Value Deliberation: Towards mutual understanding of stakeholder perspectives in policymaking

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Value deliberation: Towards mutual understanding of stakeholder perspectives in policymaking

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Dissertation

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chair of the Board for Doctorates
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by

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Chapter 1

Introduction[1]

Decisions on water can concern a variety of policy areas including sanitation, crops, drinking water, health, electricity and flood control (Asmal, 2000). Often these areas are interrelated, which means that one decision can impact more than one area, involving many stakeholders with numerous interpretations of the needed policies. Such complexity has been referred to as a 'wicked problem' (Rittel and Webber, 1974): a problem that is difficult to solve because of the contradictory stakeholder perspectives and a lack of a clear optimal policy (Conklin, 2006).

Wicked problems require the participation of stakeholders to overcome the lack of agreement about what the problem is, who is responsible, who should take action, who is involved and who *should* be involved. Stakeholder participation is said to have a positive effect on the chances of policy acceptance (Papacharissi, 2010), since it can reduce civil resistance and rejection of solutions (Dermont et al., 2017). This can be facilitated by for example collectively creating awareness and knowledge of the problem (Hommes et al., 2009), jointly assessing the policy (Pahl-Wostl, 2002), or by searching for consensus through deliberation (Karpowitz and Mansbridge, 2005).

However, participatory policymaking is not trivial. In the literature, difficulties in stakeholder participation have been discussed in terms of uncertainty, disagreement (Hommes et al., 2009) and disillusionment (Reed, 2008). When stakeholders do not speak the same language, understanding each other is not easy. While the aim in participatory pro-

[1] Parts of this chapter have been published as Pigmans, K., Doorn, N., Aldewereld, H. and Dignum, V. (2017) Decision-Making in Water Governance: from Conflicting Interests to Shared Values. In: *Responsible innovation 3: A European Agenda?* Asveld, L., van Dam-Mieras, R., Swierstra, T., Lavrijssen, S., Linse, K. and Van den Hoven, J. (Eds.), Springer

cesses is typically to find agreement or consensus, in *exploratory* stages of such processes convergence and divergence of ideas can alternate (Dentoni and Klerkx, 2015). Therefore, interventions should accommodate these dynamics (Kaner, 2005). When the aim would be to find mutual understanding rather than consensus, this could give room to divergence which in its turn can enable later convergence of thoughts (Bohman and Rehg, 2017).

Previous research suggests that participatory processes are more effective if they focus on relevant values rather than stakeholders' interests (Glenna, 2010; Doorn, 2016). Failing to address the values that underlie conflicts can even exacerbate problems. This can result in a deadlock of conflicting interests (Rikoon and Goedeke, 2000; Wilshusen et al., 2003).

This thesis explores how values can be used to facilitate mutual understanding using deliberation, not necessarily to find consensus, but to allow for the exploration of stakeholder perspectives when these are far apart. Discussing values with stakeholders may facilitate the implementation of policies that can account for more than the interests of the best negotiators, and may lead to more support for the chosen policy solutions at a later stage. In addition, giving room to divergent voices can contribute to the inclusion of stakeholder perspectives (Joldersma, 1997; Young, 1990; Allen, 2011), and can lead to solutions that would not have been considered otherwise (Nemeth and Kwan, 1987).

1.1 Illustration of a wicked water problem

This thesis is part of the Values4Water project, which investigates the role of values in water governance. Consortium partner *Waterschap de Dommel* provided us with documents of a historical and challenging water case, that exemplifies the complexity of a typical wicked problem in the water sector. The case concerns the problem how to deal with heavy rainfall in urban areas and is described below.

Extreme rainfall has become a frequently occurring phenomenon in the urban area of Eindhoven in the south of the Netherlands. This results in pluvial flooding, demanding more capacity from the sewer system than it can handle. Consequently, streets become flooded, which makes parts of the city inaccessible. Additionally, the floods cause damage to many basements of private homes and businesses.

Policymakers came up with many potential solutions. Finally, the most promising and most extreme idea was chosen, which focused on the river that flows through this urban area. If the river were widened before it entered the urban area, its capacity to process large amounts of water would increase greatly: the abundant water would then be directed to new river basins, preventing an overflow through the city. This was a great solution for the city, especially because the intervention would be outside the urban area. However, the rural area where the river needed to be broadened, and where there was no problem with pluvial flooding, was less enthusiastic.

The task of the regional water board was to implement the chosen solution in a way that was accepted by all stakeholders. In order to allow for a wider area for the river to flow, land would be needed that was owned by citizens and business owners (including large agricultural companies), who cannot be forced to sell their properties. In addition, the different authorities involved had mutually conflicting interests, the agricultural businesses had interests that differed greatly (large-scale cattle farming vs. organic and small-scale farming), and relations between some of the stakeholders were so troubled that they refused to communicate directly with each other (Pigmans et al., 2017).

The process of finding an implementation of the solution that could be accepted by all participants was delayed for over a decade; there was no trust between the stakeholders; the focus was on the parties' interests and differences, rather than on finding common ground. This suggests that if stakeholders do not understand each other's perspectives, they cannot sympathise with each other and that without mutual understanding, finding a solution that is accepted by all parties is very challenging.

An increased level of participation can advance policymaking processes that are characterised by complexity. Guiding intensified interaction in taking a step back from interests, and instead jointly deliberating on relevant values could further benefit the process. Therefore, this thesis proposes an exploration of the role of values in participatory processes to facilitate mutual understanding among stakeholders.

1.2 Research objectives

This research assesses the idea that using stakeholders' values as a starting point can benefit policy-making processes, as argued by Karpowitz and Mansbridge (2005); Gutmann and Thompson (2009); Doorn (2009) and Glenna (2010). The focus is to better understand what role values can play in increasing mutual understanding among diverse stakeholders. The main research question following from this is:

> *To what extent can the identification, deliberation and conceptualisation of values contribute to increasing mutual understanding during participatory policymaking processes?*

This is broken down into four sub-questions. The role of values in participatory policymaking is assessed by developing a method, that builds on theoretical constructs (as described in Chapter 3), aims to facilitate deliberation on values among stakeholders of complex policy issues. Two small-scale pilot cases have been performed in collaboration with Values4Water consortium partners, to test the method and to answer the first sub-question: *To what extent can value deliberations contribute to mutual understanding of stakeholders' perspectives?*

Large scale settings, such as a citizens' summit, allow for a statistical description of the deliberative process. In order to measure how similar participants rank possible solutions to a policy before and after a value deliberation, the concept 'group proximity' is introduced, leading to the second sub-question: *How to measure group proximity during value deliberations?*

Deliberations are often times facilitated towards consensus, but if stakeholders' perspectives are very diverse, forcing consensus might result in stakeholders not feeling heard. By exploring the perspectives, participants can get a better understanding of the other perspectives, which can be beneficial in other stages of the process. Such exploration can be facilitated through face-to-face or online value deliberations. In order to understand the differences between online and face-to-face exploratory value deliberations, the third sub-question is: *What are the differences between face-to-face and online value deliberations for exploration of perspectives?*

Having tested the methodology in various settings, the next question is how earlier identified values can be used in the policy cycle. A

policymaking process can be characterised by alternations of perspective explorations and preference convergence. Throughout the stages of the process the role of values can change. For example, earlier discussed values can be conceptualised to converge preferences. Agenda-setting is the first phase of the policy cycle, and therefore the first phase in which convergence is encouraged. This leads us to the fourth sub-question: *To what extent can the conceptualisation of earlier identified values contribute to shared agenda-setting?*

1.3 Research approach

This thesis uses the action research approach (AR), as introduced by Lewin (1946) and which evolved in numerous directions (Greenwood and Levin, 2006). Lewin describes changes in social systems as a three-stage process of unfreezing (confrontation to identify why the system stays in its current state), moving (intentional alteration of the status quo), refreezing (consciously ensuring that the change remains). Three approaches to action research have been identified (Maurer and Githens, 2010): conventional AR, critical AR and dialogic AR. The first approach emphasizes value-neutrality, the second is rather political in nature by questioning societal ideologies and power structures; the third emphasizes critical engagement of stakeholders. This research uses the dialogic AR approach, which emphasizes the creation of spheres of dialogue as a medium for reflection, mutual learning, and democratization while also leading to practical solutions (Forester, 1999; Gustavsen, 1992).

Dialogic AR requires the careful planning and application of participatory techniques that facilitate dialogue and aim for reflection (Maurer and Githens, 2010). We applied the plan-act-react iterations of AR not only to the specific cases, but also to the development of the method, which eventually led to a shift in the methodology's focus. The theoretical point of view that the deliberation of values can stimulate participatory policymaking was used as the rationale for the value deliberation method, as discussed in Chapters 2 and 3. Figure 1.1 depicts the AR iterations that were used to develop and expand the value deliberation method (in yellow), and the AR iterations to improve the context of the deliberations (in blue). The planning phase is referred to as 'plan', the facilitated dialogue as 'act' and the reflection on and institutionalising

of the intervention as 'react'. The iterations are described below.

1.3.1 Developing the method

The starting point of the research was the aim for an increase in mutual understanding of different perspectives during policymaking processes. To facilitate such change, an experimental workshop with colleagues at our university was organised, loosely inspired by the Delphi method and by preliminary works on Massive Open Online Deliberations (Van den Hoven and Dignum, 2015). In this experiment, arguments were shared, preferences were ranked, values were identified, and preferences were ranked again. The participants gave feedback during an open discussion. The feedback underlined that identifying values was experienced as a two-tiered process: identification and deliberation. However, deliberation was not facilitated in this initial setup. This led to a renewed script for another assessment.

The next step was to perform four parallel student experiments, with on average 8 students per group. Two groups deliberated using arguments only and two groups deliberated in addition using the values that participants considered relevant. The aim was to see if there were differences in changes of rankings between the arguments-only groups and the value deliberation groups. When discussing the outcomes with all participants, the value deliberation seemed to influence the preference rankings more than argument-only deliberations. These findings were combined with the outcomes of the first plan-act-react cycle, which resulted in value deliberations being considered as a key step of the process. Until this stage in the iterative process, the method had only been used in lab settings with peers of the author and with students.

In order to assess the method with actual stakeholders, two pilot workshops were organised (see Chapter 4). The evaluation of the two pilots with consortium partners was performed through group discussions and a survey and showed that the exploration of perspectives can be as important as consensus-finding. Participants did not necessarily agree with each other after the value deliberation workshop, but they reported an increased mutual understanding of other perspectives because the discussion was not concentrated on arguments, but on values. These outcomes influenced the aim of the method, which eventually became perspective exploration during multi-stakeholder policymaking

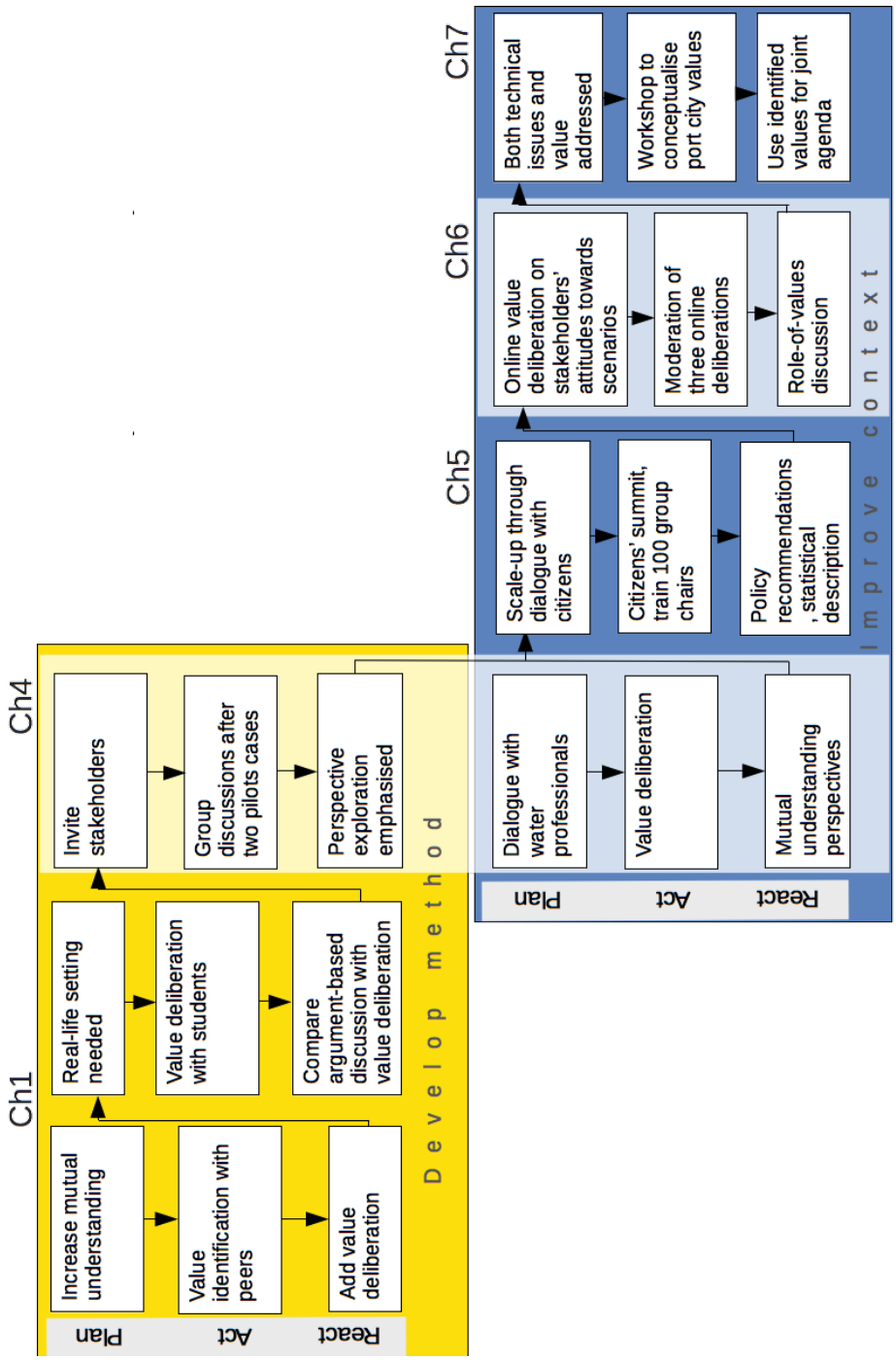

Figure 1.1: Action research for method development and context improvement

processes.

1.3.2 Improving context

As soon as a method is used outside a lab-setting, a context is involved. This means that the pilot workshops and the experiments that followed the pilots influence the context, which is also the purpose of AR.

During the pilots, the aim was to facilitate a dialogue among water professionals (Chapter 4). In each workshop a value deliberation was facilitated in which professional stakeholders deliberated on the values they considered relevant to the policy issue at stake. Participants reported an increased mutual understanding on the various possible perspectives concerning the policy they worked on.

Next, in order to prevent terrorist attacks in the city of Rotterdam, the council decided to facilitate a dialogue for citizens of the city, to realise a citizens' understanding of perspectives that are different from their own. The value deliberation method was applied during the citizens' summit, where 1000 citizens were invited to deliberate on city policy issues (Chapter 5). Participants were divided over 100 groups. The introductory programme of the summit was aligned with the value deliberation process to create a willingness to listen among all participants. For this a Socratic dialogue was facilitated in each group, resulting in the formulation of topics of deliberation. This was followed by the value deliberation process, resulting in a list of all the groups' issues, values and solutions. The outcomes formed the basis for policy recommendations, documented in the report 'De staat van Rotterdam'. To organise evaluation on this scale, each participant was asked to fill out a survey about the process. The outcomes were discussed among a sample of the participants, after which the recommendations were officially presented and handed to the city council during a public meeting.

Then, in the Port City Futures initiative, geographically spread stakeholders with diverse perspectives were required come to a joint research agenda (Chapter 6). For this, the existing attitudes towards scenarios of the energy transition were made explicit in three parallel online value deliberations. The results were presented during a face-to-face gathering of the participants, which resulted in an active discussion on the role of values in the port city futures initiative. This role was debated and stressed by all participants.

The online identified values were conceptualised during a face-to-

face workshop to further prepare the formulation of a joint research agenda (Chapter 7). This was done by facilitating participants in the formulation of goals, motivations, responsibilities and timelines with respect to the earlier identifies values. The presentation of these formulations resulted in the identification of common ground between the workshop groups, i.e. various port cities. The common ground was used to set the joint agenda.

1.4 Outline of this thesis

The literature review in Chapter 2 presents theories about societal complexity, participatory policymaking, values, mutual understanding, and face-to-face and online deliberation. The chapter describes how the current study is related to these theories.

Chapter 3 discusses how the theories that were described in Chapter 2 contribute to the conceptual framework that forms the theoretical rationale for the development of the value deliberation process. The framework distinguishes the process of creating a common language, reflection through deliberation and rapprochement of other perspectives. These are the building blocks for the value deliberation process, which is used to explore how stakeholders with diverse perspectives can be facilitated in the identification of and reflection on values that they consider relevant to the problem, serving as a common language for deliberation.

In Chapter 4, two separate small-scale face-to-face value deliberation workshops in the water sector are discussed. The first workshop covers 'how to deal with the increasing problem of land subsidence'. The second workshop focused on pharmaceutical leftovers in the surface water in order to get a better understanding of who is responsible and why.

Chapter 5 describes how the value deliberation process is applied at a citizens' summit. We introduce the concept 'group proximity' to allow for a statistical description of the summit, by measuring how similarly participants rank their preferences before and after a group value deliberation.

In Chapter 6, face-to-face value deliberation is compared to online value deliberation. So far most face-to-face and online deliberation comparisons that are discussed aim for consensus. However, in pol-

icymaking processes, acknowledging the variety in perspectives can contribute to the process as well. The value deliberation method can facilitate the exploration of perspectives, which is stressed in the comparison of face-to-face and online deliberations.

Chapter 7 explores to what extent values play a role in the agenda-setting phase of policymaking processes. A proof-of-concept workshop is described, during which values are concretised in terms of goals, responsibilities and motivation, to prepare for a joint agenda setting.

Finally, Chapter 8 describes the main findings subdivided per research question, the limitations, the contributions to the scientific community and to practitioners, and recommendations for future research.

Chapter 2

Literature review

This chapter provides an overview of the theoretical background for the research objective, as introduced in the previous chapter.

Stakeholder participation in policymaking processes can be facilitated in various stages of the process, with various degrees of involvement. The participants can be involved as professionals, as citizens or a combination of these. The aim of a participatory process is often consensus-finding, but it can also be to achieve mutual understanding among participants who have different interests. Deliberation is an often applied approach to stimulate consensus among people with different interests. Such deliberations are organised both face-to-face and online.

2.1 Complex societal problems

Societal problems with high levels of complexity are referred to as 'wicked' (Rittel and Webber, 1973), 'messy' (Ackhoff, 1974) or 'ill-structured problems' (Dunn, 1988). Such problems are characterised by the numerous stakeholders, each with different ideas of what the problem definition should be and by unclarity about the relationship between problems and potential solutions. This calls for, and, at the same time, challenges participatory methods to integrate an effective process and durable policies, and with that a shared understanding of the problem (Edelenbos et al., 2003; Koppenjan and Klijn, 2004). So far, participatory methods have mostly been used to stimulate consensus-finding. However, in addition, these methods can be used to facilitate an understanding regarding the values that stakeholders consider relevant to the problem (Karpowitz and Mansbridge, 2005).

The stimulation of interaction and reflection among social actors concerning public policies is also underlined by literature on responsible research and innovation (Owen and Goldberg, 2010; Von Schomberg, 2011; Van den Hoven et al., 2014), which discusses the ethical, legal and social implications of research and innovation, and studies what policies are necessary to adequately address these implications (Owen et al., 2012).

2.2 Participatory policymaking

Richardson (1983) defines participation as all those means by which those affected take part in policy formulation or implementation. This can include citizens, sponsors, research teams and policy makers (Renn et al., 1993), each with their own interests and perspectives regarding the policy. Participants are those who participate in the policymaking process. Stakeholders can be involved as participants, but not all necessarily participate. For example, at a citizens' summit not all citizens participate. Stakeholders can be defined as "those who have an interest in a particular decision, either as individuals or representative of a group" (Hemmati, 2002, p. 2). In this thesis, all participants are stakeholders.

Stakeholder participation initiatives can be described according to the degree of engagement of the participant (Reed, 2008). This degree of engagement can differ in the various stages of policymaking, depending on the stakeholders and the goal of the process (Arnstein, 1969; IAP2, 2018; Davidson, 1998). Arnstein (1969) for example proposes a ladder of participation, to distinguish different degrees of engagement, where the bottom represents low active involvement and the top represents high engagement. Critics argue that the ladder suggests a judgment of what type of participation is best (higher on the ladder is better) and have developed other categorisations of participation that are inspired by this ladder (Connor, 1988; Davidson, 1998; Collins and Ison, 2009). Other critics state that it depends on the case and the stage of the process what the optimal intensity of participation is (Reed, 2008; Human and Davies, 2010). The wheel of participation (Davidson, 1998) is an alternative to the ladder of participation, stating that four categories of participation (inform, consult, participate and empower) each different in intensity, can be equally appropriate, depending on

the context. However, the use of the category name 'participate' causes confusion when discussing an overall wheel of participation. The International Association of Public Participation (IAP2) therefore suggests the categories 'inform', 'consult', 'involve', 'collaborate', and 'empower' (IAP2, 2018). Each category is described below.

Inform. Informing refers to governmental organisations that provide the public with balanced and objective information (IAP2, 2018), which can be done via meeting minutes, press releases and discussion papers (Davidson, 1998). 'Inform' requires no part-taking from stakeholders, and therefore does not correspond to the definition of participation that is used in this thesis. For this reason, 'inform' is not considered as participation.

Consultation. 'Stakeholder consultation' refers to obtaining feedback from stakeholders on analysis, alternatives or decisions, for example through surveys or a local citizens meeting where citizens are invited to share their concerns about a certain policy (IAP2, 2018). A careful set-up is crucial for its success, since a broad consultation of laypeople can trigger frustration rather than enlightenment from both sides (Human and Davies, 2010). This can occur, for example, when a complex topic is more than stakeholders can comprehend in an exploratory phase, or when the collected input is too exploratory to cover all complexity of the policy.

Involvement. Involving stakeholders and citizens means working directly with the public, to ensure that the concerns and ideas of the public are considered (IAP2, 2018), for example by facilitating deliberative processes. By deliberating and reflecting on perspectives that are very different from their own, stakeholders' conception of the problem may change (Gutmann and Thompson, 2009). Deliberation will be further discussed in Section 2.5.

Collaboration. 'Collaboration' in participatory policymaking means that all parties collaborate as partners (IAP2, 2018), which has been described as beneficial and important for the development of policies (Weaver and Cousins, 2004; Moellenkamp et al., 2010; Connell and Grafton, 2011). However, there are cases in which the collaboration has been referred to as a 'disillusionment', to describe the disappointment of participants that felt let down after taking part in such processes (Reed, 2008). Strong facilitation of the collaborative process and expectation management are needed to contribute to the effectiveness of

the process (Richards et al., 2004). For instance, Hommes et al. (2009) suggest to use a methodology for collaboration that aims for the development of a knowledge base that is shared among all stakeholders in order to deal with the uncertainty and ambiguity of participatory policy processes.

Empowerment. 'Empowerment' refers to the process of handing over control to stakeholders by delegating decision-making power to communities (Davidson, 1998). Failure to deliver can lead to cynicism and abdication of moral responsibility by citizens (Ciulla, 1997). However, in this thesis participation is limited to an exchange between the stakeholders, which does not include the handover of control.

