project as a whole and the social foresight lab in particular was the observation that innovation and the production of new knowledge are predominantly concentrated in urban areas. Universities and research institutes are based in cities where scientists and academic researchers also tend to live, whereas public research has

comparatively little presence in rural areas. As a result, the needs and perspectives of people living and working far away from urban agglomerations are largely absent in research and innovation [12]. Big cities are considered drivers of innovation, whereas rural areas are thought of as not particularly forward-looking. Against this background, the objective of the "Broadening horizons—changing perspectives" project is to develop and test a participatory process that makes it possible to formulate technology transfer strategies that address the needs of rural populations and to harness this participatory research agenda setting process for the development of local development agendas.

Participatory agenda setting: opportunities and challenges

The innovation systems of modern knowledge societies are increasingly shaped by the complex interaction of a diverse range of actors from the government, business, academic and societal sectors [5, 6, 9]. In such complex innovation ecosystems, all relevant stakeholders and actors need to work together to develop solutions that are technically functional, socially accepted and economically successful and to devise adoptable strategies [6, 31, 34]. This applies in particular to fields where technology and social practice are closely interwoven, such as the healthcare industry, rural development, or mobility—and not only to short-term developments, but also to long-term agendas and future scenarios. Within this context, inclusive approaches aim above all to involve those who stand to be affected by the agendas in question, so that potential social consequences can be reflected upon at an early stage, and so as to integrate a variety of perspectives on desirable developments. These so-called "social shaping approaches" [21] highlight the reciprocal relationship between technology and policy agendas on the one hand and social developments on the other, and the way these agendas are intertwined with socio-technological systems [13, 29]. By participating in these processes, members of the public can not only help to uncover potential social consequences and ethical concerns, but can themselves become "enactors" and thus further their own visions through their collaboration with other actors [21]. The involvement of multiple stakeholders furthermore serves to ensure the adoptability of new technologies within all four innovation sectors. The inclusion of a diverse range of actors is thus not only a matter of adhering to the principle of democratic participation, but also a means of setting agendas that are socially robust.

Participatory agenda setting processes can thus be seen to have a twofold impact—in terms of substance and in terms of capacity and network building. The former consists in the enrichment of otherwise expert-dominated processes with perspectives from civil society and, by

extension, the inclusion of new issues and demands. The latter is a matter of enabling participants to see themselves as actors, who can establish networks through which their collaboratively developed ideas can be implemented or taken up by higher-level processes and agendas. However, the range of potential influence of individual actors varies in accordance with their respective occupations, functions and personal networks. It therefore makes sense to include decision-makers in the participation process, who have the means to push the resultant findings and issues forward. In rural areas, this role could for instance be played by regional administrators or mayors. Yet members of the general public can also act as advocates within their respective direct environments, by advancing the agenda in question and playing an active part in the relevant transformation processes. Renn [28] refers to the transition to sustainable energy as an example of how the success of a transformative undertaking depends on participatory processes that entail more than mere dissemination of information. Using the same example, he also shows how the opportunity to participate helps people identify with the innovative project in question.

All the same, national and international foresight and agenda setting processes have thus far primarily relied on the participation and perspectives of experts [8, 39]. Although these processes do acknowledge the societal aspects of innovation and can furthermore be combined with participatory practices such as civil dialogues and referendums, the core process itself offers little opportunity for the participation of regular members of the public ([8]: 153). In other words, the inclusion of non-organised civil society—i.e. the general public—in foresight and agenda setting processes has thus far been rare [1, 20, 25]. Recent examples of participatory agenda setting processes that buck this trend are the Citizen Visions for Science, Technology and Innovation project (CIVISTI) (as described in Gudowsky et al. [14], Sotoudeh and Gudowsky [35]) and the Shaping Future project [17, 19].

Methodological challenges can be cited as particular reasons why participatory agenda setting processes are not implemented more often. Summarizing a literature review on participatory agenda setting processes and methods, these challenges can be condensed into the following four points. (1) *Silo knowledge*: Participatory agenda setting processes require both uncovering the various types of knowledge that actors from different fields bring to the table, and making each of these bodies of knowledge understandable to the remaining participants [2, 6]. This requires a "translation" between different actors and stakeholders. (2) *Interaction of heterogeneous actors*: Exchange between actors from different fields must be organised and moderated in a way

that addresses the aforementioned problem of silo knowledge. This requires methods and dialogue formats that transcend verbal communication and facilitate mutual understanding [5, 10, 17]. (3) *Timing of stakeholder involvement*: Within participatory agenda setting processes, the involvement of societal stakeholders in technological development is subject to the so-called "Collingridge dilemma" [7]—the sooner actors from outside the field of research are brought in, the greater their potential say in the agenda being drawn up, yet the lower their interest in and comprehension of the relevant developments and potential consequences. As public interest then rises over time, the extent to which non-experts are able to influence matters correspondingly shrinks. In order to resolve this dilemma, possible developments and potential ethical, social and regulatory implications must be conveyed to non-experts at an early stage and in an understandable manner—thus enabling them to view the future as something they can help shape. (4) *Representativeness and legitimacy*: In all participatory projects, certain choices must inevitably be made regarding the selection of participants. At the same time, these choices can significantly influence the project's outcome [38], as the legitimacy and validity of the findings of a participatory process are closely tied to the makeup and representativeness of its participants. This in turn raises practical questions about the required number of participants in such processes—especially if they are to serve as the basis for deriving official measures and policies (ibid.).

