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The Role of Information in Public Participation

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The Role of Information in Public Participation

Abstract

A large body of scientific literature on public participation research evaluates specific methods, describes outcomes and impacts of a process or deals with participants' and officials' expectations. Yet, there is surprisingly little work on a key part of most participatory processes that deal with complex issues: the information passed to participants. Topics like Global Warming cannot be grasped easily. Even if global warming is happening very quickly on a geological time scale, for human beings it is not easily perceivable. Such a discrepancy between everyday experiences and scientific knowledge can influence one's opinion tremendously. Therefore, providing sound information and respecting the power of information is essential for meaningful outcomes of participatory processes. In this paper we examine different communication and information pathways within participatory processes. As the main object of interest, we analyzed 'World Wide Views on Global Warming'. In this distinct process of information and deliberation, citizens formulated recommendations for the decision makers of the 2009 UN climate summit in Copenhagen and voted on different aspects of how to deal with global warming. Results from this process connected to insights from a literature review, contribute to a refined picture of the role information plays within participatory processes and social learning.

Keywords

Public participation, information provision within participatory approaches, information flow in participation, deliberation, Worldwide Views on Global Warming

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1. INTRODUCTION

Involving different actors in the process of decision-making, and thus broadening the basis on which decisions are made, is becoming increasingly important worldwide. The Rio Declaration on Environment and Development (UN 1992) stressed the importance of access to information for the public in environmental decision-making. The European Union laid down the groundwork with the Aarhus Convention (UNECE 1998) and the fifth and sixth environment action programmes (EC 1993, 2002), which state that participation and access to information are democratic rights in environmental decision-making.

Recent scientific literature also suggests that in the face of high stakes, uncertain facts, and the need to take urgent decisions, scientists can only provide useful input when they interact with the rest of society (Garmendia and Stagl 2010). Pressing global challenges such as climate change display all these features. Even if global warming is happening very quickly on a geological time scale, for human beings it is not easily perceivable. Many people perceive global warming as distant in both space and time and as more of a societal problem than a personal one (Lorenzoni and Hulme 2009). Such a discrepancy between everyday experience and (scientific) knowledge can have a great influence on one's opinion. Lorenzoni et al. (2007) argue that citizens have difficulty interpreting scientific complexity and uncertainty, and that they are more likely to ignore information if it conflicts with their own experience and values. Therefore, providing sound information and respecting the power of information is essential for meaningful outcomes of participatory processes.

The decision-makers' motivations for conducting and listening to participatory exercises are diverse, but a widespread belief indicates that considering a multiplicity of opinions can lead to socially more robust decisions and "brings citizens and institutions closer together" (Monaghan 2007: 124). In the case of the EU, three reasons for the growing interest in

participation have been identified: (a) broadening the basis of information on which decisions are made (in addition to political and scientific arguments), (b) increasing the legitimacy of decisions, and (c) shaping a European citizen identity (Boussaguet 2011). For almost a decade the European Water Framework Directive was the only legally binding EU law that integrated participation, as something going beyond the right to vote, into decision-making (EC 2000). It was intended to encourage active involvement, consultation, and public access to information as a strategy for community involvement in water policy. Nevertheless, it has been shown that at the beginning of the implementation process participation was poor in many EU countries (de Stefano 2010).

Following the Water Framework Directive, the Lisbon Treaty laid down the legal groundwork for participatory democracy in the EU¹ in 2009. It is yet to be seen if this step has translated into real world action on a large scale and with significant impact. Often the results of participatory processes have difficulty reaching and influencing actual policymaking, especially within participatory technology assessment (Abels 2007, Rask 2013). In addition, different methods meet the general aims of producing better decisions and reinforcing legitimacy to different degrees (Bobbio 2010).

In relation to a substantive type of deliberation, a term coined by Fiorino (1990), information represents a basic and essential element in participatory processes when these are aimed at fostering informed decisions. In a comprehensive literature review on stakeholder participation in environmental management, Reed (2008: 2425) states: “The need for scientific information and analysis to inform stakeholder deliberation has been identified

¹ Article 11 of the consolidated version of the treaty on European Union; for example paragraph 1 and 2: “1. The institutions shall, by appropriate means, give citizens and representative associations the opportunity to make known and publicly exchange their views in all areas of Union action. 2. The institutions shall maintain an open, transparent and regular dialogue with representative associations and civil society” (EUR-Lex 2008).

by many authors as an essential ingredient in any participatory process.” The International Association for Public Participation argues that the necessity of informing participants is one of the core values for best practice in any public participatory process: “Public participation provides participants with the information they need to participate in a meaningful way.” (IAP2 2007: 1) In a broader context sufficient access to information is of the utmost importance for democratic societies, and a lack of information hampers political discourse and democratic dialogue (Jaeger 2007).