This thesis will focus on involvement of and collaboration with stakeholders, since these categories are in line with the earlier described definition of participation. In the literature, the umbrella terms 'citizen engagement' and 'stakeholder involvement' are used to clarify whom to participate with. Both can be defined in AIP2's terms of involvement and collaboration, depending on the context.

2.3 Using divergent voices as means or end

Participation has been discussed both in the context of citizen engagement and in stakeholder involvement. For citizen engagement, the emphasis is mostly on democracy stimulating initiatives (Gutmann and Thompson, 2009; Warren and Pearse, 2008; Fishkin and Mansbridge, 2017), often organised and initiated by community-based organisations (Berkes, 2006; Farrell et al., 2013; Caluwaerts and Reuchamps, 2015). In these cases participation is considered an end, since the process of participation itself is more important than the objective of the gathering (Nikkhah and Redzuan, 2009). In contrast, participation in terms of stakeholder involvement generally aims at working towards social acceptance of policy solutions for socio-technical problems (Wüstenhagen et al., 2007; Dermont et al., 2017). Here, participation can be seen as a means to achieve the goal of policymaking (Nikkhah and Redzuan, 2009).

However, whether participation is considered as an end or as a means, in both cases the aims are to make all voices heard (Young, 1990; Allen, 2011) and to search for a common ground among the diverse participants to enable the development and implementation of

well-considered solutions (Hommes et al., 2009; Pahl-Wostl, 2002).

Including a variety of perspectives can give voice to viewpoints that would have gone unheard in less heterogeneous contexts (Allen, 2011). To prevent the impression that differences are set aside, conflicts can be used productively by enhancing participants' understanding of the diversity of perspectives on the problem and its solutions (Jehn, 1997). Participants confront each other's claims with their own claims, unravel argumentations, make (implicit) assumptions explicit, and jointly develop new ideas that are more robust (Cuppen, 2012b). However, despite the acknowledged need for including conflict, participants in policymaking processes often tend to avoid conflict, thus they fail to benefit from the diversity in perspectives (Schweiger et al., 1986; Cuppen, 2012b). This paradox has been called 'the diversity paradox': processes still too often focus on existing consensus and lack discussions in heterogeneous groups (Joldersma, 1997). Equal participation of heterogeneous groups can be enabled through equal access to the floor, as well as setting ground rules for discussion that encourage relevant speaking, attentive listening and appropriate simplifications (Schudson, 1997).

2.4 Consensus versus mutual understanding

Van Den Hove (2006) argues that participatory approaches can be consensus-oriented processes in the pursuit of a common interest. In addition to consensus-finding processes, participatory approaches can also aim for mutual understanding, regardless if it leads to consensus or not.

Consensus has been widely discussed in political philosophy, often within what is usually referred to as 'Ideal Theory' (Wenar, 2017). For this, abstract, ideal assumptions are made about the circumstances of society and about the participants, to allow for thought experiments on how to realise a just society: all actors are generally willing to comply with the principles that are at stake, so no crimes or wars can be expected. While these assumptions are not realistic, the thought experiments have influenced the literature on consensus and mutual understanding. For this reason, these theories are discussed below.

Habermas (1995) and Rawls (1995) have argued for deliberation, each with a different idea of the aim, respectevely consensus and mu-

tual understanding. Still both argue that different parties should come to an agreement about policies based on rational discourse. In addition to the assumed Ideal Theory, also the social conditions are assumed to be favorable, which excludes for instance a situation in which citizens are driven by hunger and might put aside their moral compass. Under these assumptions, Rawls (1995) argues that people have the capability for genuine toleration and mutual respect (Wenar, 2017), and that citizens share fundamental ideas that so far have been implicit.

In general terms, Habermas agrees with Rawls on the need for exchanges between reasonable citizens, by underlining the need for communicative action among citizens (Habermas, 1995) and by underlining their assumptions of Ideal Theory. However, Rawls states that those who participate in the decision making process should take a step back from their view points and interests, ignore them during the process, to be impartial in their argument. In this context impartiality means that each participant can switch places with each of the other participants, it should not matter which participant one is, in each case one would argue in favor of the proposal. In contrast, Habermas advocates that this impartiality is not realistic, so the process should instead concentrate on communicative actions coordinated on the basis of mutual understanding among the citizens rather than impartiality (Moon, 1995). In Habermas' ideal approach, participants coordinate their actions and goals "on the basis of a shared understanding that the goals are inherently reasonable or merit-worthy" (Bohman and Rehg, 2017). He argues that these communicative actions should take the shape of a discourse in which arguments and counter arguments are exchanged, since this is the most suitable procedure for resolving moral-practical questions (Calhoun, 1994). Further, "one must articulate the shared, though often tacit, ideals and rules that provide the basis for regarding some arguments as better than others" (Bohman and Rehg, 2017), because the the moral point of view will only become known if free and equal citizens discuss their perceptions (Habermas, 1995).

Mouffe (1999) argues that both Rawls and Habermas ignore the existence of power and opposition in the public sphere under the assumption of Ideal Theory. In addition, she argues that consensus is temporary and always entails the exclusion of minority voices. To overcome this she suggests an approach that recognizes the existing power relations and the exclusions that they cause. She states that we should

accept opposing ideas, not getting rid of them through striving for consensus. This is in line with the reason for including diverse perspectives in decisionmaking processes in the first place: the plurality of ideas is why stakeholder dialogues are thought to be effective (Cuppen, 2012b), they contribute knowledge that differs in content and orientation (Hommes et al., 2009).

2.5 Deliberation

Deliberation has been described in terms of an egalitarian, reciprocal, reasonable and open-minded exchange of language (Mendelberg, 2002), in which participants have the opportunity to reflect upon, form, express and discuss their perspectives, values and beliefs (Kenter et al., 2016a). As briefly referred to in the previous chapter, deliberation has been used as an approach to facilitate involvement.

However, deliberation can also foster polarisation. If like-minded people gather to deliberate on a topic they agree upon, they are likely to encourage and underline each other's arguments, leading to a joint, more extreme view of the topic than before the deliberation (Sunstein, 2002). To avoid strong polarisation, participants of a deliberation should have different backgrounds with respect to the problem at stake (Sunstein, 2003). Young (1990) and Mouffe (1999) have extensively advocated this need for plurality, also to prevent under-representation of minority voices. Fishkin (2011) argues that in practice, the *design* of a deliberative process will influence the level of occurring polarisation.

2.6 Meta-consensus by discussing values

The identification and discussion of values to find common ground, has also been referred to as "achieving a normative meta-consensus" by Dryzek and Niemeyer (2006): a consensus, not on the level of solutions, but on an abstraction level higher, the level of values.

Deliberating on underlying values rather than stakeholders' interests can facilitate a more in-depth exploration of the topic (Doorn, 2016), by shining a new light on the existing exchanges, going beyond the carefully defended interests. In addition, citizen participation and dialogues can be enhanced when the role of values can be acknowledged and discussed (Glenna, 2010). This way, the values underlying each per-

spective can both be clarified and understood by stakeholders (Briggs et al., 2005). Facilitators of such dialogues as well as the participants should strive for a continuous understanding of others' values and interests (Karpowitz and Mansbridge, 2005).

In philosophy, values are generally referred to as that what is valuable, what is objectively good. For instance, Scanlon (1998) discusses this notion by explaining that both science and friendship are values, since they can both objectively be considered to be good. This raises the question who should decide what is objectively good and on what grounds.

In the social sciences, values have been described as abstract concepts that influence behavior. Rokeach (1973) defined a value as an enduring belief that a specific end-state of existence is personally or socially preferable to an opposite or converse end-state of existence. He describes the connection between values and behaviour, making a distinction between terminal values and instrumental values. Terminal values represent desirable end-states, for example self-respect, family security, equality, and a world of beauty. These are complemented by instrumental values that represent preferable modes of behavior, such as ambition, love, cleanliness, logic and obedience. Critics state that the assumption that all values have one single interpretation is not tenable, and therefore the theory is not reliable (Gibbins and Walker, 1993). Still, Rokeach has inspired many to work with and further develop his typology, including Schwartz (1994), Hofstede (1980) and Braithwaite and Law (1985). Schwartz (1994) defines a value as a belief pertaining to desirable end states or modes of conduct that is not situation specific and that guides the evaluation of behavior, people, and events. He describes the relation between a limited set of values including universalism, hedonism and stimulation and assumes that this set of values forms "a continuum of related motivations." His work is considered a standard work on values in the social sciences, however, the validity of this work has been criticized since the applicability of his value theory did not show across cultures (Peng et al., 1997), and since the possibility to replicate his value experiments has been challenged (Gouveia et al., 2014).

In their inventory of human values, Cheng and Fleischmann (2010) include numerous definitions from the social sciences and present their own definition of a value: "a guiding principle of what people generally

think is important in life". This definition leaves room for the possibility that values can change because society changes, and because people change, so they cannot be defined as stable and enduring (Rokeach, 1979; van de Poel, 2018). Therefore, in this research, we use the definition of Cheng and Fleischmann (2010) when values are discussed.

In the state of normative meta-consensus, the relevance of a value is recognised by all participants, regardless of how values would be prioritised (Dryzek and Niemeyer, 2006). In addition, epistemic and preference meta-consensus are distinguished to define acceptance and agreement on the credibility of beliefs and on the nature of disputed choices. Fishkin (2011) describes meta-consensus as "collective consistency": even if people do not agree on which alternative is best, through deliberation they might come to a meta-agreement on what dimensions or values are important.

2.7 Online participation

Initially a deliberation concerned the physical gathering of people meeting 'face-to-face' (Fishkin and Mansbridge, 2017). In addition, the common use of internet technologies is increasingly providing opportunities to organise public deliberations online (Davies and Gangadharan, 2009; Perrault and Zhang, 2019; Zhang and Soon, 2017; Klein et al., 2012). Online deliberations can overcome the challenge of geographically spread stakeholders (Lupia, 2009), schedules that cannot be aligned to meet at the same time (Fishkin, 2009) or if physical meeting is a hurdle for other reasons (Price and Capella, 2009).

Online participation in deliberative processes is considered an aspect of e-governance (Dawes, 2008; Chadwick, 2003). This means that information and communication technologies can be used as a tool to achieve better policy outcomes, higher quality services, greater engagement with citizens, and advancing the public reform agenda (OECD, 2003).

When governments use ICT to improve democratic participation (e-democracy) (Lee et al., 2011), they can use mechanisms to inform, consult, and politically engage citizens through ICT use (Garson, 2006). These mechanisms ('e-participation' or 'e-engagement') promote a more fluid engagement of citizens in online environments in the sense that participation is voluntarily, at variable times, with variable duration

and commitment (Papacharissi, 2010). In this thesis, e-participation initiatives are not necessarily initiated with the aim to increase citizen participation in democratic processes; stakeholders that are professionally involved in wicked problems are considered as well. Therefore a broader definition of online participation will be used, which is largely based on the definition of Garson (2006): online deliberation is an umbrella term that covers deliberative activities carried out through digital means, including mechanisms to inform, consult, and broadly engage stakeholders in the policymaking process.

Examples of online discussion platforms include Twitter, Facebook and internet forums, which are used on a large scale to discuss societal issues. However, by offering structure and moderation, *deliberative* platforms can turn the expression of opinions into actual participation (Klein and Iandoli, 2008). For instance, Kialo has been developed to facilitate debates on any topic, which are edited and assessed by moderators. A point of criticism is that the moderators have been openly in conflict with each other, caused by adversary beliefs and values (Beck et al., 2018). Another example is Smart Agora, that has been developed to facilitate a public arena of discourse and serves as a test lab for smart city technologies (Griego et al., 2017).

The advantage of online deliberation is that participants do not need to contribute exactly at the same time, so they can participate at a time that suits them best, and their contribution can be asynchronous in time (Lupia, 2009; Fishkin, 2009; Price and Capella, 2009). Further, people join in their own individual sphere, for example their home, where they feel safe and comfortable (Papacharissi, 2010). Additionally, online deliberation allows for either anonymous facilitation, if power relations would otherwise hinder the process, or an open deliberation with identified participants if transparency is required (Price and Capella, 2009). Changing a deliberation from anonymous to identifiable can change the character of a deliberative platform. This has been illustrated by Leshed (2009), who describes how a broadly and very frequently used, anonymous inter-company deliberation platform turned into a stage for gossip, inappropriate comments and commercial advertising. This transition made the management decide to remove anonymity; ever since the platform is open, it has been used sporadically.

Downsides of online deliberation for large-scale citizen deliberation include the difficulty of recruiting a representative sample because of

the digital divide (Fishkin, 2011). In addition, physical and therefore mental distance to the other participants has reportedly been used to openly disrespect participants (Sarmento and Fabrino Mendonca, 2016). Well trained moderators can facilitate this balancing act of giving participants the freedom to speak up, in a way that is respectful to all participants (Edwards, 2002). With clearly defined roles and rules, efforts from both users and moderators enable a fruitful online deliberation, meanwhile preventing a sense of censorship by moderators that are too strict (Wright, 2006). Still, not all potential participants are equally equipped to participate in online deliberations, which can be caused by a lack of access (first level digital divide (Norris, 2001)), a lack of skills and usage (second-level digital divide (Dewan and Riggins, 2005; Friemel, 2016)), or a difference in the benefits that users have from the use of online resources (third-level digital divide (Wei et al., 2011)).

2.8 Conclusion

Participatory policymaking is often required for complex, wicked problems. However, even with the numerous available participatory methods it appears to be a challenge to include diverse, possibly conflicting perspectives. Consensus and mutual understanding have been discussed in political philosophy, but how processes can be facilitated to achieve mutual understanding has so far received little attention. Deliberations are an often used instrument, however, no guidelines for deliberations on values have been developed, face-to-face nor online, despite the identified need to do this. In order to address the diverse perspectives in wicked problems, the next chapter presents the concept of exploratory value deliberations that can facilitate mutual understanding.

Chapter 3

Conceptual framework

In the previous chapter, we introduced research with respect to diverse stakeholder perspectives, values and mutual understanding, demonstrating the urge for cross pollination between these fields. In this chapter, we build upon this literature to construct the conceptual framework that justifies the design of a methodology for value deliberation.

The need for a common language is presented as the starting point for exploring stakeholder perspectives, followed by reflection on the perspectives through deliberation. This can lead to rapprochement among the participants. Based on these concepts, a deliberative methodology 'the value deliberation process' has been developed.

Parts of this chapter have been published in Pigmans et al. (2019b), (Pigmans et al., 2019a) and Pigmans et al. (2020).

3.1 Exploratory deliberation for mutual understanding

In this thesis we develop and evaluate a methodology to facilitate perspective exploratation during policymaking processes, in which preferences of stakeholders may converge, diverge or remain the same (Kaner, 2014). The goal of these explorations is not to convince others to come to an agreement, rather to make participants listen to each other, reflect on the perspectives of others and to increase understanding of other perspectives (Gutmann and Thompson, 2009). Most literature regarding participatory policymaking processes concentrates on facilitating the social process towards coming to an agreement, stimulating consensus making, since that is the ultimate goal of the process. However, in case of wicked problems, the process is often characterised by diver-

gence of ideas rather than convergence (Head and Alford, 2015). This thesis suggests for these cases an iterative process of finding a common language, sharing of and reflecting on underlying principles, and rapprochement of stakeholders. This process is visually summarised in Figure 3.1.

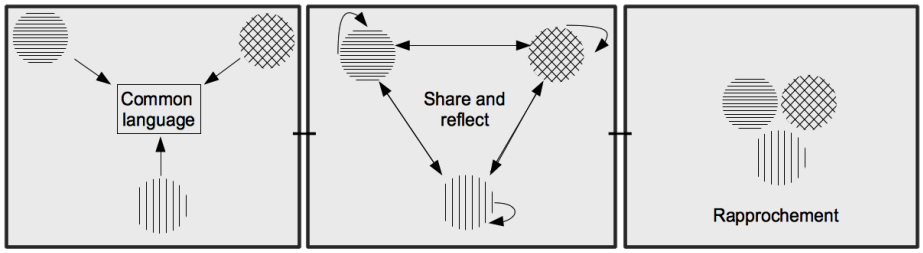

Figure 3.1: Conceptual framework: exploratory deliberation for mutual understanding

The left box of Figure 3.1 describes the development of a common language that can align the communication between the stakeholders. The middle box describes the process of deliberation and reflection, for instance by jointly identifying relevant values. The right box depicts the resulting rapprochement in terms of mutual understanding: even though stakeholders' preferences might still be divergent in this phase (each with their own pattern, no overlap), they will likely understand each other better. So even if there is no overlap in preferences, the increased understanding of the others' perspectives can enable the bridging of perspectives. In the following sections, each of the boxes are described.

3.1.1 Creating a common language

Differences in focus, knowledge, and terminology among stakeholders make it difficult to come to an agreement, since they often talk past each other or hear what they want to hear rather than what is being said (Granek et al., 2010). So when stakeholders meet and try to communicate, they may not succeed because they can have a very different language (Dammann and Elle, 2006). Therefore, participants need to have a willingness to listen to each other as well as communication ap-

prehension (Roberts and Vinson, 1998), rather than solely trying to convince each other. The willingness to communicate has been described as an outcome of taking part in a deliberation (McDevitt and Kiousis, 2006). In this thesis, however, stakeholder communication is considered as input rather than as an outcome of a deliberation. Stakeholder communication can include participants treating each other with respect, being unbiased, acknowledging their own subjectivity and tolerate ambiguity (Shadid, 2003).

Acquiring a common language and shared points of reference can contribute to the degree in which participants understand what others mean (Kaner, 2014). 'Common language' is defined as a common frame of understanding (Kaner, 2014) which can foster dialogue among groups with different interests and beliefs and increase the likelihood that they can design and implement plans that are mutually acceptable (Granek et al., 2010). This can take the shape of for example jointly identified underlying values (Glenna, 2010), agreed upon measures or environmental indicators (Dammann and Elle, 2006).

No decision-making process is value-free, so once values have been identified and acknowledged, they should be considered in the policymaking process (Hertwich et al., 2004). The values can be used to engage government and citizens in a shared deliberation about what these values mean, with the ultimate goal of developing common objectives (Shields et al., 2002). Identifying and sharing which values are relevant to stakeholders can therefore serve as common language.

The search for a common language among stakeholders is broadly acknowledged: the titles of academic research starting with the phrase 'Developing a common language for', includes topics as diverse as neonatal pain (Hodgkinson et al., 1994), advocacy in counseling (Toporek, 1999), ethnical diversity in society (Wallman et al., 2000), social work (Axford et al., 2006), marketing (Quinn et al., 2010), and cancer treatment (Nishino et al., 2013). In each of these studies the 'common language' that is referred to in the title is a common frame of understanding of the topic.

3.1.2 Reflection through deliberation

Following-up on the discussion of Rawls' and Habermas' work on rational discourse in Section 2.4, reflection on various perspectives can be initiated by inviting and involving all concerned stakeholders in the

process. By actively involving and informing stakeholders that are often not taking part, their perspectives become part of the process and can therefore influence the outcome (Allen, 2011). For this, minority voices and social groups should be included in addition to the mainstream or dominant parties (Mouffe, 1999; Young, 1990). Deliberations have been used in many contexts and settings for this purpose (Fishkin and Mansbridge, 2017).

Deliberations are set up to stimulate reflection, which has been argued to be more important than interaction with the participants (Goodin and Niemeyer, 2003). Enabling reflection requires strong facilitation of a continuous understanding of the other participants' values and interests (Karpowitz and Mansbridge, 2005; Glenna, 2010; Doorn, 2016). Reflection on how participants' own perspective relates to the perspectives of others can be realised by setting up well facilitated deliberation processes for the diverse representatives (Gutmann and Thompson, 2009; Fishkin and Mansbridge, 2017). Exploration and reflection benefit from facilitation (Dentoni and Klerkx, 2015; Kallis et al., 2006; Cruickshank and Evans, 2012), since good facilitation gives room to the different voices and perspectives that are involved. A facilitator can stimulate the exchange of these perspectives, before convergence is addressed in a later stage.

3.1.3 Rapprochement

In complex policymaking processes, phases of divergence and convergence occur (Kaner, 2014). These phases do not seem to follow a linear sequence, instead, these are iterative, enabling participants to cycle between divergence and convergence thinking (Franco and Montibeller, 2010).

Facilitating room for divergent thinking can increase interpersonal trust (Sellaro et al., 2014) and improve problem solving skills (Nemeth and Kwan, 1987) because participants have a better understanding of the other perspectives or options. This mutual understanding is needed to eventually enable the integration of divergent perspectives in the policymaking process (Cornelius and Boos, 2003).

Rapprochement –establishing harmonious relations– can benefit policymaking processes, since it facilitates the exploration of stakeholder perspectives rather than eliminating them. For this reason, rapprochement is considered as the third step in the framework. This is not

necessarily the final step, since the steps are iterative. Rapprochement may result in overlapping perspectives, but this is not an aim.

3.2 Applying the framework

The conceptual framework forms the theoretical basis to construct a method that facilitates deliberations on values among stakeholders, with the aim to increase mutual understanding of the different perspectives. In order to translate the conceptual framework into a workable method, the value deliberation process has been developed (see Figure 3.2).

To achieve the goal of increasing mutual understanding among stakeholders of complex societal issues, the following design requirements are used:

- Two points of measurement to be able to measure effects that the method could have had (inspired by Delphi methodology).
- Direct feedback by direct interaction. The initial aim of the Delphi methodology was to get consensus about a topic among anonymous experts through indirect exchanges; the aim of the value deliberation method is to get stakeholder's mutual understanding on various perspectives of a topic, so direct interaction is key to get this sympathetic understanding among actors, whom possibly have had historical disagreements.
- Facilitating room to express existing attitudes, so that they can air their opinions on the topic.
- Facilitating room to reflect without focusing the opinions/attitudes.
- Usable outside project context by policymakers, since they are the intended users.
- Value deliberation as the underlying concept to reflect.

We took inspiration from the Delphi methodology, a much used and investigated data gathering method designed to elicit consensus among experts. The Delphi methodology is able to determine a range of alternatives around a given discussion topic, and can also be used to delineate the underlying assumptions they are based on (Hsu and

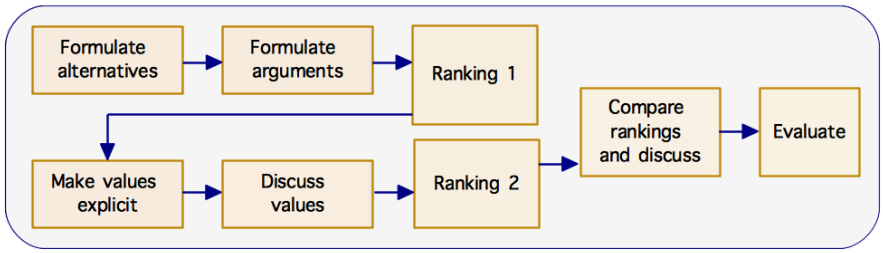

Figure 3.2: Value deliberation process

Sandford, 2007). The Delphi methodology provides measurable outcomes and a clear structure: questionnaires are sent to pre-selected experts, their responses are summarised, and summaries are sent back to the experts together along with a second questionnaire comprising roughly the same questions. This is commonly done through completing two rounds of the process, but more can be performed if required. In the last round, the experts often rank the ideas generated in the questionnaires (Landeta, 2006; Van de Ven and Delbecq, 1974).