These challenges informed the case study and will be addressed in the presentation of the case. As participatory agenda setting focusses on engagement in the very beginning of research and innovation processes, presented challenges for participation can be considered particularly difficult to overcome.

Accordingly, the design and implementation of participatory agenda setting practices requires a process model that acknowledges and provides methodological answers to each of the challenges listed above.

In this paper, we assume that finding appropriate transfer channels and strategies constitutes a crucial step towards cementing the role of participatory practices within the field of agenda setting. In other words, the mere fact that issues to be placed on agendas are identified and formulated in a participatory manner does not yet mean that the process can be described as an instance of participatory agenda setting. As rural development implies many different stakeholders (from society, policy, research and industry) and has to reflect many different levels (in terms of political levels and involved regions and communities), one guiding assumption of our case study was that participatory agenda setting requires networks through which said issues can be

introduced into policy and research strategy, and thus have a real impact. For this reason, in our case study below, we focus in particular on the processes and channels via which the results of direct participation were carried beyond the immediate context in which they came about.

Participatory agenda setting processes in rural areas

The objective of the BMBF-funded "Broadening horizons—changing perspectives" project (3/2017–2/2020) is the integration of the needs of rural areas into research and innovation processes. As part of this project, a social foresight lab was set up for the purpose of determining the needs of rural regions in Germany, while simultaneously bringing on board actors with the capacity to introduce said needs into research policy discourse. As the organization for applied research, it is the task of the Fraunhofer Society to transfer scientific findings into practice. The social foresight lab can therefore be seen as part of action research, in which the research team played both observing and shaping roles. The lab consisted of three stages. First, the creation of visions for the future; second, needs assessment in three participative workshops; and third, integration of these needs and future visions into research and funding practice and policy.

In participatory workshops conducted with a variety of actors at different stages in the process, rural social developments and needs were identified and desirable visions for the future drawn up. At the same time, the process gave rise to an increasingly extensive local and national network, which in turn provided transfer channels that made it possible for local discourse to start affecting (research) policy agendas even during the course of the project (Fig. 1).

Below, we discuss in more detail which opportunities for participation were built into the process, who was involved, which transfer channels were unlocked and how the collaboratively developed ideas and issues were translated. Fi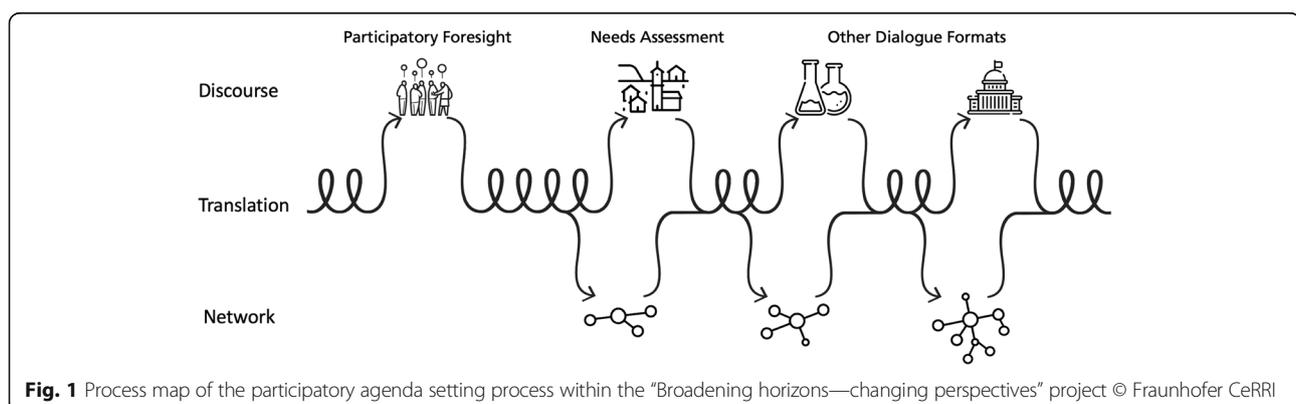rst, under the headings "participatory social foresight" and "needs analysis", we show how in the three participating sample regions, ideas and issues were collaboratively identified, translated and then taken further. After that, we look at how the project facilitated network building on a local and supraregional levels.