Information as a tool for informed dialogue can be contradicted by the sheer power of the selection and provision of information and the influence this power has on the content of a discussion (Abelson et al. 2003). Thus access to viable information resources is one of the key criteria in the evaluation of participatory processes (Tuler and Webler 1999, Rowe and Frewer 2000, Edwards et al. 2008). Therefore, providing physical access to information is only one aspect of making information available. Other modes of access include intellectual and social aspects (Burnett 2008) that concern the quality of the information and its presentation. For example, it is important to choose suitable presentation modes when taking the diverse educational backgrounds of participants into account.

1.1 Aim of this paper

Due to the lack of detailed conceptualisations of the role of information in participatory processes, we reviewed knowledge concepts and typologies of participation. We arrived at an understanding of the term “information” and a differentiation of types and quality of flows of information. Building on this theoretical foundation we analysed the first global participatory process, World Wide Views on Global Warming (section 2). Here, we asked how information and flows of information shape such a process. Section three describes the results of several surveys and their implications for the flows of information within WWViews. We then provide a discussion of the findings and some concluding remarks (sections 4 and 5).

We do not intend to evaluate the entire WWViews process, which took place simultaneously in 38 countries. We limit our discussion to the Austrian process, around which we conducted several surveys. Nevertheless, the WWViews structure was largely uniform. We therefore use evaluations of other countries' experiences to draw some conclusions for the Austrian as well as the entire process.

We assume that participatory processes, which rely on face-to-face deliberation, can provide equal information to all participants even though every participant will have their own background. Online processes include the possibility for participants to use the Internet as an additional and individual information source. The basis of how information is supplied and used is therefore different.²

1.2 Theoretical background

1.2.1 Different types of knowledge

Knowledge is not uniform, but exists in different forms and types. Citizens and stakeholders often obtain their knowledge from sources other than those available to scientists.

Transdisciplinary and transitional research integrates these different types of knowledge to address real-world problems by setting practice-oriented goals. In this way, it is hoped that adequate means for transforming existing conditions will be developed. In these processes three forms of knowledge are distinguished: (a) systems knowledge, (b) target knowledge,

² For a detailed description of information in online processes see Poletta et al. (2009); for an overview of e-participation processes in Europe see Beckert et al. (2011); and for a comparison of large-scale deliberations see Andersson and Shahrokh (2012).

and (c) transformation knowledge (Pohl et al. 2007).³ There are various other approaches in categorising knowledge that are relevant and intrinsic to participatory processes. The methodologies of participatory processes vary considerably, and the sorts of information within these processes are also highly variable depending on the type of knowledge involved. In a participatory process concerning water resource management, for example, information can relate to science and technology as well as local knowledge. Site-specific characteristics such as local values, interests or the broader context (e.g., political, social, economic, and environmental factors) play a major role in shaping the perceptions and therefore opinions of participants (Hartley 2006).

Hartley (2006) compares different categories of knowledge, whereas Glicken (2000) distinguishes different qualities: cognitive, experiential and value-based knowledge can play a part in public participation. Cognitive knowledge is based on individual expertise, and experiential knowledge on common sense and personal experience. These two types are developed by individuals, whereas value-based knowledge is intrinsic to a certain society because it is moral or normative.⁴

³ Pohl et al. (2007:36) describe the types of research question in transdisciplinary research that lead to the different forms of knowledge: (a) systems knowledge: questions about the genesis and possible further development of a problem; (b) target knowledge: questions related to determining and explaining the need for change, desired goals and better practices; (c) transformation knowledge: questions about technical, social, legal, cultural and other possible means of acting that aim to transform existing practices and introduce desired ones.

⁴ For a detailed categorisation of knowledge in environmental management processes, see Raymond (2010).

1.2.2 Information as a vehicle to transfer knowledge

Scientific knowledge is mostly cognitive knowledge. It is typically understood to be explicit, systematised, decontextualised and hence widely transferable (Ingram 2008). Due to these properties, information relating to scientific knowledge often needs to be incorporated into participatory processes. Carson (2010: paragraph 10) stresses that any process should provide participants with access to experts and sufficient information, because “citizens are remarkably good at weighing up the strengths and weaknesses of arguments and arriving at a considered, collective judgement.” Participatory mechanisms typically use educational background material when they are designed to create deliberation and foster the exchange of perspectives, experiences and reasons (Fung 2006). However, information in itself is not knowledge. It has been argued that knowledge is rather the situated form of information when used and applied under certain circumstances (Ingold 2000; Healy 2009). The process that allows information to become knowledge can be defined as learning. Therefore, learning plays a key role in any participatory process that supplies information and gives participants room for debate. Learning is a prerequisite for gaining real and imagined situated knowledge, and is of the utmost importance for making informed decisions. Supplying (scientific) information is thus a necessity in any democratic process that tries to foster such decisions.

Abelson et al. (2003) identify the following aspects of information as principles to be considered when evaluating and planning public participation processes: accessibility, readability, digestibility, selection and presentation, who chooses the information/experts, and the adequacy of the time available to consider, discuss and challenge the information.

Organising the transfer of expertise in such a way that all participants have access to the same basic information is the true challenge, and the time and resources invested in preparing adequate information sources and supporting the capacity of participants to understand and use this information are crucial (Antunes et al. 2009). This is particularly important when one

considers that the paradigm of the “knowing” expert educating the “not knowing” citizen has already been fiercely criticised (Depoe et al. 2004).