In this thesis, the consultation of stakeholders to reflect on solutions and the measurement of their preferences in multiple rounds, is combined with the conceptual framework, to make it applicable to complex societal issues with various kinds of stakeholders. The three stages of the framework (as depicted in Figure 3.1 on page 24), are reflected in the value deliberation method as depicted in Figure 3.3. The left box of the framework corresponds to box 3 'common language', the middle box of the framework corresponds to box 4 'Share and reflect', and finally the right box of the framework corresponds to box 5 'rapprochement'. To make the method suitable for use, steps of preparation, measurement and evaluation are added, corresponding to box 1, 2 and 6 respectively in Figure 3.3.

Practicalities about the use of the process, such as advice on the duration or the amount of participants, but also the protocol and other materials are collected in Appendix A.

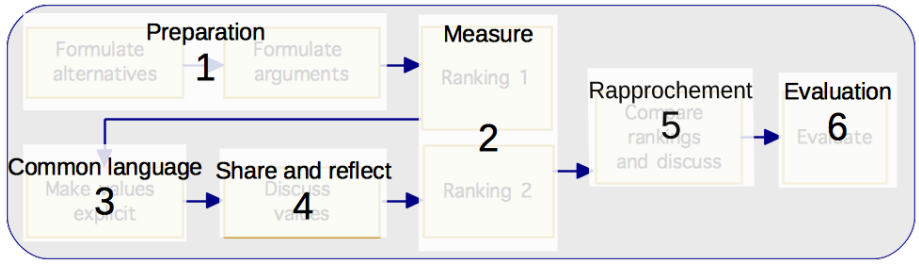

Figure 3.3: Framework reflected in value deliberation process

3.2.1 Preparation

Beforehand, the initiator of a deliberation briefly introduces the topic of deliberation as well as eventual predefined solutions to the problem, that are standard or currently investigated approaches. Then, an independent facilitator takes over and starts with two preparatory steps (box 1 in Figure 3.3): In case there are no predefined solutions to the problem, participants are asked to formulate at least three different alternative solutions that are not antagonistic, to prevent that the starting point is a polarised debate. Otherwise, participants are asked to formulate additional or new solutions that they consider necessary for the deliberation (Renn et al., 1993). Instead of working with solutions, alternatively, earlier developed scenarios can be used to discuss the issue, which should neither be antagonistic.

The method prescribes including the solution or scenario 'do nothing' as well, since this is often the most realistic solution or scenario, which should therefore also be reflected on (Hoggart et al., 2014; Nicolaisen and Næss, 2015). Four to five solutions in total is optimal, given the limited time for deliberation. In the remainder, 'solutions or scenarios' will be referred to as 'solutions'.

Managing observable expressions or feelings can prevent negative emotional tensions and may reduce emotional outbursts (Yang and Mossholder, 2004), for example by providing a controlled form to express opinions or attitudes. In the value deliberation methodology, this is facilitated through asking participants to give pro and con arguments relevant to each of the solutions. This way they collectively create a basic understanding of the existing ideas regarding the problem. Without this step, participants might not comprehend all solutions.

3.2.2 Measuring impact with rankings

Box 2 in Figure 3.3 marks the measurement. To asses mutual understanding, individual rankings are important as these allow for an assessment of inter-group differences. Since the aim is not to identify a winning solution but to measure differences in preferences, in this research a Borda count is used to vote for the solutions, to quantitatively compare different aggregated rankings.

Condorcet and Borda each developed a voting mechanism that takes into account multiple solutions (Young, 1988). The Condorcet method is a pairwise preference vote, that is, all options are voted on pairwise. If the options are A, B, C and D, then first either A or B can be voted, then A or C; then A or D; B or C; B or D; and C or D. In this case, six voting rounds would be needed. The option that is preferred most over the other options wins. The Borda count is a preferential rank vote: all options need to be ranked by voters individually, giving each option points. For example, if there are four options, the most preferred option gets four points, the second most preferred gets three points, and so on. The points given by all voters are then added up and the option with the most points wins (McLean, 1990).

With a Borda count, each participant ranks all solutions. In addition, getting an outcome after one round of voting is more practical compared to, for example, needing six rounds, as would have been the case if the Condorcet method would have been used. By choosing for a ranking rather than an interval scale, participants are forced to make choices with respect to the solutions. By asking participants to make a choice instead of marking a (possibly neutral) point on an interval scale, they are forced to reflect on why they prefer one solution over another solution. In Chapter 5, Borda count and measurement are elaborately discussed.

In the value deliberation process participants rank all alternatives on a ranking form – from most preferable, ranked number one, to least preferable, ranked bottom – to establish a baseline preference measurement. By using Borda count for the aggregation of individual rankings before and after the value deliberation, any changes in personal ranking preferences can be tracked whilst remaining anonymous, ensuring that the outcome is unbiased towards individual voters (Young, 1988).

3.2.3 The common language of values

Box 3 'common language' in Figure 3.3 marks the elicitation of values. Reflecting on values can provide a frame of understanding on a level that is abstract enough to briefly set aside interests, but which is relatable enough to deliberate on. To prevent an interpretation of the used language to deduct values (Satterfield, 2001), which would necessarily include the bias of the researcher, participants are directly asked to identify values that they consider relevant, also referred to as 'stakeholder values' (Borning et al., 2005). Values are identified per solution or scenario. This can be done by posing an open question such as 'Which values do you consider relevant to this solution?', or by offering a list of values they can choose from. In case of the latter, participants should be offered the possibility to add values that they consider relevant and that are not listed. The list should be provided by the initiators of the deliberation to prevent bias towards certain values by the researcher and facilitator.

3.2.4 Discuss values

Box 4 in Figure 3.3 represents the discussion and reflection of the identified values. If the aim of the deliberation is to increase mutual understanding, then plainly giving unstructured input on the topic (Klein et al., 2012) or listing values without any reflection is problematic. For instance, in case the debate is polarised and participants enforce their own thoughts (Sunstein, 2002) or if 'faux consensus', that is, a consensus that neglects the divergent perspectives of the group members, takes place (Cornelius and Boos, 2003), then there is little room for reflection and sympathy for other perspectives.

Therefore, the participants are asked to actively reflect on why these values are important to them. Sharing these reflections forms the core of the deliberation (McCrum et al., 2009). The facilitator asks questions such as: Who wrote down this value? Why? Does everyone agree with the relevance of this value? Why (not)? Are there other ideas about this value?

3.2.5 Rapprochement through meta-agreement

Box 5 in Figure 3.3 marks rapprochement of stakeholders. By discussing the reflection on values, a meta-agreement can take shape (Fishkin, 2011; Dryzek and Niemeyer, 2006): even though participants might have diverging ideas (Kallis et al., 2006; Cruickshank and Evans, 2012), they do recognise the importance of the identified values and by listening to each other, they become more sympathetic to other solutions. This does not mean that they would agree to or support these solutions in this stage, but they can become more sympathetic of other ideas because there is more mutual understanding.

For this reason, participants are asked to rank the solutions again after the values discussion, and subsequently the differences between the two rankings (or the lack thereof) become visible and can be discussed. By comparing the two rankings, changes or confirmations in preferences can be reflected on.

3.2.6 Evaluation

Box 6 in Figure 3.3 marks the evaluation of the process as the final step of the process. In action research, evaluation takes place when participants reformulate and revalue their own knowledge and experiences in response to questions from the facilitator (Greenwood and Levin, 2006). For this reason, the process ends with a group discussion to reflect on how the process is perceived by the participants and by discussing if the value deliberation has impacted them. How the outcomes of such evaluative group discussion are used depends on the context and the aim of the value deliberation. The reflection can serve as the starting point for a new cycle of dialogic AR or could be processed as recommendations to be handed over to decision-makers.

In addition to the group discussion, a short survey is distributed to ask for participants' perceived change in mutual understanding.

3.3 Conclusion

This chapter presents the theoretical constructs that form the foundation of this research. The conceptual framework suggests that finding a common language and reflecting on the topic of deliberation can result in stakeholders that approach each other in terms of mutual under-

standing. The value deliberation process has been developed to materialise the theoretical concepts of the framework and can open up participatory wicked problems. The next step is to test and use the methodology in different context and settings, which is described in the next chapters.

Chapter 4

Value deliberations in water governance: two pilots

The value deliberation process that has been described in Chapter 3 has been used in two pilot value deliberation workshops to evaluate the process. These workshops were initiated by two consortium partners of the Values4Water consortium. The first is the Dutch waterboard *Waterschap de Dommel*, the second is the Dutch water research institute *Deltares*. Both partners initiated a deliberation with colleagues who work on complex water governance issues. In this chapter, we explain how the deliberations were organised and what the outcomes of the pilot value deliberations was. The research question was *'To what extent can the discussion of values impact the deliberation process concerning water governance issues?'*.

Participants deliberated on values they considered relevant to solutions for respectively dealing with pharmaceuticals in the surface water and land subsidence. The study suggests that if values that stakeholders perceive as relevant can be identified and discussed as part of the deliberation process then (1) stakeholder preferences can change, and (2) participants develop a mutual understanding of each others' values and perspectives. The results suggest that mutual understanding of stakeholders' perspectives increases as a result of value-based deliberation.

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[1] The author of this thesis performed the following tasks: co-developing the method by emphasizing the deliberation on values, facilitating the workshops, analyzing data,

4.1 Introduction

Stakeholder participation is widely recognised as a central component of environmental decision-making. This is reflected in the Aarhus Convention[2] and subsequent environmental legislation, with both the European Water Framework Directive (Directive 2000/60/DC) and the European Floods Directive (Directive 2007/60/EC) placing similarly strong emphasis on the role of the stakeholder in the water management process. In its most general sense, stakeholder participation refers to a process that facilitates the inclusion of those involved in, affected by, knowledgeable of, or having expertise or experience relevant to the issues at stake (Van Asselt and Rijkens-Klomp, 2002). This process can range from simple information provision to independent, public-led decision-making (Mostert, 2003). Benefits commonly associated with stakeholder participation include better use of the available knowledge and experiences of different stakeholders; increased public acceptance, through more transparent decision-making processes; and reduced litigation, delays, and inefficiencies in outcome implementation (Ruiz-Villaverde and García-Rubio, 2017; Papadopoulos and Warin, 2007). Despite this, and despite the involvement of stakeholders in water management-related decision making being something that is both required and frequently practised (WMO, 2009; Huitema et al., 2009), no standardised means for facilitating stakeholder participation exists. Nonetheless, numerous examples of failed or poorly implemented stakeholder participation can be seen across the literature (Reed, 2008). Stakeholder participation may fail, for instance, if stakeholders are left subjectively unheard, leading to feelings of resistance and conflict; if they are involved at too late a stage in the decision-making process; or if the temporal demands placed upon them are such that they are unable to commit themselves to the process (Hommes et al., 2009; Reed, 2008; Pahl-Wostl, 2002; Andersson et al., 2008).

Stakeholder participation is considered especially important in situations with complex, unstructured problems – described previously as 'wicked' problems (Rittel and Webber, 1973) ('messy' Ackhoff (1974) or 'ill-structured' problems Dunn (1988)). Wicked problems often lack a straightforward answer because of incomplete, contradictory, or dy-

and writing the paper.

[2] http://ec.europa.eu/environment/aarhus

namic components that are often difficult to address directly (Brunner et al., 2005). They are characterised by ambiguity regarding problem definition, uncertainty involving the causality of relationships between problems and potential solutions, and disagreement surrounding important normative elements (e.g. values, norms or objectives) (Hisschemöller and Hoppe, 1995). Many water management problems are 'wicked' because they comprise complex human and natural systems (Kolkman et al., 2005) often involving different governmental spheres (OECD, 2011) and multiple stakeholders using the water system (Geldof, 2001). Typical examples are problems relating to pharmaceuticals in the water system (Kasprzyk-Hordern et al., 2008), land subsidence as a result of groundwater extractions (Van den Born et al., 2016), and pluvial flooding during heavy rainfall (Farrelly and Brown, 2011).

Given the (wicked) nature of these problems, the challenge for participatory methods lies in being able to interweave process-related elements with situation-specific content, thereby developing a shared understanding between stakeholders regarding the problem at hand (Edelenbos et al., 2003; Koppenjan and Klijn, 2004). It has been argued that participatory methods can, and should, actively stimulate participant's understanding of one another's values and interests – as opposed to being solely directed towards consensus finding (Karpowitz and Mansbridge, 2005). Stakeholders are thereby better able to recognise the moral merit of perspectives that are different from their own (Gutmann and Thompson, 2009).

Despite this growing recognition that an exploration of differing *values*, as well as *interests*, can be of significance to the deliberative process, and that participatory methods can be highly useful in recognising the (moral) merit of other people's perspectives, little attention has been given to methods that systematically address stakeholders' values, or their differing interpretation of these values. Empirical research from the energy sector suggests that moral and social values have a large impact on the general societal acceptance of energy projects (Gross, 2007; Wüstenhagen et al., 2007). A growing number of scholars are therefore calling for more comprehensive integration of moral values throughout the design of energy projects (Kostyk and Herkert, 2012; Demski et al., 2015). Although less systematically studied, empirical evidence from the water domain suggests a similar positive effect in adopting a *value-*

based approach over an *interest*-based one (Briggs et al., 2005; Glenna, 2010; Doorn, 2016).

'Values' are used in this article as the basis for describing stakeholder participation. This approach develops on that of Cheng and Fleischmann (2010) in treating values as underlying determinants of what people think is important in life. The concept of values is used to form a basis for the deliberation process defined here as a group-based process of participation, social exchange, reflection, and learning in which participants have the opportunity to reflect upon, form, express, and debate their viewpoints, values and beliefs (Kenter et al., 2016a). We focus on value deliberation in the early stage of the decision-making process in which direct stakeholders discuss possible solutions in order to ascertain existing and prevailing attitudes and values surrounding the problem in question. This is with the aim of understanding the role that value identification and discussion can play in this early stages of environmental decision-making, building on the ideas of Karpowitz and Mansbridge (2005); Gutmann and Thompson (2009); Doorn (2009); Glenna (2010).

This article is structured as follows: Section 4.2 details the objectives of the research and the propositions to be tested. In Section 4.3, value elicitation, participatory deliberation, and the process of data collection are discussed. Next, Section 4.4 describes the results of the data collection at, respectively, a Dutch water research institute and a Dutch water board– allowing for analysis of the propositions. Following this is a discussion of the results in Section 4.5 and a section detailing related work. Finally, in Section 4.7 we present our conclusions and introduce possibilities for future research.

4.2 Objectives

Our aim is to use value deliberation to achieve stakeholder mutual understanding that will ultimately lead to better-supported water governance. This is achieved by integrating the values of the stakeholders involved in the process. Stakeholders can include policymakers, concerned citizens and business owners. Values that appear to be relevant to stakeholders should be expressed consistently over the course of the process (Gregory et al., 2005) to allow for good water governance. We aim to answer the following research question:

To what extent can the discussion of values impact the deliberation process concerning water governance issues?

In order to answer this question, we analyse two propositions constructed to define the extent of the impact of value discussions. First, we want to know whether the discussion of values affects the ranking order of alternative values. This leads to our first proposition:

> *P1: Making values part of the deliberation process may change participant's preferences with respect to the alternatives.*

This proposition is analysed by comparing participant's ranking of prefered values at the beginning of the deliberation to a ranking performed towards the end of the deliberation. In Section 4.3.2 this is explained further.

Second, whether a participant changes their preferences does not infer that their understanding of the preferences has changed. Increased understanding could lead to a change in preference ranking, or equally result in confirmation of the earlier ranked order of preferences (Barabas, 2004). In order to test for a post-deliberation impact other than change in individual preferences, we investigate whether there is a change in participant understanding of other people's perspectives:

> *P2: The discussion of values during the deliberation process leads to an increased understanding of other perspectives.*

We use the term 'understanding' here to describe an acquired acceptance of another viewpoint with a certain degree of sympathy, not the act of cognitive understanding. Proposition 2 is analysed through a post-workshop evaluation completed by participants, including a short survey.

4.3 Methodology

There has been ample research into methods that increase participation in social learning (Hommes et al., 2009; Pahl-Wostl, 2002; Reed, 2008; Cuppen, 2012a; Renn et al., 1997), yet specific methods concerning value deliberation are scarce.

4.3.1 Value elicitation

The main rationale for deliberating values instead of discussing interests is that value discussions have been shown to be able to transcend the inevitable interest-based disagreements amongst stakeholders (Glenna, 2010; Doorn, 2016), and instead become a dialogue around other people's perspectives. If participants understand each others' viewpoints and perceptions, they can be more willing to work towards a common solution (Habermas, 1995). To reach this mutual understanding, participants have to be willing to reflect on their values, assumptions and larger social context. In addition, they must try to understand arguments from other perspectives through respectfully listening to each other (Dahlberg, 2001).

Before one can investigate an appreciation or understanding of other people's values, the values themselves must first be identified. One potential approach to this is that researchers select the values they think are worthwhile investigating (Kenter et al., 2016b). 'Values' can be an abstract concept for participants, so having researchers preselect a defined set of values can make the concept clearer and more practical. The clear downside is that this makes the deliberation biased towards values chosen by the researchers.

Another approach, therefore, is to give participants total autonomy to identify which values they think are relevant. This could be facilitated either by imposing a definition of value, or by leaving it up to participants to dictate what they consider to be a value.

4.3.2 Participatory deliberation

We took inspiration from the Delphi methodology, a much used and investigated data-gathering method designed to elicit consensus among experts. This method is further able to determine a range of alternatives around a given discussion topic, and can also be used to delineate the underlying assumptions they are based on (Hsu and Sandford, 2007). The Delphi method provides measurable outcomes and a clear structure: questionnaires are sent to preselected experts, their responses are summarised, and summaries are sent back to the experts together along with a second questionnaire comprising roughly the same questions. This is commonly done through completing two rounds of the process, but more can be performed if required. In the last round, the

experts often rank the ideas generated in the questionnaires (Landeta, 2006; Van de Ven and Delbecq, 1974).

Using the iterative structure of the Delphi method, we organised two workshops based around two discrete (wicked) water governance problems. Each workshop contained participants with differing levels of expertise. The process is depicted in Figure 3.2, on page 28. Data were collected via rankings, group evaluation and a survey.

The deliberation starts with a formulation of alternatives that could solve the problem. Some of the alternatives may be pre-determined because they are 'standard' or currently investigated approaches to the problem. Additional or new alternatives can be introduced (Renn et al., 1993). For each alternative, pro and con arguments are collected.

Participants then rank all alternatives on a ranking form –from most preferable, ranked number one, to least preferable, ranked bottom– to establish a baseline preference measurement. Using the Borda count for the aggregation of individual rankings, any changes in personal ranking preferences can be tracked whilst remaining anonymous, ensuring that the outcome is unbiased towards individual voters (Young, 1988).

The rankings are collected to calculate the aggregated score for each alternative. The alternative that scores highest on the aggregate level is not necessarily the most preferred alternative for participants individually. Therefore the individual rankings are considered as well, to have a complete overview of the changes in ranking behaviour. This information is used to analyse Proposition 1.

Values are then identified by asking participants what values they think are relevant per alternative, and if they can identify overarching values common across alternatives. The participants then reflect on why these values are important to them. Sharing these reflections forms the core of the deliberation (McCrum et al., 2009). Alternatives are then ranked again, after which point the differences between the two rankings (or a lack thereof) becomes visible and is discussed. These outcomes are used to analyse proposition 2. Furthermore, participants are asked if the process gave them any additional insights or taught them anything new by way of a short survey. The answers to this are used as a second unit of analysis for Proposition 2.

4.3.3 Data collection

Data collection took place in the spring of 2017 over two workshops. In workshop 1, four researchers facilitated and documented a value deliberation process at a Dutch water research institute. There were six participants, all connected to the water research institute, deliberating on the topic *land subsidence*.

In workshop 2, three researchers facilitated and documented a value deliberation process at the Dutch water board *Waterschap de Dommel*. Ten participants from the water board deliberated on the topic *pharmaceuticals in the water system*.

4.4 Results

In this section, we describe the results of the two workshops. In both workshops, participants contributed two additional alternatives to the list of pre-determined alternatives that served as a starting point.

4.4.1 Workshop 1 on land subsidence

For the measurement of impact and analysis of the propositions, the arguments are an aid rather than a key outcome. A complete overview of the arguments related to each alternative can be found in Appendix B.2, Table B.1. The values that were identified are also listed in Table B.1.

Rankings. Aggregate rankings for the two rounds are depicted in Figure 4.1.

The chart shows that, on aggregate, option C was ranked first, then option B, and so on. The order of the aggregated preferences did not change in the second round (after the discussion).

The differences between the two rounds appear minor on an aggregate level, yet all participants changed their order of preferences in the second round, and one changed their most preferred alternative (see Appendix B.2).

Group evaluation. During the evaluation, all participants explained why they had changed their order of preferences. Reasons given include that 'the urgency of the problem became clearer because of the value discussion' and 'too-invasive changes/alternatives became less important because of the discussion'. In summary, participants stated

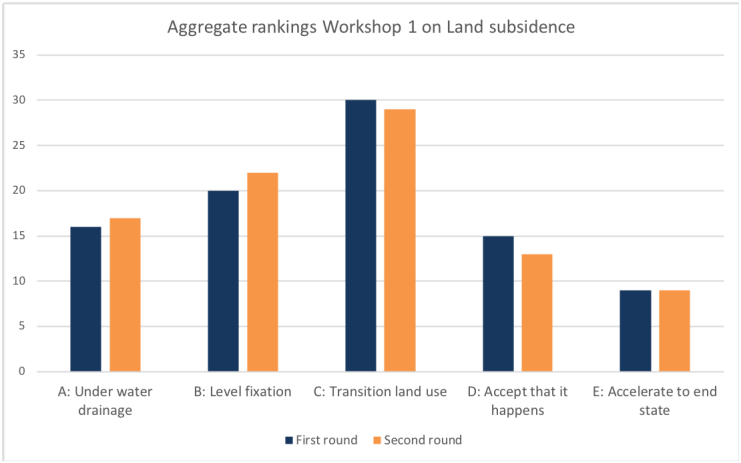

Figure 4.1: Aggregate rankings of Workshop 1

that the value discussion resulted in a better understanding of the problem and of the alternatives.

Discussion. The discussion on values, guided by the questions 'What values did you write down?', 'Why?', 'Does everyone agree?', and 'Why not?', led to discussion of the values of cultural history, governance, safety, landscape innovation and landscape disappearance.

Survey. In the survey (see Appendix B.1) participants were asked if their ideas had changed after the value discussion. Some of the responses given to this included: 'Yes, I have more understanding of the alternative and the impact of the alternative', and 'My ideas have become richer, more complete'. Another question asked was if the process taught them something new, or allowed for different insights to be gained. Participants responded, 'Not something new, but new points of view [from which] to approach the problem'; 'Maybe not content-wise, but it sharpens the mind'; and 'Different types of values [became apparent], that did not cross my mind before but which are actually very important'. The answers to these questions show that participants generally experienced a change after the value discussion, allowing them to better understand others' –as well as their own– perspectives.