Opportunities for participation in agenda setting

Rural areas are responsible for roughly 50% of overall value creation in Germany [30] and despite facing certain significant challenges, have great development potential. The exact course for further development of rural regions is, however, still open. They could, for instance, position themselves as attractive loci of innovation, or as recreational spaces for city dwellers—yet none of these possible futures is set in stone. In order to uncover this large sphere of possibility, a variety of different participatory dialogue formats were employed in the course of the project. Participants were in each case deliberately selected. In order to involve as many different perspectives as possible in the process, care was taken to put together as heterogeneous a group as possible. Heterogeneity referred to the gender and age of the participants, but in particular also to the equal representation of all four sectors of the quadruple helix (cf. [6]). The participants therefore came in equal numbers from civil society, business, politics as well as from regional research institutions.

Participatory social foresight

In order to uncover the aforementioned sphere of possibility in a participatory manner, 23 people from rural regions in Germany were invited to develop desirable visions for the future in a so-called "thought leader workshop". In keeping with this name, the participants were all individuals who play an active visionary role, possess a good overview of current developments in rural spaces and have well developed personal networks. Those invited—several of whom were members of non-organised civil society—included the founder of a co-working space, a young farmer, a local journalist and a

Fig. 1 Process map of the participatory agenda setting process within the "Broadening horizons—changing perspectives" project © Fraunhofer CeRRI

member of a foundation promoting social betterment through innovation in rural areas. Participants were identified and selected using snowball recruitment, by harnessing existing networks in which said individuals were known for their activities, lectures or projects.

Under the guidance of experienced moderators, the participants worked on developing desirable ideas for the future of rural spaces by the year 2035. This rather long-term time horizon was chosen in order to (1) give the participants the opportunity to design a future that is not bound to today's constraints of what is feasible (technologically, politically, financially) and (2) to have sufficient design options in the subsequent agenda setting process. In doing so, the participants were encouraged to think in terms of possibilities, rather than perceived practical limitations. Methods from the field of design were employed both to facilitate communication among the different members of this heterogeneous group and to enable them to discuss as abstract a subject as "the future" [31]. Working with physical materials and tactile or visual elements makes it possible to overcome the barriers of language, and thus to uncover implicit knowledge [24], while simultaneously making the subject of discussion tangible and facilitating the creation of a shared vision [11].

The end result of this process was a range of desirable future visions for rural areas, each of which was visually represented on an A2-sized piece of cardboard on which a variety of materials (e.g. sponge rubber, paper, cord and cork) had been arranged. In a brief presentation to the rest of the group, participants then explained what was happening in each of the depicted scenarios. Thus, for instance, one vision depicted a region becoming self-sufficient by employing a sophisticated system to negate its dependence on imports and delivery. Another portrayed a hypothetical future scenario in which an exchange programme for start-ups is used to strengthen exchange between urban and rural areas. Yet another presentation centred on the particular knowledge rural spaces have to offer, and how this knowledge could be tapped into via new ways of learning (Fig. 2).

Translation into speculative future visions

Next, the research team had the task of identifying, condensing and finally translating the wishes, possibilities and ideas contained in the newly developed visions into three overarching scenarios. These scenarios, which would in turn form the basis for the subsequent needs assessment stage, were then expanded upon and more extensively formulated in terms of technological possibilities, resulting in three distinct scenarios for the future, each based on different ideas, wishes and discussions from the thought leader workshop. These three scenarios, namely "the innovation campus", "urban–rural symbiosis" and "the digitally rooted region", were conveyed
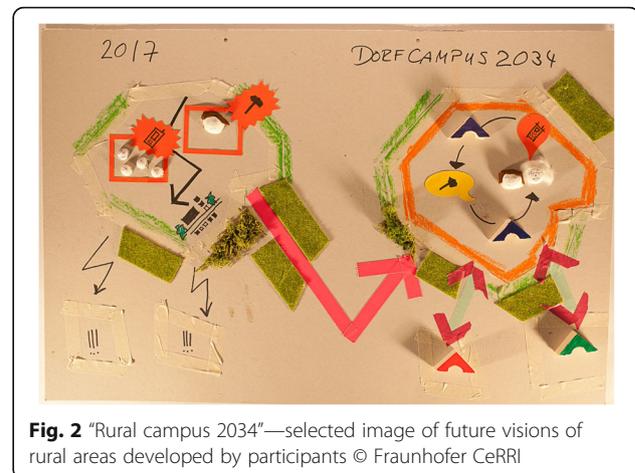

Fig. 2 "Rural campus 2034"—selected image of future visions of rural areas developed by participants © Fraunhofer CeRRI

using a variety of means, starting with an illustrative diagram and written description providing a brief overview of each. In addition to this and in order to make these scenarios more directly accessible and understandable, professional designers transformed selected aspects into so-called speculative design artefacts [18], with which participants could engage during the next stage of the process. These artefacts took the form of images or objects "from the future", which clearly and tangibly demonstrate the principles or functions of hypothetical future processes and devices—thus not only providing a basis for discussions on whether given technologies or solutions should be implemented, but also helping to clarify how they would work.