1.3 Types and quality of flows of information

Most typologies of participation (Rowe and Frewer 2000, 2005; EIPP 2009, SPP 2008, Lynam et al. 2007, Fung 2006, Abelson 2003) consider that the communication mode plays a distinctive role within a process. The chosen method predetermines much of the mode’s character. Therefore, it is important to examine how different modes affect the transfer of information between the different groups involved in a participatory process. Looking at deliberative democracy theory, Chambers (2003: 309) defines the minimal requirements for deliberation as “debate and discussion aimed at producing reasonable, well-informed opinion in which participants are willing to revise preferences in light of discussion, new information, and claims made by fellow participants.” In other words, this kind of social learning process depends on the transfer or flow of information.

Looking at the different typologies for public engagement as well as different methods, we would argue that there are up to four types of flows of information within participatory processes:

(a) Experts supply information (scientific, technical, etc.) to participants and vice versa. Most participatory processes include this kind of flow in some way. The information flow from participants to experts is often used in developmental and environmental management approaches; for example, participatory mapping, which extracts local knowledge to create a decision support system for local problems (Jankowski 2009).

(b) The flow of information from participants to decision-makers excludes processes on the three bottom rungs of Arnstein’s ladder (1969), or what other authors call *public information* (e.g., Rowe and Frewer 2005).

However, the existence of this bottom-up information flow does not necessarily provide the possibility of influencing decisions, because the decision-makers' commitment to the participants' input is extremely variable. If decision-makers are sponsors of the process, this flow can also be reversed.

(c) Individual and group learning within a participatory process creates multipliers through deliberation and provision with information. These multipliers create a resonance (d) outside the process (e.g., through communication with their peer group). A study of focus groups on nanotechnology found that communication through citizen engagement results in interpersonal discussion outside the event, and thus the spreading of information (Beseley 2008). In addition, the media coverage (including social media networks) of a participatory process can be seen as resonance in the public sphere.

Each type can have different qualities, as shown in figure 1. In this paper we distinguish between one-way and two-way flows. The following example makes it clear that source and direction are not the only variables needed to describe flows of information.

One-way flows can be aligned in both directions, from organizer to participants or vice versa. A process that includes two opposing one-way flows may appear to have the character of a discussion or dialogue, but the input of the other side in each case is not necessarily being considered. This means that only discussions and dialogues can be seen as proper ("real") two-way flows of information (see fig. 1).

The quality of a flow also depends on the uptake of the information on the recipient's side. Other variables include the medium and timing of delivery and the coding or quantity of the information supplied.

We also distinguish between discussion and dialogue. In discussions a topic is usually analysed from different angles, but the purpose is to create consensus by convincing others by means of argument. If this does not happen, constructive dissent can become a viable outcome. In contrast, in a

dialogue another aim becomes important because participants are not negotiating positions. There is a free flow of information that is valued on both sides. This leads to insights which could not be achieved individually, and thus learning comes to the fore (Welp et al. 2006, Leggewie 2005). This dialogue concept coincides with Dryzek's (2009: 3) account of deliberation: "The initial aim is not to win, but to understand."

Figure 1. Quality of flows of information in participatory methods.

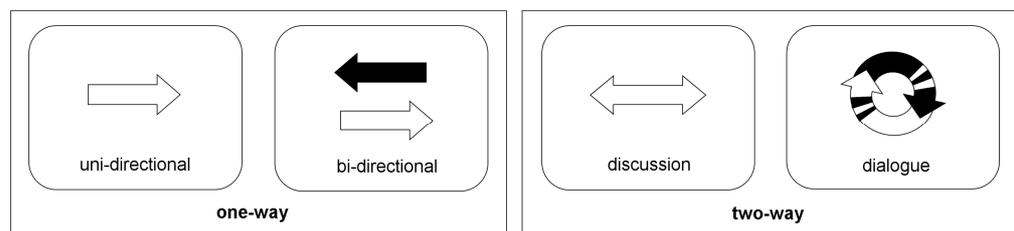


Fig.1: Providing or eliciting information in participatory processes are typical one-way flows. Bi-directional one-way flows can be misinterpreted as two-way flows. We argue that proper two-way flows only occur during discussions or dialogues. In discussions the primary aim is to convince by means of an argument, whereas a dialogue fosters learning as the exchange of arguments is valued on both sides.