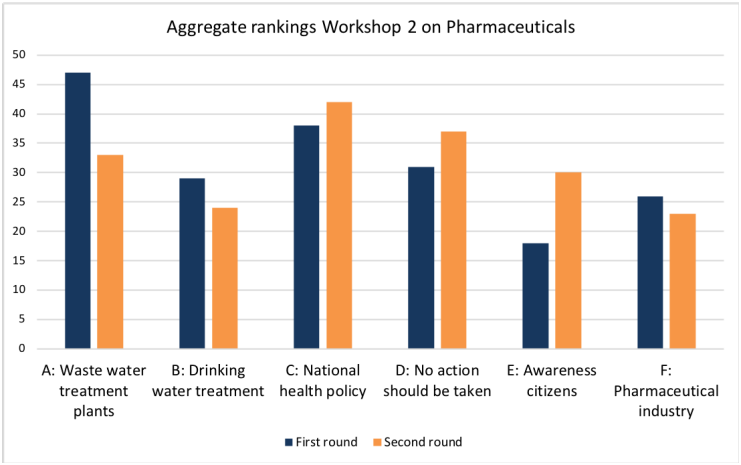

Figure 4.2: Aggregate rankings for Workshop 2

4.4.2 Workshop 2 on pharmaceuticals in the water system

For this workshop, the complete overview of alternatives, arguments and values per argument can be found in Appendix B.3, Table B.2.

Rankings. The aggregate rankings of this workshop are depicted in Figure 4.2. This shows that in the first round option A was most preferred, followed by the alternatives C, D, B, F and E. However, the aggregated preferences changed after the second round, with C ranked first, followed by D, A, E, B and F.

One participant did not change anything, yet all others did. In addition, six of the nine participants changed their most preferred alternative in the second ranking (see Appendix B.3).

Group evaluation. During the evaluation, participants expressed their reasoning behind changing or maintaining their order of preferences, with explanations such as: 'In the first round I reflected from the water-authority perspective; in the second I reflected on the values for society'; 'First I thought: what is the most practical to do? But then I realised that we are really going the wrong way – something really needs to change'; and 'There is no wrong or right. It feels very good to discuss it in such way.'

Discussion. The discussion on values expanded into a discussion concerning personal values, societal values and organisational values.

Values that were discussed were the concept of 'Gaia' (the theory that sees the earth is a complex, living organism), priorities, survival, own responsibility, and safety. Participants told personal stories about the future of their children and the lives of their elderly parents to express what these values meant to them. This made the discussion per value longer than in workshop 1, and more personal. Participants stated that the realisation that these issues (around pharmaceuticals in the water system) had become personal was only apparent after the value discussion had occurred.

Survey. To the question of whether participants' ideas had changed after the value discussion, answers included: 'No, but I could understand my thoughts after the discussion about values better', and 'Yes, [my ideas changed as a result of] thinking more about society's point of view'.

To the question of whether the deliberative process gave them different insights, participants stated, 'Yes, [in] making explicit that people have values and discussing them', and 'More understanding of differences [allowed for] insights in the complexity of the issue'.

Most participants expressed that they had gained new insights because of the deliberation (five out of six in Workshop 1, and eight out of ten in Workshop 2).

4.5 Discussion

Our aim was to develop a better understanding of the role of value discussions in deliberative processes. In this section, we first reflect on the measurability of the deliberation process and on how values were identified and discussed. This is followed by a discussion of the propositions and research question.

4.5.1 How we measured value deliberation

Deliberation took place in an environment conducive to open discussion; in which participants felt free to speak up and to reflect on their values. Measurements were performed using a ranking process whereby the preferences of participants are quantified and become easily comparable.

In Workshop 1, the value discussion did not result in large changes

in aggregate rankings. The discussion was vivid, but participants tended to express a similar set of moral convictions, or adopt a similar 'world-view'. This led to rankings that were fairly homogeneous. All participants, however, changed their rankings between first and second rounds.

The aggregate rankings from Workshop 2, however, exhibited substantial differences. Even though all participants were working for the water authority, they displayed highly different ideas regarding the discussed values. The value 'Gaia' drew particularly intense discussion, developing into an exchange of personal stories to support each participant's values. This discussion resulted in changes in the rankings on an aggregated level.

In both workshops, new alternatives were suggested and brought to the table, allowing the discussion to adopt a more comprehensive view of the topics. The participants became aware of their own conceptions of values and of those of other participants. Stories regarding values became both factually rooted and highly personal, and allowed participants to understand each other better. In the evaluative discussions for both workshops, participants stated that they had obtained a better understanding of the problem, the alternatives, and what is at stake with respect to the values relevant to all stakeholders.

Identifying values was not a goal in itself, but rather an instrument to support a deliberative process that invites participants to reflect on the topic in more abstract terms. The aim was to transcend discussion on the level of interests, which was achieved.

The moderator did not set rules detailing what constitutes a value and what does not. Not being strict regarding this definition created room for an open-ended identification of values. This resulted in values that could be actual sentences (e.g. 'We are a societal player, so we are part of the issue'), worries (e.g. bad for economy), or opposing concepts presented under one label (e.g. landscape innovation and landscape disappearance).

In both workshops, many different values were identified by participants (an overview of the values can be found in Tables B.1 and B.2 in the Appendices) and the value elicitation evolved organically; there was a sense of openness in which no input was considered 'wrong'.

During the Workshop 2 discussion on pharmaceuticals in the water system, participants described that their perspective on the topic

seemed to have shifted to a personal one, even though all participants were present in the role of water authority representatives. If value discussion can allow participants to temporarily relax or step aside from their official role –simply by virtue of becoming focused or engaged in the topic under discussion– this could create a way of approaching the complex social process whereby stakeholders have to meet in often less harmonious settings. It could open up new discussions and challenges between stakeholders; ones that were not conceivable before. This is reflected in the previously posited idea that diversity –and open-mindedness in perspectives and opinions– can be considered a prerequisite for proper deliberation in which participants learn from each other and reflect on each others' perspectives (Barabas, 2004; Cuppen, 2012b). In addition, opening up on a personal level during the workshop can facilitate increased feelings of trust among participants (Kenter et al., 2016a).

In Workshop 2, the differences between the individual rankings increased in the second round. This scenario could be seen as expected, as earlier research has described how deliberation can bring pre-existing differences to the surface, diverging the perspectives of participants rather than converging them (Shapiro, 2002). If participants' expectations are well facilitated during the deliberation, such divergence is not necessarily a problem; deliberation in an early stage is meant to allow participants to understand each other better and to develop an awareness of the different concepts present.

Through conducting two separate, small-scale studies –in which external researchers assume the role of facilitators– group dynamics could be observed and interactions could be documented. The experimental, qualitative, and small-scale nature of this study does not allow for statistical analysis. However, if the same methodology were performed on a larger scale, the rank orders obtained through the Borda count allow for calculation of Kemeny-Snell distance (Kemeny and Snell, 1972) to evaluate whether the rankings of a deliberation have become more similar in a second measurement.

4.5.2 Proposition testing and answering research question

We analysed two propositions to answer our research question. The first proposition was evidenced in Workshop 1 whereby all participants changed their preferences. In Workshop 2, the changes in preferences

were even more apparent: six of the nine participants changed their most preferred alternative after the value discussion. These results confirm that making values explicit and subject to group discussion can change a participant's preference of the alternatives.

The second proposition was confirmed in both workshops. In Workshop 1, the group evaluation reported a clarification of the problem and the alternatives; the survey, in turn, reported a broadening in understanding. One participant described specifically an increased understanding of other perspectives: 'I appreciated the change-over between the technologies and the values. Hearing values from others has an effect that your own scope is broadened; you get empathy for others. For example, if you hear others talk about the speed of the transition, this gives new insights that adjust your own understanding and opinion. You cannot attack someone on their values. Hearing the values of another participant influences your own opinion.'

In Workshop 2, one of the reasons that the understanding of participants had changed was that that they were able to reflect on the values from differing perspectives: their professional perspective as a representative of the water board; a societal perspective; and as a private citizen, reflecting on the personal consequences that the issue encompasses. In particular, the differing views and discussion arising with respect to the value 'Gaia' reflected thoughts that were not expressed before by the participants.

This leaves us to finally to consider our original research question: To what extent can the discussion of values impact the deliberation process concerning water governance issues? Based on the analysis of the two workshops we can see that deliberation of values changes both participants' preferences and increases the understanding of other perspectives. This finding is a promising first step to improve the deliberation and subsequently decision-making processes in water governance.

4.6 Related Work

Research based both in environmental governance and innovative democracy has yielded studies describing the significance of deliberation. In a study on methods of enhancing social learning, researchers organised deliberative workshops allowing land managers to share and deliberate their reflections on climate change (McCrum et al., 2009). These

workshops stimulated social learning, but neither mutual understanding nor values were taken into account. Kenter et al. (2016b) discuss how to combine value deliberation with group-based decision-making in managing ecosystems. The goal of these studies was to deliberate on monetary values through various workshops in which information is elicited and values become explicit. No deliberation took place, however, concerning stakeholders' *moral* values.

Deliberative democracy is a process by which to involve citizens in decision-making processes for policies (Mouffe, 1999; Gastil and Levine, 2005; Gutmann and Thompson, 2009). The role of values in these deliberations is only mentioned sparsely, but –when discussed– is presented as a crucial aspect (Karpowitz and Mansbridge, 2005). Nonetheless, no systematic attempts to realise this are discussed in the deliberative democracy literature.

Additionally, the concept of perspective-taking in relation to decision-making is investigated within the field of social psychology (Galinsky et al., 2014). The study discusses how perspective-taking is able to influence decision-makers, and seems to prevent them from clashing with others in the process. However, the results are laboratory-based, with students role-playing the decision-making process. In addition, the experiments did not focus on moral values.

4.7 Conclusions and further research

Numerous examples of issues of water governance can be characterised as wicked problems, with corresponding difficulties in stakeholder participation. The goal of this study was to increase participants' understanding of other participants' perspectives – through discussing values instead of interests. We explored the role of value discussions as part of stakeholder participation for water governance by facilitating two workshops. The first workshop was a deliberation on land subsidence; the second concerned pharmaceuticals in the water system. In both workshops we facilitated the identification of relevant values. This resulted in a rich palette of values that were reflected upon through vivid discussions. For all participants, deliberating on values was a new way of reflecting on the topic. Most participants stated that their understanding of both the topic and of perspectives other than their own had increased.

The two workshops validated Proposition 1: that value deliberation changes a participant's preferences. In Workshop 1, all participants changed their rankings; in Workshop 2, all but one participant changed their ranking.

Proposition 2 –that value deliberation leads to an increased understanding of other perspectives– was confirmed in both workshops, making value deliberation a promising approach to incorporate into policy-making processes in general, and water governance policies in particular.

One of the limitations in this research is the lack of diversity in stakeholders, as all participants in both workshops were colleagues. In future research, the group of participants should represent the diversity of stakeholders inherent in such wicked problems. We expect this to affect the dynamics during the workshop. A new proposition could be to test whether a greater diversity in perspectives among participants increases the impact of the deliberation.

A challenge in deliberating with more diverse stakeholders is that trust among the participants is not implicit and pre-existing, yet it is necessary that they work collaboratively towards a shared goal (Focht and Trachtenberg, 2005). This does not mean that the participants should have similar ideas on a topic. However, it does require that there is an environment of mutual respect in which participants feel safe to share their ideas and perceptions, even though these may diverge or conflict (McDonough III and Cedrone, 2000).

Since this study was the first to measure the impact of value deliberation on water governance issues, we constructed a small-scale study using two cases. This scale provided enough room to collect participants' experiences in a qualitative way, which not only resulted in measuring the impact, but also lead to an understanding of *why* there was an impact.

The intuitive next step of this study would be to scale-up in order to perform a statistical analysis on the impact of value discussions. The Borda count allows for statistical analysis when large amounts of deliberations are held, all using the same method and tools, and in the same context. A tool would need to be devised so that the data can be collected by multiple facilitators simultaneously and in a uniform way. This can be achieved by developing a data collection tool and by training facilitators in the use of the method and the tool. The number

of people participating per workshop should remain within the current range –under ten– or meaningful discussions in which all members of the group can participate would become difficult.

Chapter 5

Group proximity and mutual understanding

During a citizens' summit habitants of a city get together to deliberate on solutions for a policy issue. We had the opportunity to study such a summit, during the G1000 of Rotterdam on July 1, 2017, where we collected data of 61 parallel groups. During the summit, each group followed the value deliberation process with the aim to increase mutual understanding among participants. They were asked to rank the formulated solutions in their order of preference before and after the deliberation. To better understand the impact that value deliberations can have, we introduce and explore the concept of *group proximity*. From the rankings, group proximity can be calculated with a rank correlation, enabling a precise comparison of participants' preferences in each deliberative group. High group proximity indicates very similar rankings in a deliberative group, low group proximity demonstrates the opposite. Comparing group proximity of the before- and after-rankings shows if the group ranks converged, diverged or did not change. This measure allows for a quantitative analysis of early stage public policymaking processes.

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[1] The author of this thesis performed the following tasks: co-developing the method to make it suitable for large scale use, training facilitators, collecting data, facilitating the facilitators during the G1000, analysing data, defining concept of group proximity, writing the paper.

5.1 Introduction

Large societal problems involve many stakeholders, such as policy-makers, citizens, business owners and politicians, and they all have their own perspective on the problem and the desired solution (Hisschemöller and Hoppe, 1995). This diversity of perspectives is necessary to realise a socially accepted solution: the combination of diverse ideas and interaction of citizens has been shown to deliver the best solutions to complex societal issues (Steyvers et al., 2009; Surowiecki, 2005). At the same time, with such variety of perspectives, any given solution can encounter resistance (Reed, 2008).

When people with different perspectives deliberate, they can learn from each other and expand their ideas (Sunstein, 2002). Deliberation has been described in terms of reciprocity: making arguments that others can accept (Gutmann and Thompson, 2009). This can be done in a process of social exchange, in which participants have the opportunity to form, reflect upon, express and discuss their perspectives and values (Kenter et al., 2016a). Reflecting on a new situation may change participants' perspective on the problem (Wiggins, 1975) when this reflection includes perspectives that are different from their own (Gutmann and Thompson, 2009).

Formerly, deliberation and participation have been opposed to each other, since optimal deliberation circumstances are described as small-scale, whereas public participation requires a large number of people in order to fulfill its representative aims (Rossi, 1997; Cohen, 2009; Fishkin, 2011; Lafont, 2015). However, this tension is alleviated when numerous small-scale deliberations are organised within large-scale participatory events, such as during 'citizens' summits' (Caluwaerts and Reuchamps, 2015) or 'mini-publics' (Lafont, 2015). During such event, participants join one of the parallel, small-scale deliberations, where they meet other participants face to face, which promotes impartial, substantive and inclusive discussion due to their small size, random composition and freedom from the public gaze (Elster, 1998). Examples of citizens' summits that have addressed complex policy issues are the assessment of a province's electoral system in Canada (Warren and Pearse, 2008) and reforms of national politics in Ireland (Farrell et al., 2013). Decisions made at such summits should ideally "reflect the reasoned opinion and openness to persuasion of all those involved and not the power rela-

tions in the group" (Caluwaerts and Reuchamps, 2015, p. 5).

To understand the impact of public deliberation, methodical measurements and descriptions are required. For this, voting mechanisms can be used to organise and collect participants' preferences (Black, 1987). If all votes cast during a deliberation are collected, they can be compared, which allows for further analysis (D'Ambrosio and Heiser, 2016).

The aim of the present research is to explore a new measurement that defines how similar the preferences of participants are during public deliberations, in addition to collecting insights to the degree of mutual understanding that participants have reached. The concept *group proximity* is introduced and explored by using a rank correlation to compare group rankings at different times. This enables a quantitative analysis of the early stages of public policymaking processes. For example, comparing the group proximity of a baseline ranking and a ranking at the end of an event can show what impact deliberations have had on participants' rankings during a public deliberation. The authors had the opportunity to perform large-scale measurements when the organisers of a citizens' summit were in search for a method to facilitate group deliberations and a method to measure the impact of these deliberations.

The remainder of this paper is structured as follows. In Section 5.2, we present the relevant background literature, after which in Section 5.3 the context of the summit and the value deliberation methodology are described. Then, in Section 5.4, we describe the concept of group proximity and additional methods of analysis. Section 5.5 presents the results of the statistical, survey and content analysis. This is followed by a discussion of the results (Section 5.6) and our conclusions (Section 5.7).

5.2 Background

In the early stages of a policymaking process, public deliberations such as a citizens' summit can be organised to involve all stakeholders (Renn et al., 1993), increase the chance of policy acceptance (Papacharissi, 2010), or to achieve mutual undestanding among stakeholders (Muro and Jeffrey, 2006). A citizens' summit can be defined as an updated version of the traditional town hall meeting (Moynihan, 2003). Fung (2003) describes three differences from those traditional meetings: 1)

diversity in the backgrounds of the participants is one of the aims; 2) in order to represent the diversity in perspectives, there is a willingness to listen to each other; and 3) participants are guided in their reasoning by facilitators, to ensure that all contributions during the deliberations are both well-considered and well-argued. Such public deliberation can lead to an "increase in participants' knowledge of the issue under discussion, a greater willingness to compromise, more sophisticated and internationally consistent opinions, and movement toward more moderate policy choices" (Carpini et al., 2004, p. 331). In addition, involving stakeholders in deliberations can increase the chance that a policy is socially accepted (Papadopoulos and Warin, 2007). Luskin et al. (2002) and Warren and Pearse (2008) describe elaborate cases that illustrate these statements.

Public deliberation has also received a fair amount of criticism, as described by Rossi (1997); Mendelberg and Oleske (2000); Lindeman (2002); Shapiro (2017) and others. The criticism includes the risk of an uneven playing field caused by participants' unequal levels of argumentative skills: therefore there is a risk that the more eloquent participants will use these skills as a tool to overrule other participants (Mendelberg, 2002). As mentioned by Fung (2003), working with well-trained facilitators can stimulate and guide a balanced deliberation instead.

In addition, if a common language can be found that is both understandable and new to all participants, the power differences can be overcome. Deliberating on a topic based on the values that all participants consider relevant, could serve as this common language (Pigmans et al., 2019a), since participants are generally not used to reflect on their values, still are capable of explaining why a certain value is important to them. Identifying and discussing these values to find a common ground has also been referred to as normative meta-consensus (Dryzek and Niemeyer, 2006): a consensus, not on the level of solutions, but on an abstraction level higher, the level of values. In this state of normative meta-consensus, the relevance of a value is recognised by all participants, regardless of how values would be prioritised by each participant. Fishkin (2011) describes this as "collective consistency": even if people do not agree on which alternative is best, through deliberation they might come to a meta-consensus on what dimensions or values are important.

Since there are numerous aspects that can be measured and nu-

merous methods to measure those aspects, it can be complex to assess the impact of public deliberation (Carpini et al., 2004). Citizens' summits have been assessed both in terms of personal impact during the summit and in terms of follow-up actions that contribute to policymaking. Changes that occurred in the opinions of summit participants have been attributed to deliberative reasoning, in terms of mentioning the common good, refraining from disrespectful behaviour and reflecting on the arguments put forward (Himmelroos and Christensen, 2014).

Fishkin (2011) discusses six effects that mini-publics can have: changes in policy attitudes, in voting intention, civic capacity, collective consistency, public dialogue, and public policy. To be able to measure such changes, for each type of change a frame of assessment is needed. The social and political impact of a citizens' summit in the long run has been assessed by searching for overlap between the outcomes of local citizens' summits and local political agendas one year later (Michels and Binnema, 2018). Applying such an assessment seems an essential development if the goal of a summit is policy change. In addition, mini-publics have been explained in terms of their internal quality and systemic impact, as a means for evaluation (Curato and Böker, 2016).

However, if the goal of a mini-public or other type of deliberative process is to increase mutual understanding among participants, a new frame of assessment is required. For this, impact could be measured methodically, by for instance including a reference situation or a zero measurement (Cuppen, 2012b) during the mini-public, to which the outcomes can be compared. Depending on the set-up of the mini-public and the time that is available, more or less time can be spent with the participants on this comparable measurement. If there is enough time, an extended survey would be suitable, as shown by Fishkin (1997). If the time with the participants is limited, a voting mechanism can handle these measurements in a precise and systematic way.

How a voting mechanism is set up influences the outcome. For example, 21 people have three voting options to choose from, and they vote as shown in Figure 5.1. Eight participants vote A, B, C, seven vote B, C, A and six vote C, B, A. Multiple outcomes are possible in this situation. If only the most preferred solution is taken into account, solution A would win, because eight people voted A first, only seven voted B first and only six voted C first. However, there are 13 participants who voted B or C rather than A, so if the less preferred options are also

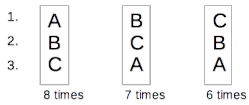

Figure 5.1: Example of voting situation

taken into account, A would not win (inspired by Black (1987)).

Since the voting mechanism influences the outcome, choosing the mechanism is not a trivial matter. For the purpose of assessing mutual understanding, individual rankings are important as these allow for an assessment of inter-group differences. Since the aim is not to identify a winning solution but to measure differences in preferences, in this research a Borda count[2]. is used to vote for the solutions, to quantitatively compare different aggregated rankings. With a Borda count, each participant ranks all solutions. In addition, getting an outcome after one round of voting is more practical during a large-scale event compared to, for example, needing six rounds, as would have been the case if the Condorcet method would have been used. By choosing for a ranking, rather than an interval scale, participants are forced to make choices with respect to the solutions. By asking participants to make a choice, instead of marking a (possibly neutral) point on an interval scale, they are forced to reflect on why they prefer one solution over another solution.

Further, participatory public policy processes are characterized by stages of divergence and convergence of ideas (Kallis et al., 2006; Cruickshank and Evans, 2012). The early stage of such processes has been described as a phase of divergence (Kaner, 2014): participants have various ideas of what the best solution is and need room to explore their views. Dentoni and Klerkx (2015) describe a cycle with divergence, con-

[2]Condorcet and Borda each developed a voting mechanism that takes into account multiple solutions (Young, 1988). The Condorcet method is a pairwise preference vote, that is, all options are voted on pairwise. If the options are A, B, C and D, then first either A or B can be voted, then A or C; then A or D; B or C; B or D; and C or D. In this case, six voting rounds are needed. The option that is preferred most over the other options wins. The Borda count is a preferential rank vote: all options need to be ranked by voters individually, giving each option points. For example, if there are four options, the most preferred option gets four points, the second most preferred gets three points, and so on. The points given by all voters are then added up and the option with the most points wins (McLean, 1990).

vergence, divergence and then again convergence before a decision can be taken on a policy. Since a citizens' summit is an early stage exploration of the attitudes of citizens, intended to make participants listen to each other, both divergent and convergent rankings can be expected to be seen.

5.3 Context

5.3.1 G1000 Rotterdam

In the wake of a series of terrorist attacks in Paris, France, in 2016, the mayor of Rotterdam (The Netherlands) wanted its citizens to discuss with each other how to maintain the existing stability in the city, to prevent such incidents from happening there. The city council decided that a citizens' summit should be organised to start this dialogue. In total 5500 citizens, randomly but evenly distributed over the city's neighbourhoods, were invited to participate and 1145 responded to this invitation. A local NGO, Lokaal[3], which promotes democratic initiatives in Rotterdam, organized the summit in collaboration with the council on 1 July, 2017. The goal was for participants to get more understanding of the different perspectives of citizens of Rotterdam by listening to each other and jointly formulating policy challenges for the city.

In the months prior to the summit, the NGO organised small-scale deliberations in Rotterdam's neighbourhoods to get citizens involved, to explore what topics should be addressed at the summit and to inform the citizens about the initiative. During these months, five topics were defined as pressing: 'education and upbringing', 'social media', 'living together in the neighbourhood', 'identity' and 'radicalisation'. The participants selected one of the topics to deliberate on when they registered.

At the summit, 100 tables were prepared for the deliberations, with a maximum of 10 participants per group. Each group had a chairperson that was trained in the facilitation of the value deliberation process.