The aforementioned idea of a self-sustaining region provides a good example of how this translation process worked in practice. The concept was subsumed under the heading "the digitally rooted region" (see Fig. 3), where it was further refined and expanded upon in terms of the particular technological solutions it would require, such as a platform for the distribution of food and other supplies and resources among the region's residents. In addition, the basic concept was combined with the desire to preserve traditions and local identity, which could be achieved through a stronger reliance on regional products and local craft. These ideas were then made tangible by means of a set of speculative objects, which demonstrated how local milk production could make use of a system that keeps track of current supply levels and demand in different locations. This was conveyed by means of a poster showing a display on a hypothetical future screen and trackable milk bottles represented by stainless steel bottles with printed labels.

Needs assessment in three sample regions

A participatory approach was likewise chosen to determine the needs of rural areas with respect to technological innovations. Two-day workshops were conducted
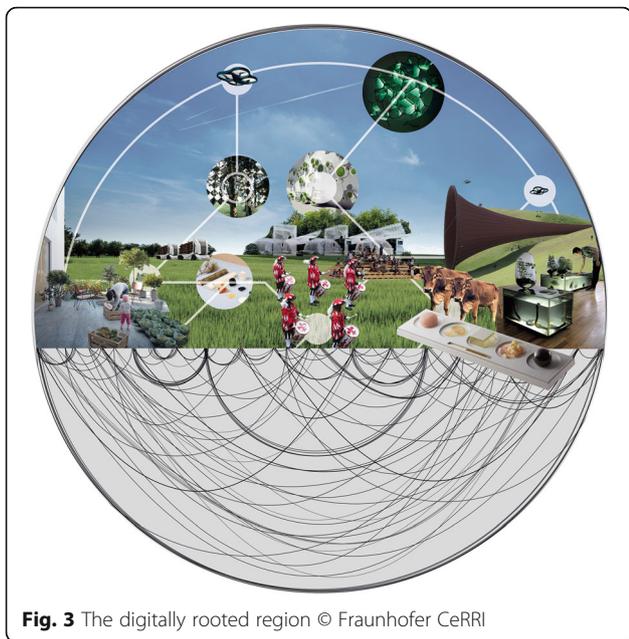
Fig. 3 The digitally rooted region © Fraunhofer CeRRI

in three sample regions in Schleswig-Holstein, Bavaria and Hesse, in each case with around 25 people from the region. The aim was to discuss the above-mentioned newly developed scenarios with local people, so as to uncover possible futures and the wishes, challenges and peculiarities of each region. These discussions revolved around issues such as regional value creation, new ways of working, and novel housing concepts.

The above-mentioned speculative design artefacts depicting a new milk tracking system was set up in all three of the sample regions, in each case in a small shop that stocked local products. As in the case of all 12 speculative installations, it was accompanied by a descriptive text "from the future" (for some examples, see Fig. 4). Workshop participants in all three regions used the presented scenario as a starting point for both reflecting on existing regional value creation chains and considering ways in which these could be expanded. In particular, while participants in the sample region in Hesse cited numerous current examples of regional

value creation, they also noted the absence of a functioning bundled distribution channel for regional products. They at once started formulating the requirements that such a distribution channel would need to meet, and concluded that it would have to be based on a networking platform. In the region in Schleswig-Holstein, the discussion took a different turn. Participants started wondering why all of the hotels, guest houses and other providers of tourist accommodation had their laundry washed in nearby towns. This gave rise to the idea that the peninsula should have its own laundry service, which would not only solve existing logistical problems, but also create new jobs and contribute to a closed value creation cycle within the region.

Another example was the issue of mobility, as evoked by a speculative ticket machine that dispensed novel mobility solutions. Here, participants talked about the need for new mobility concepts in their region, and the criteria that such concepts should satisfy. The fictional tickets issued by the machine prompted participants to weigh concerns about privacy against greater convenience or efficiency, debate whether carpooling should be centrally organised, and consider the possibility of other completely different solutions for their region.

Evaluation and translation into fields of action

Following the three needs assessment workshops, all of the generated material were subjected to content analysis. The perspectives on development revealed during the earlier social foresight process could thereby be more clearly differentiated in terms of particular identified needs. For example, the following needs were grouped under the heading of regional value creation: having the option of selling products in small quantities, rethinking local village shops as potentially mobile and providing a variety of bundled functions and new jobs and work structures that reduce the need for commuting.