2. THE CASE OF WWVIEWS

World Wide Views on Global Warming (WWViews) was a global public participatory approach initiated by the Danish Board of Technology. Conducted in 2009, it aimed at consulting citizens in order to establish their

opinions on climate change and to report these views to the decision-makers of the UN climate summit in Copenhagen (COP 15).⁵

On September 26th 2009, 38 countries⁶ held 44 parallel sessions with approximately 100 informed citizens at each site. The aim was to collect their views concerning global warming (n = 3860 – Rask and Worthington 2012b). Participants were split into groups of 8-10 people to discuss standardised questions in four thematic discussion rounds. They individually answered a set of questions at the end of each round. In a fifth round, each group collectively drafted a recommendation for decision-makers, containing what were in their opinion the most important issues that should be addressed in Copenhagen. A facilitator supported the process at each table. Before the event the participants received an information brochure in their language. To ensure that the information was balanced and understandable, a scientific advisory board reviewed the materials. The brochure was also tested in four focus group interviews with citizens in four different countries. To make sure that those participants who did not read the distributed material were informed as well, prior to each discussion round an information video (of 4 to 10 minutes length) was shown. This was intended to broaden the knowledge basis of the participants and to ensure that they all had access to the same information. During the deliberations two staffers served as experts responding to questions; they were required to limit their answers to the facts provided in the

⁵ For a detailed description of method and results, see: <http://wwwviews.org/node/10>, accessed 12.12.2012; An overview of the method, the process and selected national experiences is provided in Rask et al. (2012a).

⁶ Australia, Austria, Bangladesh, Belgium (Flanders), Bolivia, Brazil, Cameroon, Canada, Chile, China, Chinese Taipei, Denmark, Egypt, Ethiopia, Finland, France, Germany, India, Indonesia, Italy, Japan, Malawi, Mali, Mozambique, Netherlands, Norway, Russia, Saint Lucia, South Africa, Spain, Sweden, Switzerland, The Maldives, Uganda, United Kingdom, Uruguay, USA, and Vietnam.

information material. With the possibility of using the information in discussions and opinion shaping, participants were able to make informed decisions on pending climate questions. The information material was mainly based on the fourth IPCC assessment report⁷ concerning scientific climate data, and tried to give an overview of the consensus of scientific knowledge on global warming. Different views on how to deal with expected changes were summarised in the material. During the deliberations no additional written information from outside the process was to be provided, so that all participants had access to the same basis of information (Bedsted et al. 2012; Herriman et al. 2012).

2.1 Classifying WWViews

Fung's democracy cube (2006) takes into account influence, communication, and the decision modes of the process. These three dimensions open up a three-dimensional space that can be used to visualise the positioning of different methods.

Figure 2. WWViews classified according to Fung's democracy cube.

⁷ Intergovernmental Panel on Climate Change, Assessment Report 4, 2007.

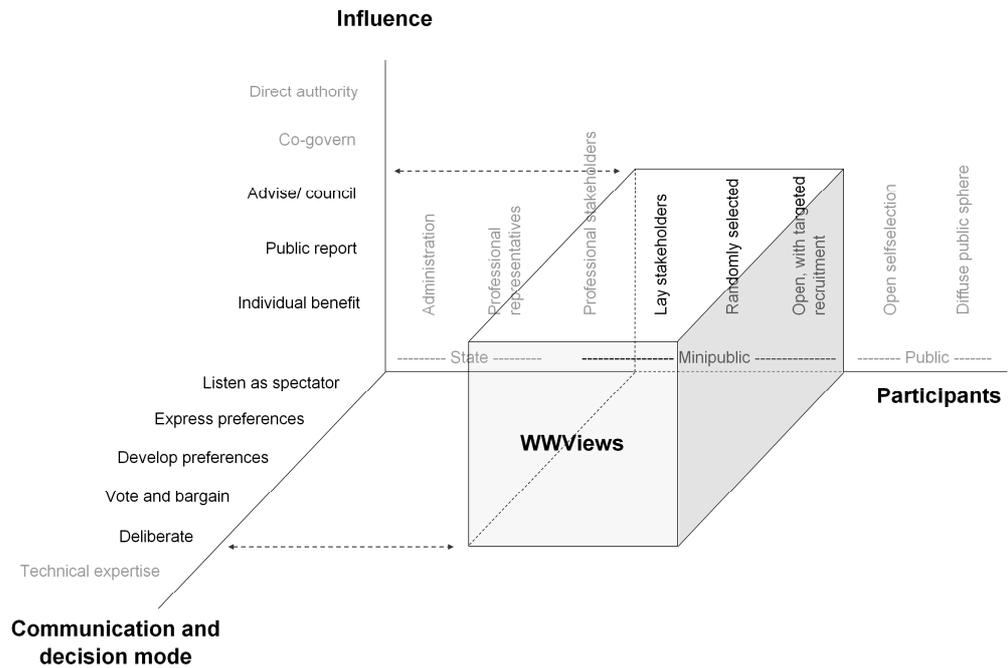


Fig. 2: WWViews becomes visible as an advisory process taking place in a “minipublic” sphere. The participants developed their preferences through discussions—deliberation was at the core of the process—and voted on different issues. When developing a recommendation, each group had to find consensus upon a topic important to them.