To define per group what the more specific issue was that they would deliberate on later (what their pressing question was that they wanted to address), the Socratic method[4] was chosen as a suitable ap-

[3] https://lokaal.org

[4] The Socratic dialogue means practicing reflection, using examples and facts by

proach by Lokaal to connect the participants rather than to divide them. The group chairs used this method to facilitate the formulation of the pressing question. After this, an 80-minute session was facilitated by the group chairs during which each group deliberated on possible solutions to their question, and on the values they considered relevant to each solution. The method is further explained in the next section.

5.3.2 Value deliberation

For a systematic comparison of parallel deliberations, the use of a uniform process for deliberation is required. Since a deliberation on participants' values is considered beneficial (Glenna, 2010; Doorn, 2016; Briggs et al., 2005), a process for value deliberation has been used (as depicted in Figure 3.2, page 28), in which all participants of a summit can be facilitated in the same way in groups (as discussed by Elster (1998)).

Earlier, the value deliberation process was tested and analysed on a small scale during two workshops on two specific water governance problems (Pigmans et al., 2019b). The outcomes were described in qualitative terms, including group discussion outcomes and written answers to open survey questions. In both workshops, the participants stated that they understood other perspectives better and that their ideas on the problem had changed.

In this methodology, it is assumed that there is a reason for gathering. Therefore, the problem to be deliberated on is considered a given. In the first step, participants formulate solutions to the problem at stake. By requiring the formulation of four different, realistic solution, participants are stimulated to include and reflect on diverse options. Once the participants agree on what could be possible realistic solutions, they proceed to the formulation of pro and con arguments for each solution, to create a basic understanding of the existing ideas regarding the problem. Without this step, participants might not comprehend all solutions. Once the participants have a basic understanding of the proposed solutions, they rank the solutions individually and in secret, from most preferred to least preferred (Ranking 1).

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exchanging questions on the subject, exploring it with examples and facts that participants have encountered themselves, and continuously questioning it thoroughly, without making any judgments (Nelson et al., 1965)

After the ranking, the participants identify the values that they consider relevant for each solution. This can be done by offering a list of values (provided by the initiators of the deliberation), and asking participants to add values that they consider relevant that are not listed. The step of making the values explicit is followed by an elaborate discussion of the values, guided by questions including: Who wrote down this value? Why? Does everyone agree with the relevance of this value? Why (not)? Are there other ideas about this value? Subsequently, the solutions are ranked again (Ranking 2). The two rankings are compared, after which the differences or the lack thereof are discussed within the group.

Further, the methodology covered means to prevent that certain participants would dominate a deliberation. Explicitly giving all participants a turn to speak in each step, making the rankings a secret vote, and deliberating on values instead of debating interests contribute to a reduction of the chance of power play.

During the summit, participants deliberate in groups with a maximum of ten members. An online tool has been developed to collect data per group. The group chairpersons use the tool on a tablet computer to enter the question that has been defined during the Socratic dialogue, as well as the formulated solutions to the problem, ranking 1, the values that are identified per solution, and ranking 2. Each group has a unique ID, so that the outcomes can be evaluated per group. Further, per group each participant has a unique ID, in order to track their two rankings and the possible differences between them.

When all the rankings of a group are entered, the tool instantly returns the aggregated ranking of the solutions for the group. After entering the second ranking, the tool provides the overview of the two aggregate rankings and the differences between them. The rankings and all other outcomes are collected and saved for further analysis.

For further analysis, in case of double data entries in the tool, the earlier versions are removed, keeping only the latest version. Incomplete entries are not taken into account, for example participant IDs or group numbers that were not in accordance with the numbering we used, or incomplete entries.

5.4 Methodology

In order to be able to define the impact of the summit, five propositions are analysed.

Proposition 1: Measuring group proximity makes groups comparable, both in terms of the impact that the deliberation has had and on the proximity of individual group members.

Measuring the on-site impact of public policy deliberation can give insight in the group dynamics during such event. We analyse to what extent the measure of group proximity benefits the participatory public policymaking process. The concept of group proximity is explained in Section 5.4.1 and can serve as a measure to define group proximity both in general and per group. Since participants were asked to rank the solutions two times, group proximity can be calculated twice. The comparison of group proximity for ranking 1 and for ranking 2 can serve as a measure for the impact of the used value deliberation process.

Next, analysing the group proximity calculations could give insights in differences between subsets of the summit, therefore proposition 2 and 3 focus on two subsets.

Proposition 2: The topic of deliberation can influence the degree of group proximity.

Participants could be drawn to their topic of choice for various reasons, for example the topic education and upbringing seems to be a very different topic than radicalization, which could influence the motivations for participants to choose a topic. This research does not focus on motivations for choosing a topic of deliberation, but we propose that the variation of the topics could impact group proximity accordingly. For this reason, group proximity will be compared between the topics.

Proposition 3: Group size can influence the degree of group proximity, since it could influence the group dynamics.

Another way to define subsets is by differentiating in group sizes. The group dynamics in a large group e.g. with 9 participants, could vary from that in a small group of for example 4 participants. In smaller groups, participants have more time per participant to speak and listen compared to larger groups, so group proximity could be higher in smaller groups. By making a division between large and small groups, this proposition can be analysed.

Proposition 4: Measurement of both group proximity and the level of increased mutual understanding could serve as an on-site impact measurement to define the level of connection.
Another measure to define the level of connection could complement the findings on group proximity. Measuring to what extent mutual understanding has increased can give additional insights in the impact of the summit. Combining the group proximity measure and survey outcomes on increases of understanding among participants could provide insights to decide on approaches for possible follow-up steps for policymaking with the participants.

Proposition 5: The wording that is used in the pressing questions that is formulated during the Socratic dialogue can reflect the willingness to connect.
Each group formulates a question during the Socratic dialogue that serves as the issue that is deliberated on. The wording or phrasing of this question could influence the group process. If the wording is directed towards connection, this might influence the general willingness of participants to search for connection. In order to analyse this, a content analysis is carried out on all Socratic questions that are submitted in the tool.

5.4.1 Group proximity

The main contribution of this paper is that we introduce the concept of 'group proximity' in the context of public policymaking. Ranking the solutions at different moments of a citizen participation event allows for an impact measurement per group and a comparison of the deliberations. What is of interest is the extent to which the individual rankings within a group are similar to each other, and what changes occur in the ranking behaviour of a group after they have deliberated on values. A proximity measure enables the methodical measurement of how close rankings of a group are. This can show to what extent the group proximity changes after a deliberation on the values that participants consider relevant, and it allows for a comparison of these measurements when they are collected on a large scale.

Dryzek and List (2003) propose to use the concept of the single-peakedness of a group deliberation, where the solutions are first divided in subtopics, or so-called dimensions, after which they are ranked for each dimension. These rankings of a group are drawn in one figure so that the rankings of all participants of the group have only one peak.

If it is possible to draw all rankings with one single peak, then one can state that there is a shared idea, a meta-consensus. However, this measure will only make the distinction single peaked/not single peaked, to define if there is a meta-consensus. To what extent the rankings are alike is not measured in more detail, and therefore a comparison of the two rankings would be approximate rather than precise. In order to compare the deliberations one-to-one, a more precise measure is needed.

This research searches for a measurement that (1) calculates for each group deliberation how similar the participants ranked their preferences, (2) enables a clear comparison of Ranking 1 and Ranking 2, and (3) allows for an average measurement of the similarity of rankings. Therefore, we need a method to calculate whether the Borda count rankings of a deliberation have become more similar in a second round. This can be done by calculating a median ranking for each group and measuring the average distance of the group participants to this median ranking. In Appendix C, we explain how the median ranking can be calculated and why this approach is chosen.

Finding the median ranking requires a search through all the possible rankings, including those with ties. The number of possible rankings grows rapidly with the number of options being ranked: if the number of options becomes large, it is known that no algorithm can manage these calculations (D'Ambrosio and Heiser, 2016; Gross, 1962). However, for the four solutions that are considered in the citizens' summit case, it is possible to search through all combinations using the Emond-Mason algorithm (Emond and Mason, 2002). We used the implementation of this algorithm from the ConsRank package (D'Ambrosio et al., 2017) in the R programming language.

First, we want to calculate for each group the average proximity to the median ranking, once the preference rankings are collected. There is a median ranking for ranking 1 and a median ranking for ranking 2: if the rankings differ in the two ranking rounds, the median ranking will also differ, since it is deducted from all the participants' rankings of a group. With a calculated *group proximity* for both rankings, the change in group proximity between the two rankings can be compared.

After defining what the average group proximity is, the next step is to zoom in to smaller subsets: topics and groupsize. The participants chose one of five topics to deliberate on. We want to understand

whether the group proximity is different per topic and, if so, how. Further, the groups vary in size, which could possibly affect how a deliberation evolves. Therefore, the group proximity of small groups is compared to that of large groups.

5.4.2 Defining onsite impact by including level of increased mutual understanding

If the level of group proximity is combined with the level of increased mutual understanding, the group dynamics can be better understood and acted upon. For example, if a group has a divergent group proximity and no increase of mutual understanding, a new approach might be needed to facilitate deliberations in this group. If the group proximity is convergent and mutual understanding has increased, the participants of the group might be ready to take a next step in public policymaking, for example, deciding on what is their common ground, or deciding on what solution should be implemented.

For this reason, the participants are asked in a short exit survey if they have more understanding of other perspectives after the deliberation. In order to increase the chance of getting responses after an intensive programme of deliberation, the survey consists of five simply formulated questions. To make completing the survey as simple as possible, Likert-type scale answer options are used. See Appendix B.1 for the survey.

5.4.3 Content analysis

The questions collected in the tool as a result of the Socratic method provide additional information for the analysis of group proximity and mutual understanding. All questions are analysed on their phrasing, using the tool *Atlasti*[5] for content analysis.

We search for two codes:

- Connection, to emphasise inclusion, building bridges and connecting people. To be coded 'connection', the phrased question should emphasize connection of groups, emphasize connection of people, emphasize a need for connection, suggest a togetherness,

[5] cloud.atlasti.com

a 'we', or suggest efforts to create connection, to build bridges between groups or people. For this, we searched for the use of the word 'we' in phrasing the question and/or words such as connection, joint, meeting, connectedness, together, involved, get in touch, dialogue and inclusion.

- Exclusion, emphasising differences and distance between groups without mentioning the need to bridge or overcome this. To be coded 'exclusion', the phrased question should emphasize differences between groups, emphasize differences between people, emphasize exclusion of people or groups, or differentiate between 'us' and 'them', all without mentioning a need to bridge or overcome this. We searched for the use of words such as others, us/them and outsider.

Searching for phrasings in the questions along these two codes can demonstrate whether there was a focus on distance or connection before the deliberation.

5.5 Results

Given the phenomenon of no-show for an event without registration costs and chair persons that submitted incomplete data, we collected complete and tool-compliant (i.e. correct use of user IDs and group IDs) data of 61 groups. Participants deliberated face to face with 3 to 9 people per group (6 people on average). Each of the 61 groups entered a question, resulting in the following data: 61 questions for the content analysis, two rankings (Ranking 1 and Ranking 2) and the identified values. Further, 380 complete surveys were collected to analyse the propositions, out of a total of 610 participants that filled out any ranking (either complete or incomplete).

Overall, 110 values were identified as relevant. The most discussed values are equality (mentioned in 47 of the 61 groups), accessibility (45 groups), humanity (45 groups) and responsibility (37 groups). The ten most mentioned values are shown in Table 5.1. Which values were most discussed per topic is described in Section 5.5.1.2.

Value	# appearance
Equality	47
Accessibility	45
Humanity	45
Responsibility	37
Tolerance	34
Effectiveness	30
Inclusivity	30
Safety	29
Diversity	28
Open mindedness	26

Table 5.1: Overall top ten most mentioned values

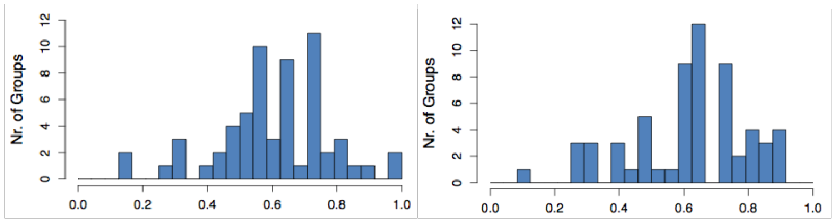
5.5.1 Statistical description

In each group, all participants ranked the solutions in their order of preference. These rankings served as input to calculate the median ranking and the group proximity.

5.5.1.1 Average group proximity

The median ranking for a group can be defined as the ranking with the smallest average distance to the rankings of the participants in the group (Emond and Mason, 2002). Group proximity is the average proximity to the median ranking.

For each group, the group proximity was defined based on the rank correlation (as explained in Section 5.4.1 and Appendix C) and can be between -1 and 1, where larger means more proximity. A group proximity of 1 means that the group has complete agreement: all participants gave the same ranking. A group proximity of -1 is the opposite: maximal disagreement on the ranking order. A flip is switching a solution one place on the ranking. For example, if Ranking 1 of participant I would be A-B-C-D, and the median ranking of its group would be B-A-C-D, one full flip would be needed to change the first into the second. If group proximity is 0.66, everyone in the group would have to flip (on average) one of their solutions to reach a median ranking. See for the explanation of flips, the median ranking and group proximity Appendix C.



(a) Ranking 1 (b) Ranking 2

Figure 5.2: Group proximity of the rankings

A high group proximity of a group during Ranking 1 could indicate that there was little diversity in perspectives on beforehand. If participants already agreed to a large extent, one could argue that not a lot of change is expected between the first and the second ranking. In other cases, in which the average group proximity has increased, this could indicate that the value deliberation impacts the participants' ranking.

In Figure 5.2 the group proximity of all groups is shown for both rankings. 'Nr. of Groups' on the y-axis refers to the number of groups. The figure shows that the group proximity was always above 0. All together, the average group proximity describes the average of all 61 groups, as shown in Table 5.2.

	Average group proximity
Ranking 1	0.61
Ranking 2	0.63

Table 5.2: Average group proximity of ranking 1 and 2

The average group proximity of ranking 1 is 0.61, and that of ranking 2 is 0.63. This shows that there is a positive proximity of a bit less than a full flip on average and that it was slightly higher in the second ranking.

5.5.1.2 Zooming in to subsets

As shown in Table 5.3, the topics were quite evenly divided over the groups, except for Topic 5, which was the most discussed topic.

By defining the average group proximity of both rankings and the average difference per topic, as shown in Table 5.4 and Figure 5.3, the

Topic	# groups	Values mentioned most
1: Education and upbringing	12	Equality, inclusiveness, responsibility, accessibility
2: Social media	11	Humanity, safety, responsibility, effectiveness
3: Living together in the neighbourhood	10	Equality, accessibility, humanity, liveability
4: Identity	12	Humanity, accessibility, equality, openness
5: Radicalisation	16	Equality, accessibility, tolerance, responsibility

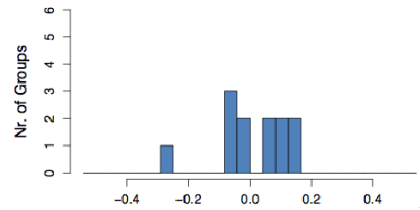
Table 5.3: Most mentioned values per topic

overlap and differences between the topics can be described. The difference in group proximity between the two rankings was calculated by subtracting ranking 1 from ranking 2. These differences can be described in terms of the convergence or divergence of the rankings. A group that ranks in a convergent manner (a difference of more than 0) means that the group proximity increased after the values discussion: participants ranked the solutions more alike.

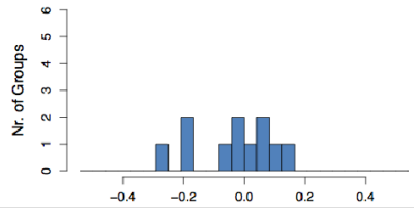
For Topic 5 (Radicalisation), the ranking behaviour differed from the other topics in that there was relatively much convergence or unchanged rankings. For the three times that divergence did occur, it was a minor divergence (of between -0.083 and -0.056). Topic 3 (Living together in the neighbourhood), on the other hand, has 6 out of 10 groups that ranked in a divergent manner; nevertheless, divergence was small (between -0.16 and 0.04).

In Topic 4 (Identity), two groups were rather divergent (with differences of -0.33 and -0.28) compared to the other groups. Still, this is less than a flip different from ranking 1. Topic 1 (Education and upbringing) and Topic 2 (Social media) have rather similar differences between the rankings: with comparable numbers of convergent groups, both topics having two groups with unchanged rankings, and four divergent groups.

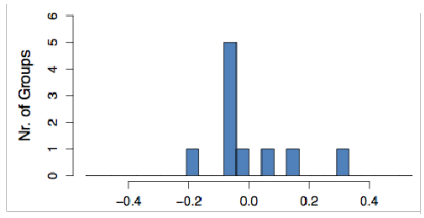
When the topics are compared with each other, the highest and the lowest group proximity per topic vary considerably: whereas Topic 1 (Identity) had for ranking 1 and ranking 2 an average of 0.52 and 0.53,



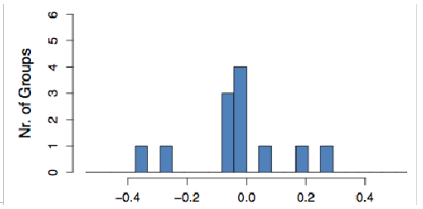
(a) 1: Education and upbringing



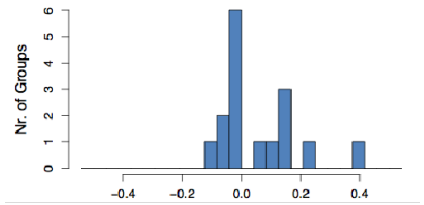
(b) 2: Social Media



(c) 3: Living together in the neighbourhood



(d) 4: Identity



(e) 5: Radicalisation

Figure 5.3: Group proximity difference per topic = (average group proximity Ranking 2) - (average group proximity Ranking 1)

respectively, Topic 3 (Living together in the neighbourhood) had 0.73 and 0.71, respectively. The average differences range from -0.02 (divergent; Topic 2: Social Media) to 0.06 (convergent; Topic 5: Radicalisation).

The four most discussed values – namely equality, accessibility, humanity, and responsibility – were discussed within each of the topics as shown in table 5.3. Other values were more topic specific: inclusiveness was often discussed within Topic 1 (Education and upbringing), safety and effectiveness within Topic 2 (Social media), liveability within Topic 3 (Living together in the neighbourhood), openness within Topic

	Topic 1	Topic 2	Topic 3	Topic 4	Topic 5
Avg group proximity ranking 1	0.58	0.67	0.52	0.73	0.57
Avg group proximity ranking 2	0.60	0.65	0.53	0.71	0.63
Average difference	0.02	-0.02	0.01	-0.02	0.06

Table 5.4: Average outcomes per topic

4 (Identity) and tolerance within Topic 5 (Radicalisation). The values shown in Table 5.3 are the top four most discussed values per topic.

5.5.2 Group size

The average group size was six. Small groups are those that are smaller than average (three, four or five participants, with an average of 4.6 participants), while large groups are those that are larger than average (seven, eight or nine participants, with on average 7.5 participants). We leave out the groups of 6, to allow for a clear separation between the two different groups. There appears to be a difference between small and large groups: in small groups, the group proximity in both rankings is higher than in large groups.

Group size	Ranking 1	Ranking 2	# groups
$n \leq 5$	0.69	0.67	19
$n \geq 7$	0.54	0.61	25

Table 5.5: Average group proximity: small and large groups compared

In large groups, the value deliberation seems to have a clear impact, as shown in table 5.5. In the next section, these results are discussed.

5.5.3 Survey analysis

In the 380 complete surveys that were collected, participants indicated whether they had gained more understanding of the perspectives of others and whether their ideas had changed because of the value deliberation.

As shown in Table 5.6, 72% of the participants who completed the

	less understanding	same understanding	more understanding
Divergent	0	7	29
Unchanged	0	7	18
Convergent	0	14	25

Table 5.6: Combining insights on mutual understanding and group proximity - occurance in %

survey reported increased mutual understanding because of the value deliberation.

5.5.4 Content analysis of the questions

In addition to the rankings and surveys, the questions resulting from the Socratic dialogue were analysed. Since those questions served as the starting point for the values discussion, we analysed whether the questions are phrased in a way that could support the idea of working towards mutual understanding, or whether it amplifies differences between people. We searched for phrasing that represents connection (indicating inclusion) on the one hand, and differences (indication exclusion) between groups on the other hand. 'Connection' was found in 45 of the 61 questions, while 'difference' was found in three questions.

In addition, we found that various questions had values embedded in them, including creativity, honesty, flexibility, equality, safety, trust, acceptance, respect, integrity, solidarity, openness, loving, variety and consciousness. Further, the word 'value' was used in the questions. A specific value, or the word 'values' in general, was mentioned in 23 of the 61 questions.

5.6 Discussion

In this section, we reflect per proposition on the results. Proposition 1 states that introducing group proximity makes group deliberations comparable. The results confirm this: the proximity measure gives each group three figures: group proximity of ranking 1, group proximity of ranking 2 and the difference of these two. In addition to knowing the group proximity of ranking 1 and ranking 2, the impact of the value

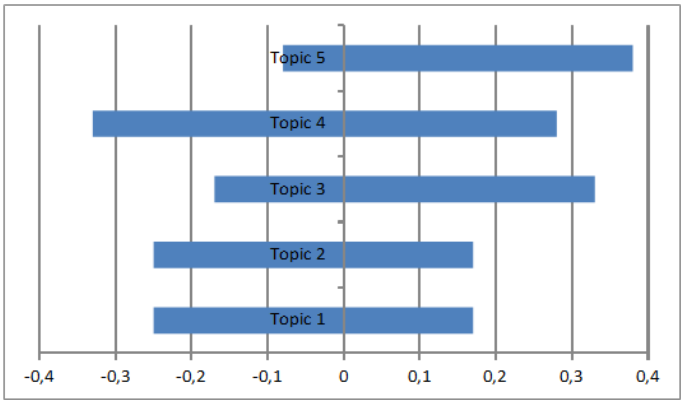


Figure 5.4: Group proximity differences per topic

deliberation can be measured and defined per group. By taking the difference between the two, for each group it can be clearly defined if its rankings diverged, stayed the same or converged after the values deliberation.

'Proposition 2: the topic of deliberation could influence the level of group proximity' is supported by the visible variations per topic regarding how the participants ranked and changed their rankings, as shown in Figure 5.4. This might, for example, be due to a variable willingness to come to a joint outcome, the degree of diversity in the backgrounds of the members of groups, or the ability of group chairpersons to guide the process. For instance, Topic 5 (Radicalisation) was the most popular to chair; all groups for this topic were quickly assigned a chairperson. Another possible explanation is that each topic could attract different crowd. For example, 'radicalisation' might attract different deliberators than 'education and upbringing'. How they differ, and what caused the difference in groups needs further research.

Proposition 3 (Group size can influence the degree of group proximity) is also supported by the results. Small groups started off with higher group proximity compared to large groups. For small groups, this level of group proximity was largely maintained after the value deliberation. Larger groups ranked less alike in the baseline ranking and more alike after the value deliberation. The higher group proximity in the second ranking can be explained by a stronger need for a structured deliberation in larger groups to ensure that all participants

are heard. The value deliberation process accounts for this structure. In small groups, the participants have more time to explain their reflections before the deliberation and during the deliberation, which could result in higher group proximity in both rankings.