This process was used to derive six overarching fields of action that hold development potential for rural regions in Germany. When these are supplemented by an

Fig. 4 Selected images from the needs assessment workshops © Fraunhofer CeRRI

Fig. 5 Fields of action for rural regions © Fraunhofer CeRRI
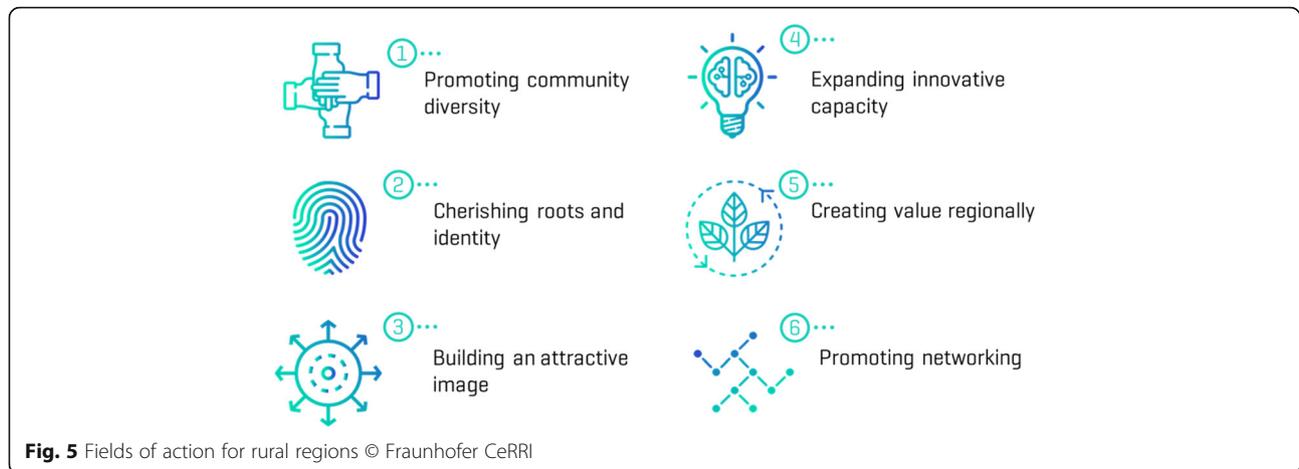
analysis of the relevant needs in terms of technological possibilities, it also becomes possible to conclude which technologies would be required.

One of these six fields was, once again, regional value creation. In all three regions, this topic was explored in a variety of discussions touching on different aspects and requirements. All of these were incorporated into the following description:

> The field of action entitled "Creating value regionally" concerns the economic actors and activities in a given region and draws on networking and new alliances among business, government and societal actors, as well as natural resources. The aim is to create value in and for the region, incorporate external input, and develop new business models. Regionally created value sustainably benefits the region in question.

In addition to the above description, specific practical recommendations were formulated, and examples of successful regional value creation were gathered. The

Fig. 6 Toolbox for shaping the future of rural areas © Fraunhofer CeRRI

same was done with respect to the other five fields of action (Fig. 5).

A special toolbox (Fig. 6) was prepared to facilitate the inclusion of the identified fields of action in regional planning processes. Intended to serve as a compass for shaping the future of rural areas, each A6-sized box contains a manual, action maps and technology maps related to the various fields of action and identified key technologies, and a template for the development of new measures. This kit can be used to support the development of regionally specific, holistic strategies that draw on the knowledge of the local population, networks, economic and natural resources, and local infrastructure.

The toolbox was presented in the three sample regions and elsewhere, and has been put to use several times as a means of disseminating the results of the participatory needs assessment.

Network building

A further component of participatory agenda setting on which the case study can shed more light is network building, which makes it possible to find the right channels for conveying the results of participatory processes to decision-makers. Each stage of the social foresight lab involved a range of both local and national actors, which gave rise to a network that kept expanding on multiple levels during every step of the process. Below, we look at the different levels at which transfer channels were unlocked in the course of the project.

The start of the process was marked by the establishment of "Land. Leben. Zukunft." ("Country. Life. Future.")—a network of German regions lauded as innovative and already previously connected via a variety of funding projects. The network was established as a transfer channel within the project, but was not subject to further research. Lessons learned from the project were discussed within the network. From within this

network, three sample regions were then chosen for the two-day needs assessment workshops. An important criterion in the selection process was to have a designated contact person—or "gatekeeper"—in each region, who has access to the local network, knows the local key decision-makers and could establish contact with the right candidates for participation in the workshop. In this way, we were able to activate the existing local network in each of the three sample regions. This included involving representatives of local government and administration, namely mayors and local and regional administrators, and having the project featured in the local press. In each case, the contact person could be seen to know exactly whom to invite in order to ensure that the process would have an effective outcome; accordingly, key figures were always invited or at least informed.

Local government actors furthermore acted as ambassadors, presenting the issues raised in the course of the project in the state parliament (Landtag) or introducing said issues into preparatory discussions on national research agendas. Fraunhofer researchers were likewise able to play an ambassadorial role, thanks to their contacts in the German federal government and the OECD, and via their contributions to conferences with audiences from the fields of academic research, government and business. Thus, the collaboratively developed ideas and issues were introduced into policy discourse, repeatedly and at various points.