2.2 Surveys around WWViews

In this paper we focus on the results obtained from several surveys conducted around the Austrian event. For a timeline of all surveys undertaken, see figure three. Two months before the WWViews event all Austrian participants (n = 96) received a questionnaire, which they brought to the event (n = 85). Directly after the event the exit survey was distributed, and participants had two weeks to post it back (n = 46). Two months after that, they received the ex-post survey (n = 42). Facilitators were also asked to give their impressions in a focus group discussion after the event. These first four surveys were co-designed by the German and other organizers, and were conducted in several countries (for details of these surveys, see Goldschmidt et al. 2012).

Additionally, Austrian facilitators responded in written form to a series of 10 open questions relating to the process.

A further month after the ex-post survey, a street survey (n = 105) was conducted in Austria. The standardised questions used in the WWViews event and the other surveys were slightly edited to fit a short questionnaire suitable for a street survey. The socio-demographic attributes of respondents such as age, sex, education, and employment were similar to those of WWViews participants (for further details, see Gudowsky 2010).

Figure 3. Timeline of surveys undertaken during the course of Austrian WWViews.



The surveys consisted of different questions concerning the participants' opinions about climate change. Expectations towards and satisfaction with the process were also polled. The results form an extensive data set. We focus here on a few questions concerning the quality and effect of the information material provided. For the sake of completeness, we need to mention the presentation of incoming results from around the world at the end of the WWViews day. This can also be seen as a form of information. As it was not an obligatory part of the process itself (some participants had to leave before the presentation) we exclude it from our analysis.

3. RESULTS

3.1 Types and quality of flows of information in WWViews

Analysing the structure of flows of information within WWViews, we found several direct and indirect flows in the WWViews process (see fig. 5). The flow between participants in dialogue and as they informed each other was especially successful. Eighty-two per cent of the participants found other participants' contributions useful (Bechtold et al. 2012). Another indication of the effectiveness of this flow is the reported learning process that took place during the event. In their responses to the WWViews questions only 38 per cent of the participants were confident about their knowledge on global warming, whereas 88 per cent said they felt well informed after their participation in WWViews (see fig. 6).

Responses to the questionnaires also indicated that the flow from experts to participants (information material) can be described as effective. The output of the process, as a report to decision-makers and a media strategy, has not been evaluated as very effective in all participating countries. In Austria there was less resonance in the media than expected (for the US experience with the media see Schneider and Delborne 2012).⁸ Hence the indirect flow towards decision-makers on a national basis could have been more efficient. From the ex-post survey we know that 59 per cent of the Austrian participants engaged in the societal debate about global warming, discussing the topic with their peer group after the event (Bechtold et al. 2012). However, it is impossible at this point to quantify this effect in terms of resonance in the public sphere. Another indirect flow of information took

⁸ Although there is no systematic evaluation available for all participating countries, several countries reported fairly good media coverage. These included Denmark, Australia, Japan and Chile.

place between experts and the media: before the event a press conference was held in which journalists could talk directly to experts about the process.

Figure 5. Direct and indirect flows of information in participatory processes and WWViews.

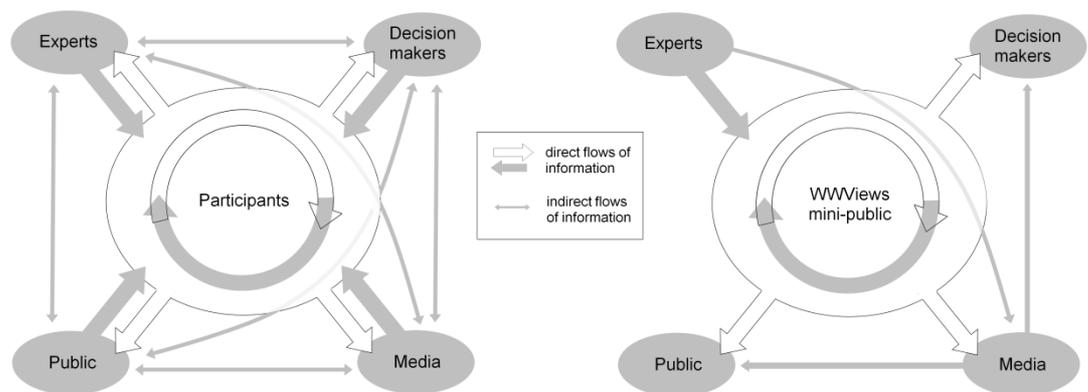


Fig. 5: The left-hand side of the figure represents possible flows of information in and around participatory processes. Direct flows of information are flows that take place within the process itself. Indirect flows are flows that take place around the process, for example if there is media coverage of the process or its results. The right-hand side of figure 5 represents direct and indirect flows of information that took place in and around WWViews.

As discussed earlier, there are different concepts of communication modes within participation. The first four discussion rounds did not focus on consensus, because participants voted individually after each round. According to Herriman et al. (2011, p. 3): “WWViews asked participants to vote on various options after reviewing balanced briefing materials on climate change and deliberating in small facilitated groups, without seeking to reach consensus.”

The first four rounds were intended to be deliberative and to have a dialogue character. In the fifth round each group had to develop a recommendation. Here they had to reach consensus, and the communication mode shifted towards discussions.