Proposition 4 states that on-site impact can be defined by measuring group proximity and mutual understanding. Combining the two concepts indeed allows for analysis on which measures to take the next steps in the public policymaking process. As discussed in the background section, there were groups that ranked divergent and groups that ranked convergent, and there were also numerous groups that did not change their ranking, that were confirmed in their ideas. Further, at the citizens' summit, all groups had a positive groups proximity, still the degree of proximity differed per group. In addition, we collected data on to what extent participants understand each other better after the values deliberation. When these three measures are taken into account, an approach for the follow-up step per group can be taken more considerately. For example, in case of high group proximity in ranking 2, convergent rankings, together with an increased level of mutual understanding, the next step might be to work toward a decision on a policy. In the case of low group proximity and increased mutual understanding, more time could be needed for the current phase before a follow-up step is taken. With high group proximity in ranking 2 that has slightly diverged and an increased understanding, the next step could still be to work towards a decision on a policy. A group with low group proximity and clear divergent rankings, where participants did get a better understanding, could benefit from new stimuli, for example formulating additional solutions that combine earlier defined solutions.

The degree of group proximity, the group proximity difference and mutual understanding can provide an on-site impact measurement that support the consideration of approaches for further steps for each group. Which approach is taken depends on the group proximity measures per group, the desired group proximity by the organisers, and the available resources to take further steps.

Finally, Proposition 5 stated that the wording of the question that was formulated during the Socratic dialogue could impact the citizens' summit. Each group deliberated on a question that had been formulated during the first part of the summit. A closer look at all the questions shows that the code 'connection' appeared in most of the ques-

tions (45 out of 61), by phrasing the questions from a 'we' perspective and using words like connection, social cohesion, meet, contact and dialogue. Where differences were mentioned, in nearly all cases they were used to emphasise that these needed to be bridged, for example: 'How can we stimulate a connection between people who are different (...)?' The emphasis on connection in the questions, that is, in the phase before the value deliberation, is also reflected in the most identified values that were discussed later, namely equality, accessibility, humanity and joint responsibility. These values seem to emphasise the search for connection between citizens, as opposed to values such as perseverance or weakness, which were mentioned only occasionally. Further, the values seem to transcend the different topics: the values that were most often mentioned were discussed in each of the topics, which makes the topics and therefore the deliberations on the topics comparable.

5.7 Conclusion

This research explored the use of a rank correlation to define *group proximity*, a measure to establish how alike participants rank. The measure was applied to the data of 61 parallel deliberative groups during the citizens' summit in Rotterdam, the Netherlands. The goal of the summit was to make citizens deliberate on how to keep the existing social stability in the city. As earlier described, Fung (2003) argues that such summits should represent diversity. For this reason, citizens were invited equally spread over the neighbourhoods of Rotterdam, to have a dialogue with other citizens that might have perspectives that are different from their own. Fung further argued that there should be a willingness to listen, which is confirmed for this summit in the reported increase of mutual understanding. Next, the participants were guided by facilitators that were trained in the value deliberation methodology, that used the identification and deliberation of values on the issue at stake as a common language. By using this methodology, the facilitators made sure all voices were heard.

We introduced the proximity measure to compare the groups and to define the impact of value deliberations, by comparing group proximity of a baseline ranking with a second ranking after the value deliberation had taken place. The use of the concept of group proximity enabled a precise comparison of how alike participants rank solutions in delib-

erative groups, and enables a comparison per topic or based on group size. Further, group proximity allows for a precise and systematic measure of the impact of value deliberations during citizen participation initiatives.

The comparison of the group proximity of the five topics showed clear differences as well as similarities. In addition, the degree of group proximity also varied between small and large groups: in small groups the group proximity was higher during both rankings than in large groups, and in large groups the value deliberation made a clear difference to the ranking.

The difference in group proximity of Ranking 1 and Ranking 2 showed if a group ranked convergent or divergent. As stated in the background section, both divergent and convergent rankings could be expected (Kallis et al., 2006; Cruickshank and Evans, 2012), and indeed occurred. In addition, there were numerous groups with unchanged group proximity. Combined with the increased mutual understanding, this measurement supports the idea of Dryzek and Niemeyer (2006) and Fishkin (2011) that even if people do not rank solutions identically, they can still get an understanding of what is important.

The majority of the participants stated that their mutual understanding had increased after the value deliberation. The combination of group proximity with data on changes in mutual understanding can provide insights to define an approach for future steps within a group, to continue the public policymaking process. For instance, groups that had a divergent group proximity and increased understanding of each others' perspectives might need a different approach than groups that had convergent group proximity and understood each other better.

Finally, the phrasing of questions that served as a starting point for the deliberation was analysed. We searched for codes that either emphasize mutual understanding or amplify the differences between people. We found words related to 'connection' in 45 of the 61 questions, whereas words emphasizing differences were found in only three questions. This content analysis stresses the participants' search for connection during the summit, and again underlines the statement of Dryzek and Niemeyer (2006) on normative meta-consensus.

In this paper, we demonstrated that the measurement of group proximity can contribute to the impact assessment of a citizens' summit. Further investigation of the concept of group proximity in the context of

citizen participation could include larger scale data collection through the facilitation of online deliberations, as well as the alignment with the follow-up steps in public policymaking.

Chapter 6

Face-to-face versus online value deliberation

The value deliberation process described in Chapter 3 has been applied both to face-to-face and to online settings. Numerous existing studies compare face-to-face and online deliberations. However, these are mainly concentrating on consensus finding, whereas the value deliberation process rather aims at exploration of stakeholder perspectives that can be divergent.

In order to understand when a face-to-face or an online facilitation for an exploratory deliberation (ED) would suit best, this chapter first investigates the appropriate units of comparison by inventorying the available research that compares face-to-face and online consensus-oriented deliberation (COD). Due to the difference in goals between ED and COD, not all COD's units of comparison appear to be equally suited to evaluate EDs. Once the units of comparison for ED are identified, a face-to-face and an online case of exploratory value deliberations are compared according to these units. The largest differences between the face-to-face and online value deliberations are the accessibility for the participants, being concise versus abundant, and the involvement of participants once the deliberation has started.

We realise that the comparison in terms of face-to-face and online does not explain all the differences between the cases, but the existing literature on face-to-face and online comparisons aiming at consensus invites for a comparison on explorative deliberations. Other aspects, including the learning process of stakeholders, are very relevant for further research, but out of scope for this chapter.

The remainder of this chapter has been submitted as a manuscript and is under review at the journal New Media and Society as Pigmans,

K., Bieger, J., Dignum, V. and Doorn, N. Perspective exploration in participatory processes: analysing the difference between face-to-face and online deliberations (under review).[1]

6.1 Introduction

Complex societal issues, such as migration or climate change, urge diverse stakeholder groups to participate in deliberative processes to work towards a socially accepted solution (WMO, 2009; Huitema et al., 2009; Tetra Tech ARD, 2013). Such processes generally know phases in which ideas and perspectives are divergent. Instead of steering these ideas as soon as possible towards consensus, research suggests that giving room to this variance of ideas can be more beneficial in the long run (Cruickshank and Evans, 2012; Kallis et al., 2006). Participants can be facilitated in exploring and reflecting their stances to increase the mutual understanding of the various stakeholder perspectives (Cornelius and Boos, 2003) and stakeholder values (Karpowitz and Mansbridge, 2005). An often-used format to support participation is a deliberative process, during which participants are facilitated in listening to each other and reflecting on the other perspectives, whether this is face-to-face (Fishkin and Mansbridge, 2017) or online (Davies and Gangadharan, 2009). Facilitating exploratory deliberations (EDs) can provide room for the existing variety of perspectives. The value deliberation methodology (Pigmans et al., 2019b) was developed with this purpose of increasing understanding: participants are invited to actively reflect on the values they consider relevant to the problem, and to share these reflections with other minded participants. Including reflection and room for diverse views in the process, can prevent disillusionment about the variety in perspectives (Reed, 2008), and stimulate mutual understanding of the perspectives instead.

Apart from practical reasons to organise a deliberation face-to-face or online, for instance local versus international participants, the context and setting (such as the risk of power play) influence the preference for either a face-to-face or an online value deliberation. In order to better understand to what extent a face-to-face and an online ex-

[1] The author of this thesis performed the following tasks: turning methodology into digitally workable version, design and testing of the online environment, moderating the online deliberation, collecting and analysing data, writing the paper.

ploratory deliberation as part of a participatory process can differ, in this research the value deliberation methodology is compared in both online and face-to-face settings. The aim is to answer the question: *To what extent differ face-to-face and online deliberations in their suitability for exploration and reflection of all perspectives in participatory decision-making processes?*

In the next section we discuss literature on face-to-face and online participatory deliberation, after which we describe the value deliberation process in Section 6.3. This is followed by a description of the propositions in Section 6.4. Then, the units of comparison for the cases are discussed in Section 6.5, followed by a description of the cases in Section 6.6. In Section 6.7, the cases are compared according to the earlier defined units of analysis. Finally, we discuss these findings in Section 6.8.

6.2 Background

Participatory decision-making processes are characterized by stages of divergence and convergence of ideas (Kallis et al., 2006; Cruickshank and Evans, 2012). Dentoni and Klerkx (2015) describe an iterative cycle of divergence and convergence before a decision can be taken on a policy. In the divergent stages of such processes, the aim is to create mutual understanding of the various perspectives (Kaner, 2005), whereas the last stage aims for consensus finding (Wojcieszak et al., 2009). Participation of stakeholders and the general public in deliberations can be facilitated through participatory agenda setting, shaping the issue by taking various perspectives into account, and achieving consensus among the participants to decide on the implementation (Pahl-Wostl, 2002). In each stage, including agenda setting, problem formulation and implementation (Buck, 2013), participants will have various ideas of what the best solution is (Rittel and Webber, 1974), and therefore they need room to explore their views.

Participatory deliberation has been described as an updated town hall meeting (Fung, 2003), in which small groups of citizens or stakeholders deliberate on general policymaking issues (Lafont, 2015). Since each perspective brings something distinctive to the deliberation that can be articulated most effectively by members of the group (Goodin, 2004), it is advocated that a democratic public sphere should represent

all perspectives including the disadvantaged ones (Young, 1990). During a deliberation, participants are asked to listen to each other and reflect on the input that is shared (Fishkin, 2011), and to make arguments that others can accept (Gutmann and Thompson, 1998). Both facilitators and participants should strive for a continuous understanding of one another's values and interests (Karpowitz and Mansbridge, 2005).

Deliberative processes are often directed towards consensus among the participants (Dryzek and Niemeyer, 2006; Karpowitz and Mansbridge, 2005; Abelson et al., 2003). Consensus-oriented deliberations (CODs) aim for the alignment of all ideas, to allow for decision-making (Innes, 1996; Susskind et al., 1999). However, Cornelius and Boos (2003) argue that deliberative processes that are based on mutual understanding should prevent groups from coming to a so-called faux consensus: a consensus that neglects the divergent perspectives of the group members. This means that in contrast to CODs, deliberation processes can also be used to facilitate exploratory stages of a policymaking process, in which there is room for the variety of participants' ideas (Kaner, 2014). These exploratory deliberations (EDs) aim to explore the broad range of ideas and opinions involved (Chan et al., 2016; Osborn, 1993).

An increasing number of deliberations is organised online (Davies and Gangadharan, 2009; Perrault and Zhang, 2019; Zhang and Soon, 2017; Klein et al., 2012). Still, communities, governments and stakeholder groups set up face-to-face deliberations such as deliberative pollings, citizen surveys and participatory stakeholder meetings (Fishkin, 2011; Warren and Pearse, 2008; Farrell et al., 2013; Gastil and Levine, 2005). This suggests that face-to-face and online deliberations are complementary to each other, rather than a replacement. Comparisons of online and face-to-face have so far concentrated on consensus finding deliberation (Baek et al., 2012; Grönlund et al., 2009; Iyengar et al., 2003; Min, 2007; Showers et al., 2015; Triantafillidou et al., 2015; Tucey, 2010; Wojcieszak et al., 2009). Exploratory deliberations that do not explicitly aim at consensus have so far received little attention in the literature.

6.3 Value deliberation process

The value deliberation methodology[2] has been developed to stimulate mutual understanding of diverse stakeholder perspectives (see Figure 3.2 on page 28). This methodology does not concentrate on facilitating consensus, but rather on the identification of and deliberation on values that stakeholders consider relevant to the topic (Pigmans et al., 2019a).

Identifying and discussing values that participants consider relevant is the core of this process. The reasons for gathering include facilitation of agenda setting, problem definition or implementation, on a specific topic. Therefore, the methodology considers the topic of deliberation a given.

Once the topic is introduced, participants formulate at least three different solutions or scenarios that are not antagonistic. Alternatively, earlier developed scenarios can be used to discuss the issue. Participants are stimulated to include and reflect on diverse options. The methodology prescribes the solution or scenario 'do nothing', since this is often the most realistic solution or scenario, which should therefore also be reflected upon (Hoggart et al., 2014; Nicolaisen and Næss, 2015). Four to five solutions in total is optimal, given the limited time for deliberation.

Once the participants agree on what could be realistic solutions, they share pro and con arguments for each solution, to collectively create a basic understanding of the existing ideas regarding the problem. Without this step, participants might not comprehend all solutions. Then, they rank the solutions individually and anonymously, from most preferred to least preferred, using the Borda count method (Young, 1988) (Rank 1).

Next, the participants identify the values that they consider relevant for each solution. The identification of values is followed by an elaborate discussion of the values, guided by questions including: Who wrote down this value? Why? Does everyone agree with the relevance of this value? Why (not)? Are there other ideas about this value? Subsequently, the solutions are ranked again (Rank 2). The two rankings are compared, after which the differences or the lack thereof are discussed. The final step is a short survey in which participants are asked

[2] https://www.delftdesignforvalues.nl/value-deliberation-toolbox/

about mutual understanding.

After two pilot cases on wicked water governance problems (Pigmans et al., 2019b), the value deliberation method has been applied during a face-to-face citizens' summit on maintaining social stability in the city (Pigmans et al., 2019a), and in an on online stakeholder meeting during which participants deliberated for three weeks on the energy transition of port cities and the relevant values.

6.4 Propositions

In order to define the units of analysis for the comparison, previous research on consensus oriented deliberations (CODs) is consulted and analysed on the applicability for exploration stage deliberations (EDs). With this, we analyse the following proposition:

> Proposition 1. The units of analysis that have been used to compare face-to-face and online CODs are equally suitable to compare face-to-face and online EDs.

This will be assessed by considering the units of analysis in current literature that compares face-to-face and online CODs. The applicability of these units of analysis to EDs will then be explored.

Once the units of analysis are defined, the differences in impact of face-to-face and online value deliberations can be analysed:

> Proposition 2. Both face-to-face and online value deliberations can be equally suited to explore and reflect on all perspectives, considering each unit of analysis that is assessed for Proposition 1.

6.5 Units of analysis to compare face-to-face and online deliberation

To decide on the unit of analysis, we have reviewed previous research on consensus oriented face-to-face and online comparisons, organised to work towards agreement. In Table 6.1, for each unit of analysis a selection of studies are listed in alphabetical order. Exploration stage deliberations (EDs) are organised with different aims: to involve all stakeholders (Renn et al., 1993), to increase the chance of policy acceptance

(Papacharissi, 2010), or to achieve mutual understanding among stakeholders (Muro and Jeffrey, 2006). The comparisons listed in Table 6.1 serve as the starting point to explore the relevant units of analysis for ED.

The studies were selected by searching for [("face-to-face" OR "face to face" OR "f2f") AND "online" AND "deliberation"] in ResearchGate and Google Scholar from September 9 until September 25, 2019. We excluded research that concentrates on either face-to-face or online deliberations, since in general terms these seem to be described with a slightly different focus, making them less comparable: face-to-face deliberations are primarily described in terms of democratic impact of deliberations (Fishkin and Mansbridge, 2017), whereas most literature on online deliberation stresses the need for structure and moderation (Davies and Gangadharan, 2009).

We found nine published studies on the comparison of face-to-face and online deliberations, concentrating on wicked problems, with many different perspectives. Further, the research by (Baek et al., 2012) and Wojcieszak et al. (2009) are listed as two separate studies, but it should be noted that the first seems to be a continuation of the second, since both articles have the same authors and discuss the same topic.

In this section, we discuss the theoretical concepts and their relevance for the comparison of EDs. The units of analysis are derived from the studies that are listed in Table 6.1. The units of analysis that are considered relevant will then be used to compare face-to-face and online EDs in Section 6.7.

6.5.1 Political engagement

Public deliberation has been described as a form of civic and political engagement such as voting, volunteering and protesting (Carpini et al., 2004; Gastil and Levine, 2005; Dryzek, 2006). Baek et al. (2012) argue that online deliberation can be more effective in engaging people politically, because of the self-mobilisation that online anonymity can result in. Tucey (2010) argues that both online and face-to-face deliberations can increase political efficacy. Min (2007) adds that through deliberation, participants can become willing to express their views and hence increase their self-efficacy in political affairs. To investigate levels of political engagement, Wojcieszak et al. (2009) asked respondents for their reasons to join a deliberation related to their community engagements.

Since political efficacy is not an aim of EDs, rather general engagement is, it is considered out of scope as a unit of analysis.

6.5.2 The process of deliberation

How a deliberation is facilitated influences its impact (Fung, 2003). This can for example be done by considering the psychological state of mind of the participants (Ho and McLeod, 2008). In the studies of both Baek et al. (2012) and Wojcieszak et al. (2009) the emotional experiences of participants are surveyed in terms of anger, anxiety and enthusiasm. In addition, Tucey (2010) used a 'positivity scale' to measure participants' mood after discussion. Further, a facilitation method can align expectations of the process (Baek et al., 2012; Wojcieszak et al., 2009), such as airing opinions, teaching, working towards agreement, and deciding on follow-up steps. Since the scope of the current research is on reflection on the perspectives and on the topic rather than personal emotions, neither what participants expected of the deliberation on beforehand nor emotions will be used as a unit of comparison.

6.5.3 Consensus making

Since participatory processes are set-up to work towards policy implementation, many deliberative methods are consensus oriented. However, Mouffe (1999) argues that this ignores the existence of opposition in the public sphere and unavoidably leads to the exclusion of minority voices. She states that we should accept opposing ideas, not getting rid of them through striving for consensus. Karpowitz and Mansbridge (2005) argue that deliberations for this reason should focus on both differences and similarities of perspectives. Although all of the listed studies concentrate on consensus making, only the study of Baek et al. (2012) uses this as a unit of analysis. Since this is not the scope of the current research, consensus making will not be included in the units of comparison for online and face-to-face ED.

6.5.4 Changes in preferences

The deliberative process is intended to stimulate policymaking by facilitating reflection, which can influence participants' preferences regarding the topic. Preferences can be measured for example by asking

participants to rank the alternatives (the Borda count), or to vote for the alternatives pairwise (Condorcet's method) (Young, 1988). Further, an interval measure can be used to define changes, as the study of Min (2007) shows, for example through using Likert-scale questions about the extent to which people agree with a policy statement. Iyengar et al. (2003) and Triantafillidou et al. (2015) define attitude changes with pre-deliberation and after deliberation measures. Since the measurability of preferences can give an immediate indication of the impact of the reflections during deliberation, this will be used as a unit of analysis.

6.5.5 Single loop learning

In deliberative processes, stakeholders can have different perceptions of the kind of knowledge required (Pahl-Wostl, 2002). Knowledge-creation processes can be initiated to bridge these gaps (Hommes et al., 2009; Kolkman et al., 2005). The degree of learning has been measured by quizzing facts regarding the topic (Iyengar et al., 2003; Min, 2007), which is typically referred to as 'single loop learning', the first of two cycles of learning (Argyris, 1976): first one needs to learn about the actions needed (single loop), and then one can reflect on these actions (double loop).

The study of Iyengar et al. (2003) concentrates on increasing levels of knowledge about policy related issues. The quiz covered factual questions on US foreign policy. In exploration stage deliberation, single loop learning can be an aim. However, since the value deliberation process concentrates on reflective learning instead, single loop learning will not be considered as a unit of comparison in the current research. More generally, comparisons of EDs could include single loop learning in cases where quiz-able knowledge is considered as common ground.

6.5.6 Representativeness

Representativeness is oftentimes defined as the demographic diversity of participants (Baek et al., 2012; Wojcieszak et al., 2009; Grönlund et al., 2009). When citizens deliberate, this can serve as a measure for representation. However, a male participant would not necessarily represent men when participating, rather he could represent citizens from a certain neighbourhood, age or social group. Demographic data do not clarify who is represented by the representative. The *roles* of the

stakeholders can be more explanatory in terms of representativeness. Representatives form competing parties and coalitions, so they each relate in different ways to the other stakeholders, fostering pluralism and diversity (Brown, 2006).

The need for representativeness of stakeholder groups has been stressed repeatedly (Fung, 2003; Fishkin, 2011; Young, 1990; Allen and Light, 2015). For this reason, we use the more specific definition that representatives mirror a characteristic and/or experiences of belonging to a group (Parkinson, 2004; Phillips, 1995; Mansbridge, 1999). In the case of participatory deliberations, the social perspective of the represented is mirrored, which characterises the role of the stakeholders. This is relevant both in exploratory and consensus finding processes.

6.5.7 Double loop learning

Participants of a deliberative process are likely to jointly increase the amount of knowledge as well as the moral arguments because each has different levels of expertise in different fields of expertise (Hardin, 1997). Such increase of knowledge can be described as 'double loop learning' (Argyris, 1976). When reflection is part of a group process, this could result in common knowledge. Sofar, the common knowledge in a participatory process or the lack thereof has been assessed in terms of the overlap of participants' individual knowledge (Grönlund et al., 2009; Iyengar et al., 2003; Min, 2007). Then, the use of a shared vocabulary can support a joint process of reflection between the participants (Clark and Brennan, 1991), by for example discussing the role of values in the process (Glenna, 2010). By deliberating on values, both participants' vocabulary and their way of thinking become more aligned (Anonymous reference 1). Therefore, double loop learning is considered relevant both for CODs and EDs.

6.5.8 Mutual understanding

When stakeholder perspectives are far apart, achieving mutual *agreement* in participatory processes can be ambitious (Muro and Jeffrey, 2006). Still, mutual *understanding* of the various represented perspectives can ultimately lead to better supported policies (Gutmann and Thompson, 1998). The eventual integration of these perspectives presupposes mutual understanding (Cornelius and Boos, 2003). Habermas

suggests that participants of a deliberative process should concentrate on communication on the basis of mutual understanding (Moon, 1995) This means that a deliberation can facilitate the gaining of mutual understanding of participants' values and perspectives (Karpowitz and Mansbridge, 2005).

Mutual understanding during deliberations has been assessed by Wojcieszak et al. (2009) and Andersen and Hansen (2007), and will serve as a unit of comparison in the current research.

6.6 Cases

The value deliberation methodology has been applied to a citizens' summit (Pigmans et al., 2019a) and an online deliberation on the energy transition of port cities. In both cases, the goal was to increase mutual understanding among participants on the various perspectives towards potential solutions. Each case covers a complex societal problem, in which various parties are involved with diverse perspectives on what should be the preferable solution. The initiators felt the need to organise a deliberation on the values that the stakeholders consider relevant. To stimulate participants' engagement (Gutmann and Thompson, 1998) and quality of arguments (Elster, 1995), participants were personally invited to join the deliberation based on random sampling among citizens or on stakeholders' professional roles.