Moreover, regular meetings of the "Land. Leben. Zukunft." network—which has the stated objective of shaping political discussions and research agendas in accordance with the needs of rural areas—continue to ensure a sustained discourse and agenda setting process.

The next step in the process is a deliberate dissemination of the outcomes of the previous stages among policymakers and researchers through various dialogue formats, including two workshops with selected representatives of each of these two sectors. These workshops have the additional purpose of helping to process and prepare said outcomes for integration into existing discourses within the respective fields. For instance, several of the ideas developed in the sample regions entail new ways of using the internet and thus rely on fast and reliable connections. Accordingly, these ideas can now be integrated into discussions on broadband expansion and shift the focus away from the question of whether broadband coverage should be expanded, towards asking why this needs to happen.

In light of the very different levels at which discourse takes place and the varying degrees of abstraction involved, the repeated translation of concepts and issues as described above was of crucial importance to the project. Simply put, a piece of cardboard

covered in bits of sponge rubber cannot on its own provide a meaningful impetus to the development of a national research strategy. Accordingly, alongside the continued expansion of the network of directly and indirectly involved actors, it was also necessary to continually convert and translate the issues at hand into the relevant professional jargon and appropriate level of abstraction. In this way, the adoptability and relevance of the results of the various participatory processes could be made clear, and they could in each instance be incorporated into the relevant discourse.

Discussion: participatory agenda setting as a process

The existing literature on participatory agenda setting focusses on the question of how those who stand to be affected by future research outcomes can be involved in the process. It is assumed that the early integration of laypeople in otherwise expert-dominated agenda setting processes makes it possible to consider potential social consequences in advance, and to incorporate a variety of perspectives on desirable developments [14]—thus making for a more responsible innovation process [36, 37]. The literature thus places the focus primarily on those directly involved in participatory agenda setting.

As our case study shows, however, participatory agenda setting involves two central challenges, namely the development of dialogue formats and procedures that enable members of the public to take part in the process, and the selection and use of the appropriate channels for conveying their input to the relevant decision-makers. Accordingly, it encompasses not only actors involved in the agenda setting process and procedures that make participation possible, but also the channels via which the results are then transferred. Agenda setting is thus a process during which concepts and issues are collaboratively uncovered or developed and then integrated, via networks, into policy and research strategy. Based on our case study, it is possible to investigate further levels of impact, epistemic community and translation processes within such participatory agenda setting process.

Agenda setting can be broken down into different levels of impact (see Fig. 7). In this paper, we primarily dealt with agenda setting at local and national levels. The needs assessment workshops in the three sample regions were explicitly geared towards both of these levels, given their dual purpose of not only determining each region's needs with respect to new technologies, but also strategically positioning said region for the future.

Local agenda setting within the workshops centred on very specific and locally relevant issues. Participants included key regional development actors such as mayors,

Fig. 7 Levels of participatory agenda setting © Fraunhofer CeRRI
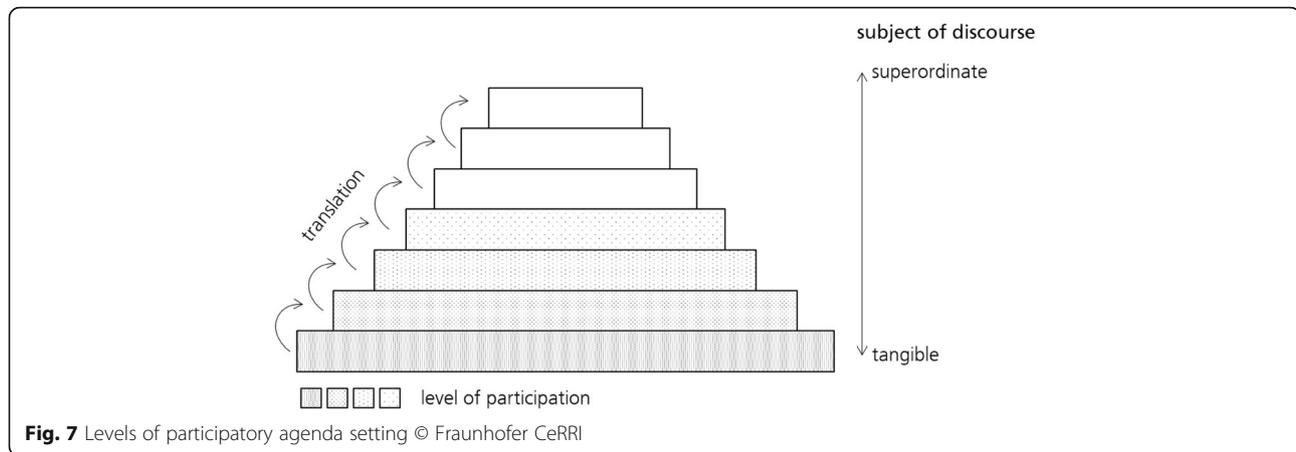
administrators and business owners, as well as other members of the local community, such as students, bank employees and country doctors. Participants were between 17 and 70 years old. Members of the public directly participated in setting local policy agendas, and in collaboration with local decision-makers, developed ideas for the future of their region.