The WWViews process itself can be categorised as a bi-directional one-way flow, because information was both provided via the material and elicited through the ballots and questionnaires. There was no direct two-way exchange between sponsors (or decision-makers) and participants in the form of a dialogue or discussion. As the results in terms of social learning indicate, two-way communication in relation to dialogue took place between participants.

3.2 Survey results

3.2.1 Citizens' self-valuation of their level of information

Comparing WWViews and the street survey, we found that overall the citizens' answers on the street did not differ very much from those given by the WWViews participants. Nevertheless, some differences can be identified.

On being asked how urgent it was to reach an agreement on climate change, 99 per cent of WWViews participants answered that it was very urgent and a deal should be made in Copenhagen. 100 per cent of them wanted Austria to join such a treaty. On the street 88 per cent said "very urgent" and 89 per cent wanted Austria to join.

The participants' perception of their level of information was assessed over the course of different surveys. In an ex-ante survey sent out before the event, 54 per cent of the future participants said that they felt well-informed about global warming and its consequences. They brought the completed questionnaire to the event. At that point they had received the information brochure of approximately 40 pages.

In the course of the first discussion round, participants were asked how well they thought they were informed about climate change and its consequences before they participated in WWViews. At that time only 38 per cent thought that they knew a lot prior to their engagement.

In an ex-post survey conducted two months after the event, the same question was asked as in the ex-ante survey; 88 per cent answered that they felt well informed.

In contrast to these responses, only 19 per cent answered “I know a lot” in the street survey (see fig. 6). No one thought he/she knew nothing, either during WWViews or the street survey. Overall the results of the street survey were very close to WWViews.

Figure 6. Comparison of results from WWViews Austria and a street survey in Vienna.

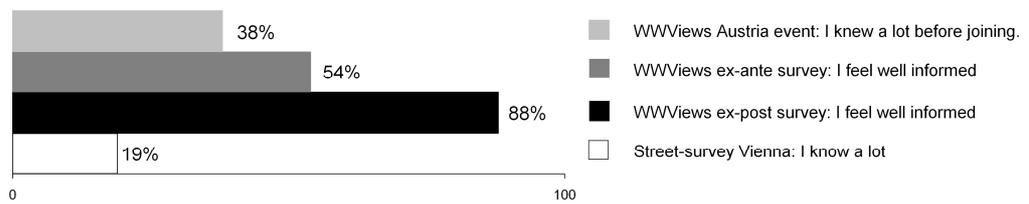
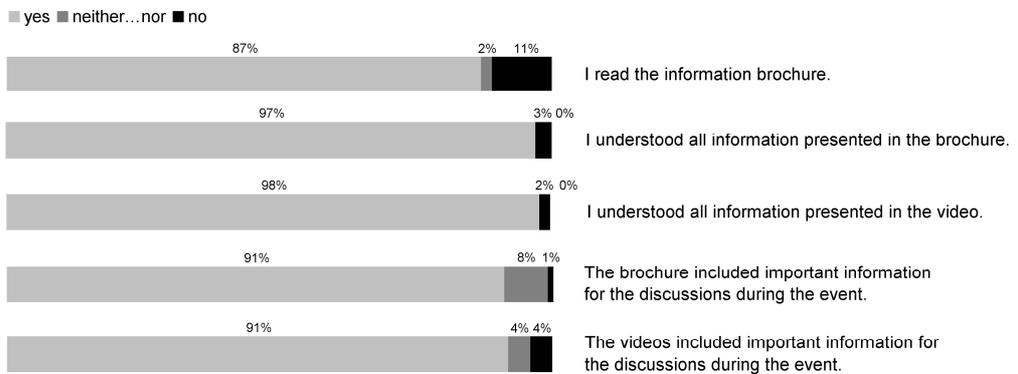


Figure 7. WWViews participants’ assessment concerning the usefulness of the information material.

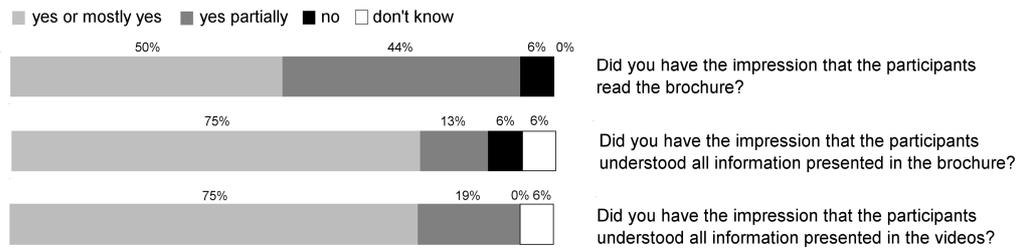


In an exit survey conducted immediately after WWViews, the vast majority (87 per cent) said that they had read the information brochure and almost all participants (97 per cent) stated that they had understood the information presented. They judged the information to have been useful for the discussions during the event (91 per cent). Questions concerning the videos show similar results: 98 per cent said they had understood the content, and 91 per cent found the videos useful for the discussions during the event (see figure 7).