The face-to-face deliberation was facilitated per group with the use of a poster and sticky notes to guide the process (see Figure 6.1). Online the set-up was adjusted to participants' home computer. The steps in the face-to-face deliberation process and in the online deliberation process were similar. In the online process, scenarios were developed by the initiator to explore alternative futures; that is, to describe a 'possibility space' (Kowalski et al., 2009).

6.6.1 Citizens' summit on social stability in the city

Citizens from the municipality of Rotterdam, the Netherlands were invited to join a citizens' summit to deliberate on how to maintain the social stability in the city after several terrorist attacks took place in Paris. A local NGO organised the summit on 1 July, 2017, in collaboration with the city council. They formulated five subtopics for the

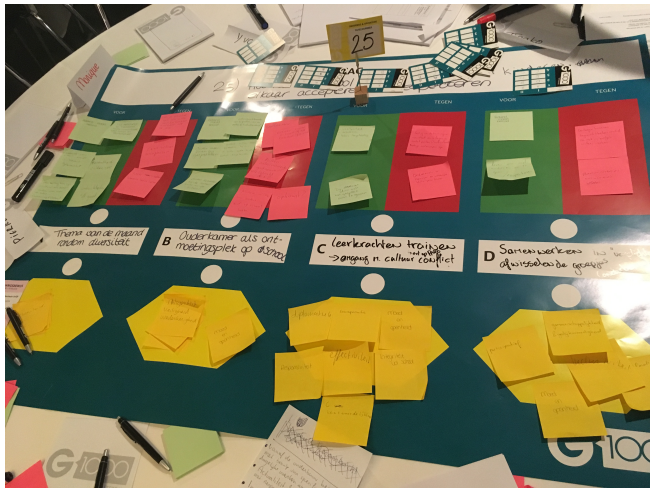


Figure 6.1: Poster to guide value deliberation process

summit: education and upbringing, social media, living together in the neighbourhood, identity, and radicalisation. At the summit, data was collected from 61 parallel groups that were facilitated in the 80-minute value deliberation process with on average 6 participants per group. Group chairs were trained in the weeks before the summit to provide each group with a facilitator that was skilled in the value deliberation process.

6.6.2 The energy transition of port cities

In order to develop a common agenda for the energy transition of port cities, 60 international stakeholders were invited to join an online value deliberation process in October 2018. A total of 40 people registered. They were divided in three groups, to keep the deliberations manageable. Each participant registered by creating a log-in name and password, and then received an alias to remain anonymous in terms of function and hierarchical position, but to be recognizable in the deliberation. The aliases were color names such as vermilion, cyan and turquoise.

The initiators developed four scenarios that described and depicted possible futures of the year 2050, which served as the basis for the deliberation. The online environment of the deliberation was developed and

hosted at https://mood.tbm.tudelft.nl/pcf_dev/welcome. The process was planned to last three weeks, but soon the lesson was learned that for each step numerous reminders were required to encourage participants to actually participate. To increase the amount of input, each step was extended, resulting in a process of four weeks.

6.7 Comparison: face-to-face versus online

Thus far, the difference between face-to-face and online has been examined for CODs, but it is equally relevant to understand the difference between face-to-face and online EDs. We compare the face-to-face case with the online case, to understand the differences and similarities in terms of representativeness, double loop learning, changing of preferences and mutual understanding. In both cases, the participants were facilitated using the same methodology of value deliberation, with the aim to increase the mutual understanding of the various perspectives.

6.7.1 Representativeness

Since the face-to-face deliberation concerned a citizens' summit with a random sample of citizens, and the online deliberation was among professional stakeholders that know each other, the two cases cannot be compared using the same representativesness analysis. However, the representativeness can be described per case, providing insight in the differences in context of the cases. For the comparison, either one demographic characteristic is used, or the role of the representative is considered to assess representativeness. In addition to demographics and stakeholder roles, accessibility has been considered to influence representativeness (Schudson, 1997). Further, being anonymous or not influences the presence of power relations during a deliberation, but also it can also influence the level of respect towards other participants.

Face-to-face. Invitations to participate were sent to a random sample of citizens equally distributed over all Rotterdam's neighbourhoods. Both the voluntarily character and the registration based on a general first come first served base, caused that certain neighbourhoods were less represented than others (see Figure 6.2 provided by Stichting Lokaal Rotterdam (2017)). Participants were invited to represent Rotterdam's neighbourhoods, yet participants were not assigned a spe-

cific group, which would have allowed for optimal representation of different neighbourhoods per group. Still, most neighbourhoods were represented during the summit.

In terms of accessibility, a face-to-face deliberation restricts the meeting to one moment in time and one location.

With respect to anonymity: both rankings were anonymous to prevent group pressure to play a role in the ordering of the solutions.

Online. The online case was set-up to reach geographically spread stakeholders that were divided in four groups: port, city, cultural institutions and academia. The port stakeholders represented European ports. The policymaking representatives were representatives of both municipal and regional governments. Representatives of cultural institutions worked for international port-city networks and museums related to port-cities. Academics had backgrounds in humanities, social sciences, planning and logistics. The groups were divided to maximize stakeholder representation in each group. There were 9 policymakers, 4 port professionals, 6 cultural institutional representatives and 22 academics, so the ratio in each group was approximately 2:1:2:7. The academics fields of expertise were in addition divided as equal as possible over the three groups. Even though the participants were anonymous, still 59% stated in the survey that they felt the group was diverse. Further they stated that deliberating with people with perspectives different from their own is insightful (88%) and effective (81%).

Participants could choose their location of participation, at a convenient hour, regardless of a timezone. This increased accessibility was the reason for using an online version. However, in cases more diverse education levels and ages (including elderly), the online atmosphere can be a hurdle rather than a support for accessibility.

In case of a closed group of people that meet each other on a regular basis (as was applicable in the online case), the risk of disrespectful behavior enabled by the anonymity is lower than in an open online deliberation, where people are likely to never meet.

6.7.2 Double loop learning

Since double loop learning is a complex process, there is no straightforward measurement to define to what extent people reflect and what they learn from this reflection. In this research the plentiful values that are identified and reflected upon are treated as the measurable

aspect of double loop learning. While acknowledging that double loop learning is not limited to this aspect, the authors of this paper prefer this workable definition over the alternative of no measurement.

Elicited values can be used as a unit of comparison between face-to-face and online deliberations. How values are introduced and the ease of identifying them could influence the process of eliciting values.

Face-to-face. To stimulate the use of a common language on values, upon entrance each participant received a value handout: a collection of 100 values, to serve as a source of inspiration for the identification of values that participants considered relevant. In total 1113 values were identified, on average 18 per group, resulting in a list of 120 unique values. The overall top ten was from most occurring to least occurring: equality, accessibility, humanity, responsibility, tolerance, effectiveness, inclusiveness, safety, diversity, open mindedness. The top four values differed slightly per topic (see Table 6.3).

Even if a list of values is provided in a face-to-face meeting, participants are less likely to choose (i.e. rewrite) a long list of values on sticky notes, they are more likely to prefer choosing a limited number of values. If, for example, in a group deliberation with 10 participants, each writes down 20 values, then 200 post-its with values would need to be collected, grouped and shared with the group on the spot.

Online. Participants were asked to identify the values they considered relevant for each scenario. They were provided with a list of 46 values, and the option to add as many custom values as needed. In total 599 values were identified, on average 200 per group, resulting in a list of 67 unique values. For each scenario they varied (see Table 6.4): for scenario A, the most identified values were efficiency, continuity, safety, and effectiveness, for scenario B this was innovation, inclusiveness, sustainability and attractivity. For scenario C, efficiency, innovation, sustainability, cooperation, attractivity and enterprising; for Scenario D this was innovation, sustainability, greenness, attractivity and inclusiveness.

Participants were asked to select values from a list, and for each value a reason why they considered it relevant. This was different from the more open question that was used in the face-to-face version: what values do you consider relevant for each solution? The list of values as tick boxes might prompt different identification behavior than when each value needs to be written on a separate sticky note. However,

the required reason per value did not seem to limit the participants. Getting an overview of all relevant values is easier online, and the ease of ticking boxes invites participants to tick many boxes.

6.7.3 Change of preferences

In both cases two rankings were filled out: the first ranking took place after the arguments pro and con each solution/scenario were shared, the second ranking after the values discussion.

Face-to-face. From 61 groups, we collected both rankings. This allowed for a statistical analysis of the data, for which we used the group proximity measure, a rank correlation that states how similar the rankings of a group are (Anonymous reference 2). As expected, there were divergent, unchanging and convergent groups. In 75% of the groups there were changes on the aggregate level: 34% of the groups diverged in their rankings, 39% converged. The other 25% saw no changes on the group level. Since each group deliberated on their own topic, the order of preferences cannot be compared, but it was noted that 23% of the participants had changed their most preferred solution after the deliberation.

Online. Even though the groups were equally divided in terms of stakeholder groups, the rankings differed per group. All three groups changed their rankings, and eventually had scenario B as the most preferred ranking on the aggregate level. However, the ranking of scenario A (continuation of the status quo) varied per group: in two groups this was the least preferred, in one group this was second preferred. Further, 30% of the participants changed their most preferred solution after the deliberation.

6.7.4 Mutual understanding

Face-to-face. In the survey, 72% of the participants reported an increased level of mutual understanding because of the value deliberation.

Online. The survey reported that 86% of the participants had an improved understanding of other perspectives.

6.8 Discussion

6.8.1 Examining the units of analysis

The units of analysis of CODs have been considered for their relevance to compare EDs. The units 'political engagement', 'consensus making', 'single loop learning' and 'the process of deliberation' are not considered relevant to analyse EDs, because of the difference in aims between the two types of deliberations. CODs are often used to politically engage people. However, in EDs, the goal could also be to give people a voice, apart from a political context, and providing an outlet for those who want to be engaged but did not manage to do so before. Second, since EDs have different goals than CODs, their results are interpreted differently. If a COD does not result in consensus, this means that it has been unsuccessful. However, for EDs consensus is one of the outcomes that can be considered equally valuable compared to divergence or no change. Next, in terms of learning, there are different aims: there is a difference in measuring quiz-able knowledge and the introduction of a common language that stimulates understanding of other perspectives. With respect to assessing the process of the deliberation, in the studied CODs, the comparisons concentrated on personal experiences and emotions, whereas for EDs the comparison is about a joint willingness to learn.

In contrast, the units 'changes in preferences', 'double loop learning', 'representativeness' and 'mutual understanding' are considered relevant: both types of deliberations are intended to facilitate and stimulate a policymaking process, so measuring changes in preferences before and after the deliberation is relevant for both. Further, learning and understanding is the aim of any deliberation, even though the meaning can differ in different contexts, for instance regarding sympathetic understanding, technical understanding, factual knowledge, political knowledge. Finally, representativeness is relevant in any multi-stakeholder process.

This means that Proposition 1 is rejected: the units of analysis for CODs are not all equally relevant to compare face-to-face and online EDSs.

6.8.2 Comparison face-to-face and online value deliberation

In the face-to-face case all participants were citizens of all of Rotterdam's neighbourhoods. In the online case, participants were professionally involved in the topic. Enabling representation includes in addition accessibility, anonymity and diversity and influences the choice for face-to-face or online deliberation. Geographically spread participants can be a reason to organise a deliberation online. However, lacking digital skills or low confidence in the use of online platforms can form a hurdle to participate instead. Power relations that could hinder the process can be dealt with by organising an anonymous deliberation online.

Based on the two cases, we can argue that the creation of a common language of values evolves differently face-to-face and online. In the online case, many more values were identified (200 per group) compared to face-to-face (18 per group). This has likely to do with the ease of ticking boxes compared to writing down each value on a separate sticky note. However, an abundance of identified values does not necessarily equal a widely shared vocabulary; it could also mean that there is little overlap. In that sense, fewer identified values could instead shape a concise shared vocabulary. This is illustrated by the frequency of values being identified: in the face-to-face deliberation 77% of the groups had chosen the most identified value and 74% of participants identified second and third most identified value. In comparison in the online deliberations, for scenario A, 44% of the participants chose the most identified value, for scenario B this was 44%, for scenario C 40%, and for scenario D 48%.

Further, both for the 'changes of preferences' and the increase of 'mutual understanding' there was some difference between face-to-face and online. For a better understanding of this difference and what causes this, research on online deliberations on a larger scale is needed to allow for a statistical comparison.

One aspect that was no unit of analysis, yet was nevertheless experienced to be an important issue, was the difference in involvement once participants had decided to join. In a face-to-face deliberation, both the facilitator and simply facing other participants can stimulate activity. In the online case, this proved to be more challenging: for each step two reminders were needed. In addition, since the deliberation lasted several weeks rather than hours, the chance of participants dropping

out during the deliberative process is larger. Future research on this is key to the further development of online deliberative methods.

6.9 Conclusions

The examination of the units of analysis for EDs enables a methodical comparison of face-to-face and online value deliberation cases. Not all units of analysis for CODs appeared to be suited to examine the exploratory and reflective character of EDs, caused by the difference in goals.

Online deliberation can both stimulate and hinder access to participate. The online approach sets requirements to participants' digital skills and may as such be an obstacle for some less digitally skilled participants. At the same time, the online format may facilitate participation because it allows for participation from a wider geographical area. An investigation of the geographical locations and digital skills of participants could be considered necessary prior to setting up the deliberation.

Further, the limited, yet considered identification of values by writing them on paper is contrasted with the unlimited ease of ticking boxes online, which gives on the one hand many values, but may also reduce the need to make choices as to the most important values. This could influence the developments of a common language. Future research that includes a much larger amount of parallel deliberations will allow for a more systematic analysis of the increase in mutual understanding.

Unit of analysis	Article	Comparison based on
Political engagement	Baek et al. (2012)	Participation in any kind of deliberation
	Min (2007)	Political efficacy; Willingness to participate in political issues
	Tucey (2010)	Participation in online discussions; Political affiliation
	Wojcieszak et al. (2009)	Reason to deliberate
The process of deliberation	Baek et al. (2012)	Perceived functions of deliberation
	Tucey (2010)	Personal experiences of the process
	Wojcieszak et al. (2009)	Evaluation deliberative goals
Consensus making	Baek et al. (2012)	Reaching consensus
Changes in preferences	Iyengar et al. (2003)	Foreign policy attitudes
	Min (2007)	Change of public opinion
	Triantafillidou et al. (2015)	Changes in attitudes
Single loop learning	Iyengar et al. (2003)	Political knowledge
	Min (2007)	Issue knowledge
Representativeness	Baek et al. (2012)	Social demographics
	Grönlund et al. (2009)	Representativeness of age and gender
	Showers et al. (2015)	Participant's equality
	Wojcieszak et al. (2009)	Demographic diversity
Double loop learning	Grönlund et al. (2009)	Knowledge on energy issues and general politics
	Iyengar et al. (2003)	Overlapping political knowledge
	Min (2007)	Overlapping topical knowledge
Mutual understanding	Baek et al. (2012)	Emotions and understanding
	Wojcieszak et al. (2009)	Understanding

Table 6.1: List of units of analysis found in studies comparing face-to-face and online CODs

Neighbourhood	% of participants	% of Rotterdam
Charlois	6	11
Delfshaven	12	13
Feijenoord	8	12
Hillegersberg-Schiebroek	11	6
Hoek van Holland	1	2
Hoogvliet	3	5
IJsselmonde	6	9
Kralingen-Crooswijk	11	9
Noord	13	9
Overschie	3	3
Pernis	0	1
Prins Alexander	14	14
Rozenburg	1	2
Stadscentrum	10	6

Table 6.2: Division participants per neighbourhood

Topic	Top four values
Education and upbringing	Equality, inclusiveness, responsibility, accessibility
Social media	Humanity, safety, responsibility, effectiveness
Living together in the neighbourhood	Equality, accessibility, humanity, liveability
Identity	Humanity, accessibility, equality, openness
Radicalisation	Equality, accessibility, tolerance, responsibility

Table 6.3: Top four values per topic

Scenario	Values identified $\geq$ 10 times	# identified
A: Living apart together	Efficiency	12
	Continuation	11
B: Port City integration	Innovation	12
	Inclusion	11
	Sustainability	11
	Attractivity	11
C: Makers city	Efficiency	11
D: Blue and green Futures	Innovation	13
	Sustainability	12
	Greenness	10

Table 6.4: Values identified more than 10 times, per scenario in the online case

	Face-to-face	Online
Representativeness	+No digital skills needed, only listening skills	- Digital divide
		+Not depending on geographical location and time zone
	-Possible confrontation with participants' power roles and emotions	+Anonymity is an option
Double loop learning	+Visible body language	+More overview, and ease of clicking
	+'Forced' conciseness of written input	-Ease of clicking invites to be less concise
Change of preferences	75% of the groups made changes, 23% changed most preferred solution	30% of the participants changed most preferred scenario
Mutual understanding	72% increase	86% increase

Table 6.5: Comparison of face-to-face and online value deliberations

Chapter 7

The role of values for agenda-setting

Once values are identified and discussed to explore the various perspectives in policymaking processes, the next step is to address these values explicitly in each stage of the process. This chapter explores the contribution of value conceptualisation in the first stage of the policy cycle: agenda-setting. Since this is the first phase of the policy cycle, it is also the first phase in which convergence of ideas is encouraged in order to proceed to the next stage. Participants are asked to select one or two of the earlier jointly identified values for conceptualisation in terms of operational goals, motivation, and responsibilities. By jointly narrowing down the focus and the values, convergence can be stimulated.

A four week online value deliberation on the energy transition in port cities, as described in Section 6.6.2, prepared the Port City Futures initiative[1] for the formulation of a shared research agenda. Stakeholders identified values that they considered relevant to four port city scenarios for 2050. In this chapter, we assess to what extent the conceptualisation of these identified values can contribute to the research agenda. For the conceptualisation, a workshop was facilitated in which six parallel groups participated, each representing a different port city. Sharing the varieties of conceptualisations of a particular value can demonstrate both differences and similarities in different geographical and political contexts. Discussing these values and searching for overlap in seemingly different conceptualisations can contribute to the development of a shared agenda.

This chapter has not yet been published.[2]

[1] http://portcityfutures.org/

[2] The author of this thesis performed the following tasks: developing the methodol-

7.1 Introduction

Stakeholders' values can serve as a basis for better understanding of complex policymaking process (Butler et al., 2015; Keeney et al., 1990). By identifying the values that stakeholders consider relevant to a policy, different perspectives can be explored from a new point of view, other than debating arguments on interests (Heazle and Pillar, 2010). To explore the various perspectives that are involved in the policymaking process, values can be elicited through deliberative workshops (White and Bourne, 2007)[3].

While acknowledging that real world policymaking is less structured and orderly, policymaking processes have been described in five steps: agenda-setting, problem definition, decision-making, implementation and evaluation (Jann and Wegrich, 2007). Making values explicit in each stage of the process stimulates the evaluation of values throughout the process (Steen and Van De Poel, 2012). The five steps are briefly discussed below.

Numerous actors influence the policymaking process, such as interest groups, researchers, academics, consultants and the mass public (Kingdon, 1984). An agenda is the list of issues to which stakeholders are paying serious attention at any given time (Kingdon, 1984); agenda-setting is defined as making the selection of policy issues that are on the agenda (Jann and Wegrich, 2007). The differences in perspectives can cause agenda conflicts, given the competing interpretations of problems (Cobb and Ross, 1997).

In cases where stakeholder perspectives are far apart, agreeing on the problem formulation has been described as problematic (Rittel and Webber, 1974). In such cases, a problem formulation stage is needed to jointly formulate the objectives of the policy. This step should result in all stakeholders having an understanding of the problem that will be solved by implementing the policy.

Once there is a problem definition, alternatives can be generated and examined to reach an acceptable level of agreement (Black and Gregersen, 1997). Being involved in the design of the alternatives, means to have an influence in the ultimate policy choice (Sidney, 2017). The most preferred alternative is selected in a process of alternative

ogy, facilitating the conceptualisation workshop, analysing the data, writing the paper.

[3]See Chapter 6 for a more elaborate description of exploring perspectives

reduction and adjustments of alternatives, which is followed by the enforcement of the policy, with a focus on linkages and networks between the involved parties, rather than top-down implementation (Jann and Wegrich, 2007).

The stage of policy evaluation refers to the assessment of each stage of the policymaking process, to analyse the possibilities of initiating follow-up processes (Black and Gregersen, 1997), to measure the impact of the policy, to allow for adjustments during the process and to decide on follow-up steps (Jann and Wegrich, 2007).

In each of the stages of the policymaking process the role of values can change. Yet, common values can form bridges between the stakeholders. The identification of common values can be the first step to form these bridges. Once identified, these values can be conceptualised (van de Poel, 2013) in order to converge ideas. In this study, conceptualising values means to formulate identified values in terms of operational goals, responsibilities, and motivations. The aim of this research is to analyse to what extent the conceptualisation of earlier identified values can contribute to agenda-setting.

This article is structured as follows: Section 7.2 details the objectives of the research, which is followed by Section 7.3 in which the context of the research is described. Next, Section 7.4 describes the research approach that was used. In Section 7.5 the results are presented and discussed.

7.2 Objectives

A value deliberation can be a first step for stakeholders to develop mutual understanding (Pigmans et al., 2019b). Subsequently, by defining which values should be addressed, by whom, how, and with what motivation, common ground could be developed. The aim of this research is to explore this next step by performing a proof of concept of value conceptualisation for agenda-setting in the policymaking process. This results in the final sub-research question of this thesis:

To what extent can the conceptualisation of earlier identified values contribute to shared agenda-setting?

In order to answer this question, we facilitate a value conceptualisation workshop during the conference that follows-up an online value deliberation. By developing a workshop in which conceptualisation of

earlier identified values is explicitly facilitated, the values become less abstract. The analysis concentrates on the extent to which values are addressed in the formulation of agenda items, and the extent to which common ground can be identified. By making values explicit, differences and similarities in expectations of the process and in interpretations of values among stakeholders can be identified.

7.3 Context

In October 2018, a four week online value deliberation process was organised for 40 involved stakeholders of the Port City Futures initiative, to facilitate a deliberation on four scenarios of the energy transition in port cities in 2050. Scenario A was called *Living apart together* and represented largely the continuation of the current situation; Scenario B, *Port-city integration* represented a scenario in which the port and the city are more integrated; Scenario C, *The makers city* concentrates on maker spaces and circular production cycles; Scenario D, *Blue and green futures* represents a scenario in which the original port is largely automated, artificial islands are created for leisure and living.

The participants were categorised as four stakeholder groups: policymakers, port professionals, cultural institution representatives and academics. Additionally, the stakeholders represented various international port cities. Since they each had different interests and perspectives, they did not have an equal understanding for each other's view point.

During the deliberation arguments pro and con each scenario were shared and the scenarios were ranked. After that, participants identified and explained which values they consider relevant per scenario, followed by a second ranking of the scenarios. In total 86% of the participants reported to have a better understanding of the other perspectives, in the sense that they could sympathise better with the others. See Chapter 6 for a more elaborate description of the online value deliberation.

The online deliberation served as a preparation for a three-day, face-to-face conference one month later, during which the participants were asked to formulate a joint agenda. During the conference, the outcomes of the online value deliberation were presented, after which a plenary discussion unfolded between all participants on the role of values in

the energy transition of port cities.

The idenfification of values and the acknowledgement of the role of values required a follow-up to use the earlier identified values to support the formulation of the shared research agenda. We assessed how the conceptualisation of earlier identified values could contribute to the research agenda, by facilitating a workshop.