During the workshops, participants identified problems affecting their region—for instance a lack of local products and local value creation—and discussed possible strategic solutions. At the same time, networks of local actors emerged or were further consolidated. The discussions that took place were analysed by the organisers of the workshops and translated into an instrument for the development of regional strategies. This tool was presented in each region alongside the specific outcomes of the discussions, which created the possibility of analysing the existing measures and activities in each region in terms of a superordinate objective.

Any participatory process must ask itself the question of access and legitimacy [38]. The participants themselves cited the diversity achieved within the labs conducive to creativity and helpful in reflecting upon and discussing the results of the process. This shows that although the legitimacy of the results could in this case not be based on statistical representativeness—given that the group of participants did not constitute a proportionate sample—diversity can nonetheless be used as a strategy for achieving greater legitimacy.

The workshops also targeted national (research) policy agendas, inasmuch as they raised issues that merit attention in future research. In order for these specific local issues to reach a higher level of impact, both the local decision-makers who participated in the workshops and the researchers involved in the project became active ambassadors within their respective supraregional networks. This entailed translating said local issues into more general propositions, tailored to specific target audiences. Thus, particular local needs were converted into more abstract fields of action geared towards raising official support for rural areas and, by extension, the development of new research programmes and funding for rural innovation.

Local decision-makers such as mayors, administrators or business owners have political, financial and decision-making power, albeit only within the limits of their locality or region. Although their personal networks do extend beyond regional bounds, their roles in the development of national agendas are limited to that of driver and supporter of ideas. The research institutions responsible for organising the process, on the other hand, having acted as moderators and facilitators in the development of local policy agendas, were able to take up an ambassadorial role in the setting of national research policy agendas, in their capacity as members of an epistemic community [15].

Our case study shows that translation forms a key element of participatory agenda setting processes. Translation as understood here encompasses those activities that transform a given issue into a socially, politically, economically or scientifically relevant [3, 4]. Within the context of the social foresight lab, it was possible to derive concrete practical recommendations from an uncertain future through a process of translation consisting of three steps. The first step consisted in the development of methods for making complex issues understandable to laypeople. For instance, with the use of speculative objects and descriptions of possible futures, social and technological developments could be framed in terms of the problems of people in rural areas and thus made understandable. The second step was to devise procedures and formats that enable people to talk about technologies and innovations and to develop their own ideas. Here, various methods were developed and put to use, drawing on the fields of design, scenario analysis and social gaming. Thirdly, the newly developed ideas were

then once again generalised, and the generalised propositions in turn communicated both linguistically and through visual and tactile means. This three-stage translation process of reduction, construction and expansion [32] makes it possible not just to hear but also integrate the needs and ideas of laypeople into agenda setting processes. This kind of translation, in which issues and concepts are adapted to particular target audiences, requires a comprehensive range of skills and resources. Successful participatory agenda setting therefore requires focussing as much on these translation processes and the resources they require as on the methods needed to address the challenges of participatory processes.

Translation is a process in which real-world objects and observed phenomena are combined with certain assumptions, considerations and objectives [26]. Thus, the needs with respect to regional value creation identified in the workshops were further developed in terms of both form and substance into recommendations on how the future of rural areas should be shaped, and regarding knowledge and technology transfer. In this way, the challenges of the investigated rural areas were translated into political and scientific problems that can be incorporated into future national research agendas and regional development agendas. This is only one of many possible routes, however: by means of translations aimed at other target audiences, these needs and challenges could also for instance be steered towards market-based solutions. Ambassadors are thus not neutral actors, but rather exercise agency when they translate and transfer issues into their respective networks.

Participatory agenda setting can thus be understood as a process comprising not only instances of participation, but also the transference of specific issues into superordinate agendas operating on various levels.

With this new perspective on agenda setting as a process, questions regarding the responsibility of this process comes to the focus. Responsible innovation takes social and ethical aspects of an innovation into account; producers of new solutions and innovations become responsible for their products [16]. The responsible research and innovation (RRI) framework provides four dimensions, to analyse the responsibility of innovation processes, i.e. anticipation, reflexivity, inclusion and deliberation, and responsiveness [27, 36, 37].

From this perspective, participatory agenda setting processes should be analysed in terms of their (local, national or international) level of impact and the channels and processes via which agendas are transferred from one level to another should be investigated. Existing literature on participatory agenda setting assumes that the early integration of laypeople in otherwise expert-dominated agenda setting processes makes it more responsible [14]. However, as translation and ambassadors

play a pivotal role for agenda setting to have an impact, it is necessary to further investigate how far these elements of the process can be made responsible.