3.2.2 Facilitators' assessment of participants' level of information

Part of the facilitators' assessment of the event was dedicated to the participants' awareness concerning the information material. Their assessment of the participants' level of information was optimistic overall (see fig. 8), but clear differences from the participants' self-valuation can be seen. Seven out of 17 facilitators had the impression that the brochure had been read by most of the participants, and 8 out of 17 had the impression it had been read to some extent. Two quotes by facilitators of the Austrian process given in the assessment after the event illustrate this: "Nobody knew nothing" and "Some participants were briefed very thoroughly, but others had explicitly read nothing." From the participants' perspective, these observations translate to 87 per cent of participants stating they had read the brochure. Furthermore, 97 per cent (brochure) and 98 per cent (video) of the participants stated that they had understood all the information presented, while only 75 per cent of the facilitators had that impression (see fig. 7 and 8). An additional quotation may shed light on an aspect that was frequently reported on by the facilitators: "The arguments referred to from the information material were correct and I had the impression that the information was understood. There was also inconsistency in terms of certain pieces of information. Neither I nor the information-person had any difficulty answering the questions that arose."

Figure 8. WWViews facilitators' assessment of participants' level of information.



4. DISCUSSION

In their evaluation of a deliberative event on climate change and transforming energy, Edwards et al. (2008) state that even well-informed participants had difficulty understanding some of the scientific information due to the complexity of the topic and the jargon. This led to a decline in the deliberative capacity of some participants, showing the importance of not only providing information but also choosing the right coding. This challenge was also present in WWViews. Although so much emphasis was placed on the right coding, for instance, the information brochure used in WWViews still contained some quite difficult passages.

During the process of WWViews, participants were informed in three different ways: (1) the information brochure, (2) the information videos, and (3) the discussion itself, which allowed for the exchange of information.

Regarding the results of the ex-post surveys, we can state that all three channels provided useful information to the participants.

After having received the information brochure, more participants thought that they were well informed about climate change than before participating in WWViews. This clearly shows that the information presented had an effect on the self-valuation of the level of information. The ex-post survey showed that even more participants felt well informed (Bechtold et al. 2012). The social learning process during WWViews, in combination with the information material, probably led to this increase.

The data relies primarily on self-reports, which are always prone to bias. We do not know if the participants actually learned as much as they claimed. However, an important aim of informing citizens was to induce the feeling that they were able and qualified to answer the questions posed. In these terms the data suggest that the flow of information from organizers to participants was successful. We cannot say whether the information settled into knowledge, as no further research was conducted to test that proposition.

In addition to other qualities it displays, the participatory process can be seen as one of collective social learning. As all participants have to make decisions about complex socio-ecological issues, individual learning can take place. They constantly learn from each other through deliberation. This learning becomes an essential part of the outcome (Garmendia and Stagl 2010), even though it may not necessarily have been the primary goal of the process. Goldschmidt et al. (2012:101) state that “the opportunity to learn something about this subject [climate change] was a core driver for attending the [German] event.”

This learning process is a clear advantage enjoyed by WWViews participants. The street questionnaire elicited the citizens’ views on the basis of their current level of information and no further information was provided. During the street survey, fewer people said that they knew a lot about climate change and its consequences. These comparatively low numbers are especially noteworthy considering the timing of the survey, shortly before and during the UN climate summit in Copenhagen. During this period, media coverage of the

topic of climate change in the six largest newspapers in Austria was about four times higher than two months before and after the summit. The fact that in most other respects the responses to the WWViews and those provided to the street survey were very similar can probably be explained by this increased media coverage on climate change shortly before the Copenhagen climate summit, when the street survey took place (for details see Gudowsky 2010).

Even though social learning was not an intended main goal of WWViews, it became a positively evaluated result. The facilitators assessed the engagement of participants in the discussions afterwards, and the majority (12 out of 17) of them had the impression that the participants had been very engaged.

This result and those reported by Bechtold et al. (2012) concerning the feeling of being well informed underline the social learning process: large majorities of the WWViews' participants declared that the contributions of other participants were valuable to them during the discussions, and taking part in WWViews helped them to better understand opinions that differed from their own. A similar result can be found in Dryzek's (2009) account of the Australian citizens' parliament, where participants shifted their positions quite substantially during the course of their deliberations.

5. CONCLUSIONS

5.1 General conclusions

If participatory processes aim at producing better decisions and reinforcing legitimacy by translating their results into real world actions, as described in the introduction, it is evident that there is a need to manage flows of information. Following the categorisation of knowledge proposed by Pohl et al. (2007), information supplied to participants derives from the pool of

systems and transformation knowledge. Participatory processes may produce target knowledge in the form of goal setting, implicitly or explicitly including the participants' norms and values. Feeding information derived from participatory defined target knowledge into the decision-making process thus becomes extremely important if we want to ensure that transformative measures adopted by decision-makers are in line with the target knowledge of those affected. If they are not, the legitimacy and sustainability of such decisions may be questionable, since they may lack a democratic basis.