Focusing on the instances of participation, it needs to be analysed in how far such participatory agenda setting processes contribute to more responsible innovation in the sense that they enable individuals to form preferences and evaluate innovations [16].

It also means that advocates and stakeholders in participatory processes are faced with an important responsibility. In order to ensure the actual transference of ideas and issues into agendas, these actors need to become ambassadors who spread the collaboratively developed ideas and issues within their respective networks. However, these advocates and stakeholders are not neutral but powerful actors who translate the ideas into their networks to realize their particular vision [33]. To make the agenda setting process more responsible, it is necessary that ambassadors become aware of their being non-neutral. A first step towards a more responsible process would be to make the ambassadors' particular vision of the ideas transparent. Finally, given the important role played by the translation and preparation of collaboratively developed ideas for particular target audiences, these processes deserve to be featured more prominently in participatory research.

Conclusion and suggestions for further research

The above analysis and discussion demonstrated that participatory agenda setting can have various—in this case, spatio-political—levels of impact. The overall effectiveness of the process thereby primarily depends on the concerted, scientifically sound and precise interlocking of and translation and transference between these different levels and the various communities and areas of responsibility and expertise connected with each. The three essential elements of this process are (1) opening up the process to the general public and others who are otherwise usually excluded, (2) enabling participation and finally (3) strengthening the process through the selection and use of the appropriate transfer channels while making non-neutral and normative parts transparent.

In light of the global Fridays for Future movement and increasingly loud calls for the responsible development of new digital technologies, and in the face of growing economic, social and cultural divides between different regions, actors from research, business and government are increasingly conscious of the need to align innovation and transformation processes with societal needs and to open these processes to societal participation. In view of this challenge, there is a need for more knowledge as well as more processes and methods that

both facilitate participation and make it possible for said participation to have an actual impact. This increasingly gives rise to questions regarding how different levels of agenda setting can be combined and connected. What do the SDGs mean for a particular region? How can we use technologies to achieve these goals? How can we then make this knowledge available to others, nation-wide? Given these challenges, we hope that our findings will lend more efficacy to new and emergent forms of participation and participatory agenda setting, aid in interlocking and operationalising different levels of impact and help make higher-levels agendas and processes meaningful and tangible to members of the public and process participants.

Nevertheless, certain questions remain to be addressed by future research: (1) How do we ensure that once the outcomes of participatory processes have passed through the relevant transfer channels, they still reflect partici-pants' originally formulated wishes and needs? Which actors make for suitable ambassadors to facilitate the transfer process? Is it possible to identify, develop and formulate specific incentive structures which ensure that that which has been collaboratively developed and then implemented still corresponds to the initially formulated wishes and needs? (2) How are conflicting objectives— which may arise between different impact levels or among different actors—handled in this kind of multi-level process? Does this require reaching certain agree-ments in advance? Can conflicting objectives be dealt with at all in a process such as this? And finally, (3) How can such multi-level processes be sustainably insti-tutionalised, so as to systematically and permanently un-lock regional potential for individual regions and local actors, as well as for research policy agenda setting? What should regional innovation spaces, relationships and cooperation among actors, and incentive structures look like so that local needs can be formulated and in-corporated into supraregional and national agenda set-ting processes?

Abbreviations
CeRRI: Center for Responsible Research and Innovatio; CIVISTI: Citizen Visions on Science Technology and Innovation; BMBF: Federal Ministry of Education and Research (Bundesministerium für Bildung und Forschung); Fraunhofer IAO: Fraunhofer Institute for Industrial Engineering (Fraunhofer Institut für Arbeitswirtschaft und Organisation); Fraunhofer INT: Fraunhofer Institute for Technological Trend Analysis (Fraunhofer Intitut für Naturwissenschaftlich-Technische Trendanalysen); IS: InovaInstitute for Social Innovation (Institut für Sozialinnovation); OECD: Organisation for Economic Co-operation and Devel-opment; RRI: Responsible Research and Innovation; SDGs: Sustainable Development Goals; SRLE: Advisory Council on rural development for the Federal Ministry of Food and Agriculture (Sachverständigenrat Ländliche Entwicklung des Bundesministeriums für Ernährung und Landwirtschaft)

Authors' contributions
All authors had made substantial contribution to conceptualising and writing the paper. FS, HG and SK substantially contributed to the acquisition and analysis of the empirical material. FS interpreted the empirical findings. The authors read and approved the submitted manuscript.

Availability of data and materials
The datasets generated and/or analysed during the current study are not publicly available due to general data protection laws but are available from the corresponding author on reasonable request.

Ethics approval and consent to participate
Not applicable

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Competing interests
The authors declare that they have no competing interests.

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