The literature on theoretical issues of participation, methods and case studies does not pay much attention to the quality or functions of information. This is surprising, as informing participants plays a key role in many methods aimed at fostering informed decisions. Furthermore, the immanent power of selecting and providing information is of considerable significance. Hence we suggest putting more effort into the description and analysis of flows of information both for those who provide and for those who receive information. Similarly, we think that greater efforts should be made to provide a detailed designation of the quality and role of information in any given process. The use of an accurate and reliable terminology for describing flows of information and communication modes is an important requirement. One-way flows can be aligned in both directions, from sponsor or organizer to participants or vice versa. A two-way flow of information does not necessarily demand a dialogue, because a process can include two opposing one-way flows. Therefore, only a discussion or a dialogue can be seen as a proper ("real") two-way flow of information. It is therefore important to differentiate between one-way flows and different kinds of two-way flows. This distinction may also contribute to a lowering of expectations when we talk about participatory processes and their potential. A clearer picture of what information is needed, provided and used within a participatory process may lead to a more differentiated view of how important a certain type of information is. Another issue that needs thorough consideration is the choice of the most suitable presentation modes and information carriers to match aims and audience.

The amount of information that participants will be able to refer to always relates to (1) the context of the topic and (2) the individual background of the recipients. Some parts of the information might be incorporated into personal reasoning and others not, depending on the participant's prior knowledge and specific interests. We also assume that the complexity of the topic defines the necessity for and the amount of information supplied, and that it influences the way participants approach the information provided. Information provision therefore contributes to fostering the internal legitimacy of processes that deal with complex topics. Furthermore, even if a process provides the same information to all participants, not all of them actually have equal levels of information. This discrepancy is due to factors such as motivation, previous knowledge, or the mode of presentation. Thus limits to the equality of information provision and its relevance become evident. Nevertheless, we consider that supplying scientific information and shaping a process that fosters its transfer is crucial when aiming at meaningful outcomes of participatory approaches that deal with complex challenges such as global warming.

5.2 Detailed conclusions concerning WWViews

Looking at the three reasons for participation as stated by Boussaguet (2011), we conclude that concerning (a), *broadening the basis of information on which decisions are made*, the project has provided the arena for citizens to make informed decisions and supported the flow of information from participants to decision-makers and the media. Even if the media strategy was not as successful as anticipated in Austria or the US, the results have been handed to national delegations and were publicly presented in Copenhagen during COP 15 and thus gave decision-makers the opportunity for consideration. As to (b), *increasing the legitimacy of decisions*, there was no possibility of an increase in legitimacy as no substantial decisions which included the participants' main conclusion worldwide ("Make a deal, and

make it fast”) were taken in Copenhagen or at the following climate summits. Nevertheless, WWViews produced a clear set of policy recommendations to which decision-makers may refer in future. There are indications that the third task of conducting public engagement, the idea of *(c) shaping a (European) citizen identity*, was accomplished. The overall closeness of all national results addressing the need for action concerning this global problem reflects strong worldwide solidarity, and suggests the existence of something like a “world-citizen identity,” at least when it comes to the urgency of acting on climate change. The answers given in the street survey and the findings of Lammi et al. (2012) also support this impression.

The discrepancy between the facilitators’ and the participants’ assessment of their level of information strongly suggests that both estimates are relative. The participants were very confident that they had understood nearly all the information presented. This suggests that “reading the material” may refer to very different ways of reading. On the other hand, the facilitators had the impression that only 50 per cent of the participants had read the information material and were familiar with the facts presented in the brochure. However, this could mean that it was not the willingness to read but the way the information was presented that constrained an actual flow of information. It is clear that it is very important to provide the appropriate channel for information and to choose the right coding.

Overall, the answers given by WWViews participants were very similar to the ones given in the street survey. Nevertheless, the results of the street survey clearly indicate that these citizens were much less confident about their own level of information. WWViews thus proved its worth as a participatory approach which was able to foster participants’ trust in their level of information and hence in their own decision-making capacity. The confidence of WWViews participants in their respective knowledge underlines the need to provide sound information. Due to the fact that most participants valued the content and mode of presentation positively, we suggest that

supplying scientific information was a major factor in producing what Grunwald (2000) describes as internal legitimacy.

Although it was not the primary aim, social learning was mentioned as a positive result by the overwhelming majority of participants and in an internal evaluation of the process. As argued earlier, information becomes knowledge when used and applied under certain circumstances (Ingold 2000; Healy 2009). WWViews provided an arena where a two-way exchange of information concerning a complex topic with high societal relevance could take place. In terms of Glicken's argument (2000), the transfer of information deriving from cognitive knowledge took place and, simultaneously, value-based knowledge that is normative and intrinsic to society was elicited. In most discussions the participants did not have to negotiate or bargain, because they voted individually in the end. This kind of dialogue promotes the free flow of information and fosters learning (Welp et al. 2006). If this linkage holds true, we conclude that WWViews has at least partly overcome the false paradigm of the "knowing" expert educating the "not-knowing" layperson.

6. References

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