7.4 Methodology

During the online deliberation, the stakeholder groups identified and discussed the values they consider relevant to four scenarios on the energy transition of port cities. The most identified values were: innovation, sustainability, attractivity, efficiency, inclusiveness, enterprising, and cooperation. During the value conceptualisation workshop, the participants were divided in groups, each covering a port city: Bremen, Dublin, Gdansk, Napels, Riga and Rotterdam. Each group of about 8 participants consisted of stakeholders working in the port city they covered and port city professionals from elsewhere.

The seven most identified values from the online deliberation were selected and presented to each group as an anthology of reasons why stakeholders considered the value relevant during the online deliberation. These anthologies were distributed to each group to freshen up the value deliberation and to make the participants acquainted with the values.

Each group was then asked to choose and discuss at least one, and if time allowed two, of these values that were identified in the online deliberation. The selected value(s) was then conceptualised for the context of the group's port city, guided by the questions as depicted in Figure 7.1.

These questions included: which value should be conceptualised for this port city? What needs to change to promote this value? Who should be in charge? What should each party do to address this value? Why? What are short term and long term goals related to the conceptualisation of this value?

The group discussions produced answers to these questions, which were written down on a poster to make them concrete. In order to capture not only the written answers, but also the group process, graphical recorders were present to draw the conceptualising process for each

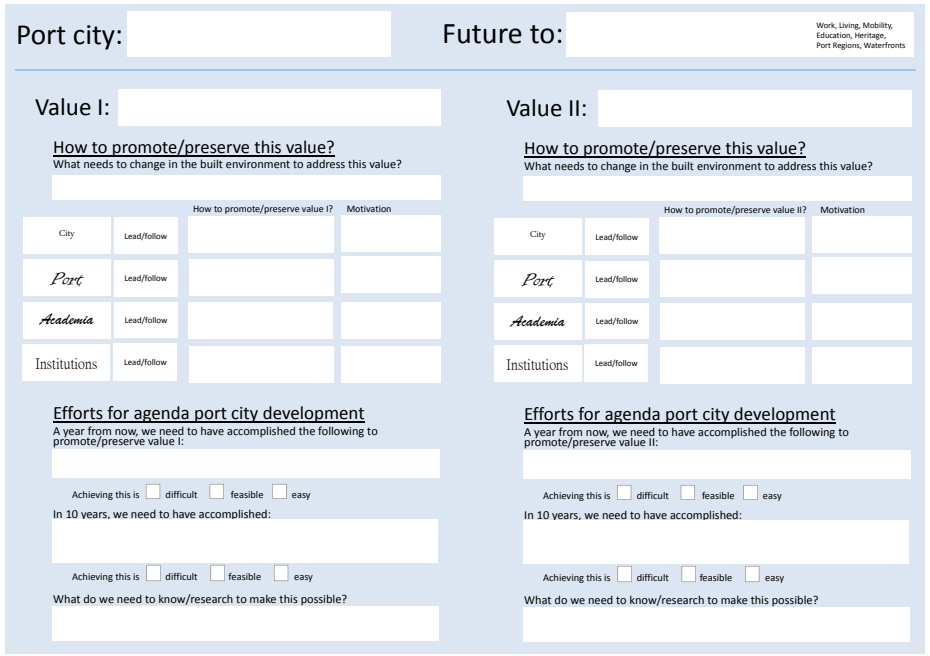


Figure 7.1: Poster with guiding questions to conceptualise values for each port city group

Port city	Value 1	Value 2
Bremen	Innovation	-
Dublin	Cooperation	-
Gdansk	Cooperation	Innovation
Napels	Cooperation	Innovation
Riga	Enterprising	Inclusiveness
Rotterdam	Inclusiveness	Attractiveness

Table 7.1: Conceptualised values per port city

port city group.

7.5 Results

In Table 7.1 the conceptualised values per port city are depicted. Innovation, cooperation and inclusiveness have been conceptualised by at least two port cities, so they can be compared. In this section the group processes are first described, after which the written answers are compared in Table 7.2, 7.3 and 7.4.

The port city group 'Bremen' discussed the value 'innovation'. The port city Bremen, Germany, is a very small state (Bundesland) on its own and as a result they have few research centers with respect to innovation. Therefore the group discussed plans on how the port city can collaborate with innovative hubs, to get access to this knowledge and experience. The participants argued that a detailed roadmap could visualise the urgency to make the transition from talking about the issue to taking action, since it would require the formulations of actions and a planning.

The group Dublin discussed the value 'cooperation' in the light of critical awareness in communities, to make sure that all different stakeholders would have access to all the information so that people can recognize fake news better. Suggestions included stimulating all stakeholders to have an open view so that they will be open to new ideas and visions to create good policies.

Port city group Gdansk discussed 'cooperation' and 'innovation'. Suggestions were made about setting up a new image and marketing campaign for the port to stimulate cooperation with start-ups and cultural institutions. An exchange platform could be used to connect all

stakeholders including local communities and tourists.

Group Napels discussed the values 'cooperation' and 'innovation'. The group argued that academics should take the lead in the developments, since they have the most relevant and recent experience in the port city. They suggested to cooperate with entrepreneurs and create people to come to innovative joint ideas and joint research, for example on how to deal with old industrial areas.

The group Riga, Latvia, discussed the values 'enterprising' and 'inclusiveness'. A major problem that occurs in Riga is that youth leaves the country in large numbers. This causes a lack of new employees in the port and a strong decrease of children growing up in the city, while the presence of young families is crucial for social cohesion. Suggestions they discussed are to attract enterprises that target young people, for instance by opening an art museum, new schools, playgrounds and by involving local communities to jointly work on ideas to realise this.

Group Rotterdam discussed the values 'inclusiveness' and 'attractiveness', considering each of these values as one side of a coin: they want to be attractive for highly skilled professionals, however, they also want to include people who are not highly skilled. Suggestions to deal with this dilemma concentrated on affordable housing for the less skilled people.

These results are listed and compared in Tables 7.2, 7.3 and 7.4, which are structured similarly. The row 'What needs to change' depicts the answers to the question: 'What needs to change in the built environment to address this value?' (see Figure 7.1 for all questions). The answer to the query 'how to promote/preserve this value' is considered an action, so the other rows in the table describe for each stakeholder group [action] *to/for* [motivation]. For example, the second row, second column of Table 7.2 reads: The city should [be open to new ideas] *to* [promote sustainable progress].

Table 7.2 lists the conceptualisations of the value 'cooperation'. The actions for the city and the port seem to overlap largely, however, the motivations are very different: from a sustainable process, to a social license to operate to enlarging the view on a wider identity. This is caused by the differences in local context: In Dublin, Ireland, misinformation and fake news are high on the agenda, in Gdansk, Poland, citizens are not aware what the port does, causing serious resistance to port operations, and Napels, Italy, needs to prevent empty promises

Cooperation	Dublin	Gdansk	Napels
What needs to change	Critical awareness	All stakeholders equally involved	Act as a positive game, not a zero sum game
The city should	Be open to new ideas *to* promote sustainable progress	Exchange information, create discussion, cooperation platform *to* aim at improving the quality of life	Create bridges with the different levels of institutions *to* make the multilevel governance work.
The port should	Be open to and create new visions *to* promote sustainable progress	Provide participation of the entire port community *to* gain the social license to operate	Interact with Mediterranean area, in order to reach inclusiveness and international cooperation; *to* enlarge the view to a wider geographical identity.
Institutions should	Promote communication *to* access a broader audience	Create pressure, tension and actively participate in the process *to* have their agenda promoted	Promote bottom up participation processes *to* create roundtables and cohesive approach among different actors.
Academia should	Be flexible *to* create impactful knowledge	Provide reachable knowledge, include best practices; provide independent venues for discussion; *to* be visible to generate applicable knowledge to provide adequate education for students	Create networks between local and national stakeholders *to* promote competitive and applied research.

Table 7.2: Cooperation conceptualised by Dublin, Gdansk and Napels

Innovation	Bremen	Gdansk	Napels
What needs to change	Cooperation/ Federalism/ internal/ new urban production	Innovative ways to deal with heritage	Joint research with entrepreneurs and people's creativity (makers) regenerating the mosaic of wasted/abandoned in between in transit spaces/buildings
The city should	Promote makers' spaces *to* improve local economic structure	Create a new image of the city *for* economic development, tourist attractiveness, openness to the world	Regenerate public spaces and equipment using public properties and abandoned spaces, *to* create a networking system of places and facilities
The port should	Provide interesting attractive spaces/buildings *to* optimise land use, reduce conflicts and to recycle	Start a marketing campaign, transform the function of heritage sites *for* economic development and sustainability	Support start-ups, create connection and cooperation with university and research center, *to* support development and enable local community to create innovation
Institutions should	Promote subsidies *for* entrepreneurs and NGOs	Promote museum exhibitions	Facilitate intersectoral policies and create funding possibilities and attractive environments/scenarios, *to* improve innovative and competitive environments and support research
Academia should	1. Analyse conditions, 2. provide good examples/advice, 3. evaluate developments, 4. action research, 5. Provide human capital *to* raise public awareness and increase societal impact	Concentrate on research and preservation *to* preserve heritage sites	Develop technological transfer and support the use of disciplinary knowledge to manage governing processes, *to* maintain and develop competences and skills and support applied research

Table 7.3: Innovation conceptualised by Bremen, Gdansk and Napels

Inclusiveness	Riga	Rotterdam
What needs to change	Linkages and improvement of environmental impact	Creative mix of affordable housing and high end living/business space
The city should	Promote green energy *to* improve health conditions	Work on Housing/real estate
The port should	Promote clean fuel *to* be able to keep youth in the port area	Concentrate on land use
Institutions should	Take their networking role	Increase awareness of the problem and with that increase accessibility to the port city

Table 7.4: Inclusiveness conceptualised by Riga and Rotterdam

and therefore the port needs to develop a new identity quickly to attract young employees to collaborate in an international environment. The actions and their motivations for institutions (participation and communication to reach more actors) and academia (applied and impactful research) seem to be overlapping.

Table 7.3, in which the conceptualisations of the value 'innovation' are listed, shows limited overlap between the three port cities, again caused by local differences: creating makerspaces to tap into interregional resources in Bremen, setting up a marketing campaign to stimulate green innovations in Gdansk, and regenerating abandoned spaces to realise short term results rather than making empty promisess in Napels. However, even though the motivations differ, each of the actions could be considered as being part of the desire to regenerate spaces and to deal with heritage.

The conceptualisations of the value 'inclusiveness' in Table 7.4 show very different actions and motivations: the main issue is environmental impact versus creating a mix of affordable housing and high end living spaces. This illustrates how different values can be conceptualised in different settings. For example, Rotterdam's discussion on the two sides of the coin (see Figure 7.2), suggesting solutions in terms of affordable housing differs from Riga's problem of the large scale migration of youth (see Figure 7.3), even though both port cities were discussing inclusiveness. Figure 7.2 and 7.3 are made by the graphical recorders that were present during the workshops.

7.6 Conclusions

This study explored to what extent value conceptualisations can contribute to agenda-setting, by analysing a proof of concept experiment. Values that were earlier identified during an online deliberation were concretised to make goals, motivations, and responsibilities regarding values explicit. Since the aim of the conference was to come to a joint agenda, there was a willingness to interact and to learn from each other. When the participants presented their results to the other groups, both different interpretations of the same value and overlap in value conceptualisations were demonstrated. For example, Gdansk and Naples conceptualised both the values 'cooperation' and 'innovation', but Gdansk concentrated on a platform to reach all stakeholders, including local communities and tourists, whereas Napels emphasised that academia should take the lead while collaborating with creative entrepreneurs. In terms of similarities, the value 'cooperation' was conceptualised in comparable terms by three port city groups. The differences and overlap in conceptualisations of earlier identified values can evoke a dialogue on their own, which happened during unscheduled interactions in the course of the conference.

The identification and concretisation of values can make the perceived importance of values explicit. This was visible in the next step of the agenda-setting process, during which all participants formulated research questions in mixed groups, and all participants individually voted on the questions. The three research questions with most votes would form the joint research agenda. This resulted in two technical questions on how to realise the energy transition in port cities, and in the question 'How to develop inclusiveness during regeneration?', putting the value 'inclusiveness' explicitly at the center of the joint research agenda.

This study demonstrates that if the identification and conceptualisation of values are explicitly addressed during an agenda-setting process, the role of values can be internalised by stakeholders. Formulating measurable goals and responsibilities about how to address a value can stimulate the explicit consideration of values in a policy or agenda. By conceptualising values, stakeholders can consider values as the starting point for defining goals and responsibilities. This can open up the discussion about the evaluation of how relevant values have been ad-

dressed in a policy.

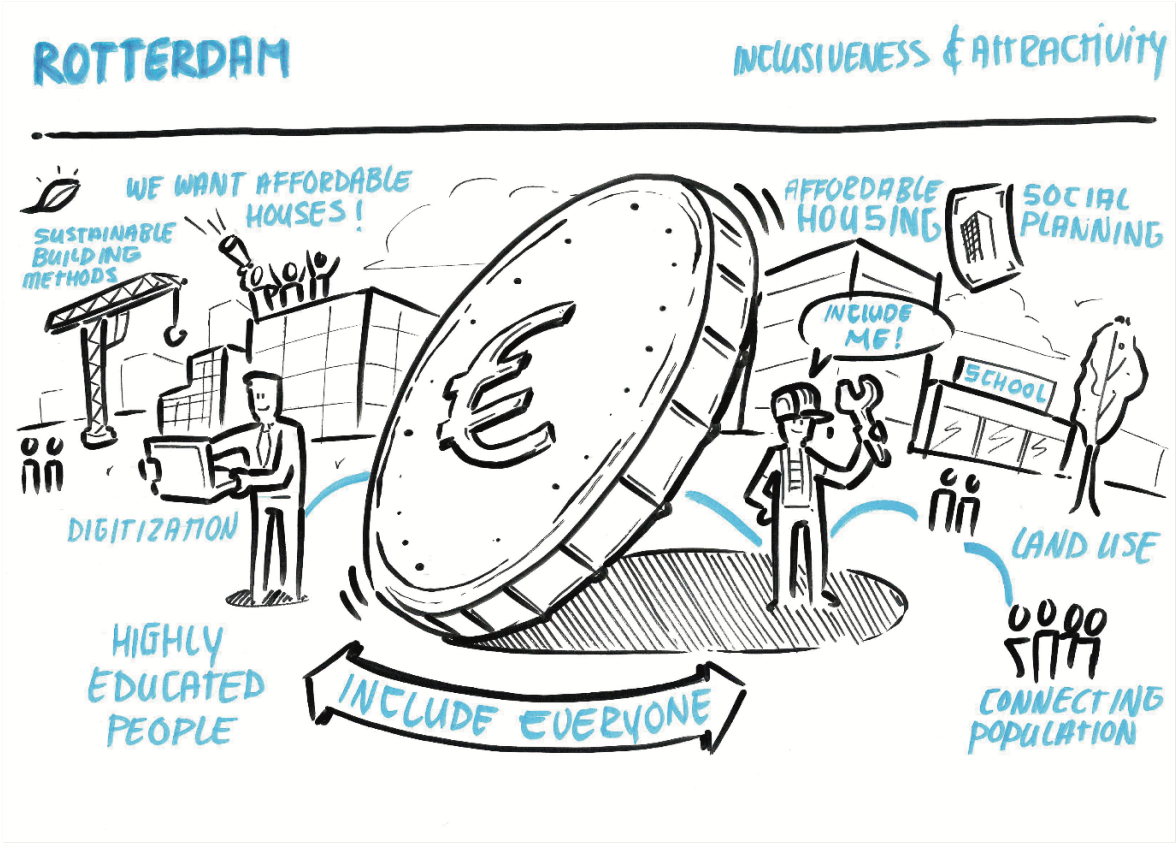


Figure 7.2: Process drawing by graphical recorders: value concretisations regarding port city Rotterdam

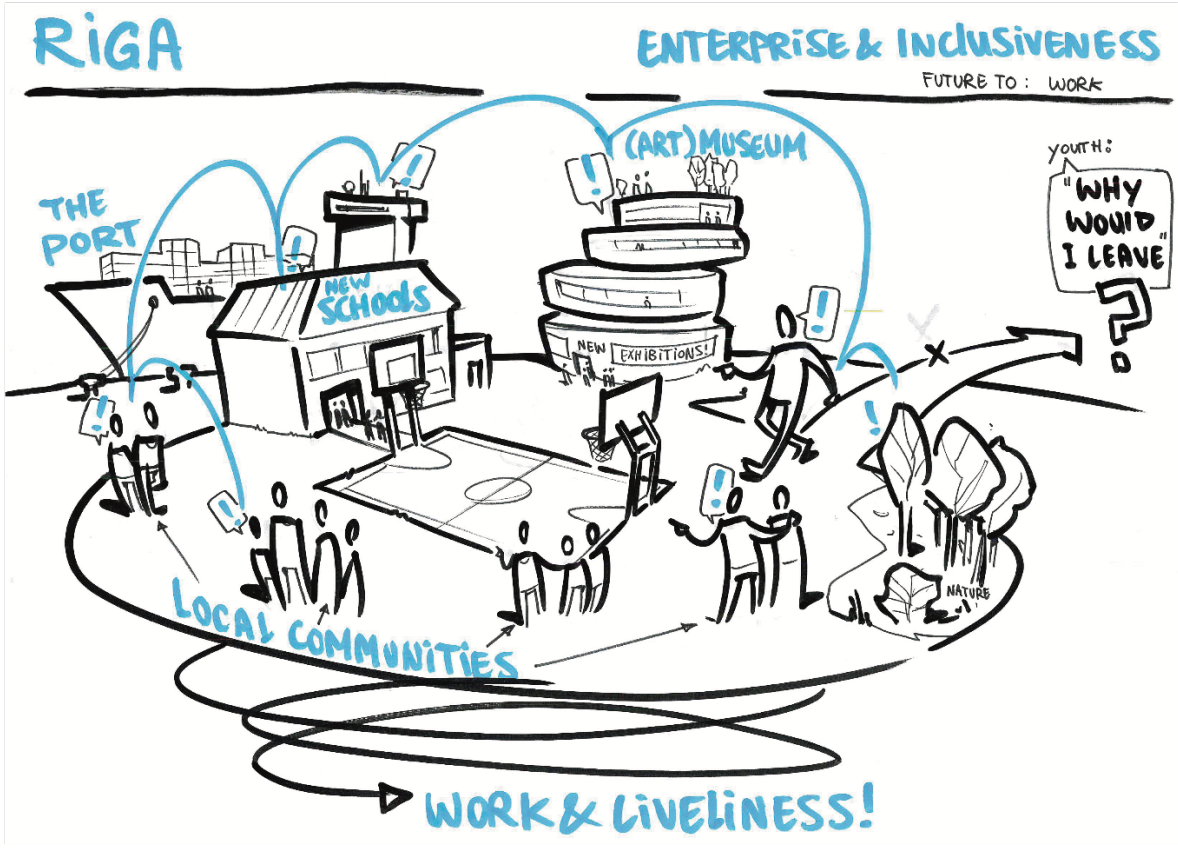


Figure 7.3: Process drawing by graphical recorders: value concretisations regarding port city Riga

Chapter 8

Conclusion

This thesis has explored to what extent the identification, deliberation and conceptualisation of values can contribute to an increase of mutual understanding in participatory processes. In this chapter, the research questions as presented in Chapter 1 are revisited and answered, contributions and recommendations are presented and finally limitations are discussed.

8.1 Findings

This thesis was guided by the research question: *To what extent can the identification, deliberation and conceptualisation of values contribute to increasing mutual understanding during participatory policymaking processes?*

The conceptual framework in Chapter 3 was constructed to explore what the role of values can be in facilitating participatory policymaking processes. The framework distinguishes three interactive stages: creating a common language, facilitating reflection through deliberations, and stakeholders approaching each other despite possibly diverging perspectives. The framework serves as a theoretical basis that facilitates deliberation on values that stakeholders consider relevant. The value deliberation methodology is built up from the following steps (see Section 3.2): formulate (additional) solutions or scenarios; share arguments pro and con each solutions/scenario to get an idea of the attitudes towards the solutions; rank solutions in order of preference; identify relevant values per solutions; deliberate on why these values are relevant and what participants thoughts are on this; rank again; discuss eventual changes in rankings.

Sub-question 1. In order to answer the subquestion: *'To what extent*

can value deliberation contribute to mutual understanding of stakeholders' perspectives?', two pilot value deliberation workshops in the water sector are described in Chapter 4. By performing small-scale workshops on two different water topics, the participants were facilitated in identifying and deliberating on the values they consider relevant for each of the solutions. In one of the workshops this resulted in a discussion on the value *Gaia* (the earth is a living organism and we should treat it like that), which was both heavily defended and contested. This resulted in water issues becoming more personal while the issue was discussed from a professional point of view: professional values became personal values, which for all participants changed the understanding of the problem. The workshops were set-up to investigate if value deliberations would influence participants' order of preference with respect to the solutions. On this small scale value deliberations did seem to change participants' preferences.

Sub-question 2. The next step was to scale-up the use of the methodology to allow for a statistical description of the experiment. In order to get a better understanding of the ranking behaviour within groups, the second research question was addressed: *'How to measure group proximity during value deliberations?'*. During a citizens' summit, 1000 citizens were asked to deliberate on their values. The summit was organised to start the dialogue among citizens about the stability in the city of Rotterdam. Training group chairs in the facilitation of the method allowed for a systematic application of the method in all parallel groups. By using a rank correlation, and turning this into a distance measure, the proximity of the rankings could be compared per group. For each group a median ranking was calculated, and for each participant of the group the distance to this median ranking was calculated. Per group, this resulted in the average group proximity. This made groups comparable both in terms of impact that the deliberation has and on the proximity of individual group members to each other. The participants were divided over five predefined topics. Group proximity seemed to differ per topic, but also per group size: large groups ranked less similar in the first ranking and more similar in the second ranking compared to small groups. The group proximity measurement was combined with outcomes of a short survey on the increase of mutual understanding caused by the value deliberation. This combination can support the decision on what could be the next step for a group: a group with di-

verging group proximity that has an increase in mutual understanding might need a follow-up workshop with a different approach to work towards convergence, whereas a group with converging group proximity and increasing mutual understanding might be ready to skip that step and continue to a follow-up step, for example to formulate policy issues. Finally, the wording that was used to formulate the topic of deliberation reflected a willingness to connect, given the many occurrences of topics that literally referred to connection.

Sub-questions 3. The value deliberation method was used in various contexts, including face-to-face and online settings. In order to understand to what extent these settings differ, first the units of comparison had to be defined. Therefore, Chapter 6 addresses the question: *'To what extent differ face-to-face and online deliberations in their suitability for exploration and reflection of all perspectives in participatory decision-making processes?'* In the comparison of face-to-face and online value deliberations, differences were found in representation, the development of a common language of values and in levels of involvement. Exploration of perspectives requires representation of the diverse perspectives, which can be influenced by facilitation of accessibility and anonymity. Both the requirement of synchronizing time and location to allow for face-to-face deliberations and the issue that power relations are more difficult to overcome when participants interact directly facing each other, could have an influence on the diversity of participants. In contrast, the need of basic digital skills to enable access to the online deliberation could reduce diversity, however, the possibility of anonymous participation could take away possible barriers to participate. Further, a common language can facilitate the exploration and reflection of perspectives. The practical limitation of time to write down values on paper could stimulate a more careful choice of values in face-to-face deliberations, resulting in an overlapping and limited identification of values, compared to online deliberations in which the ease to tick relevant values could create the impression that there is no need for a critical the selection of values, resulting in a wide variety in identified values that were less overlapping. Finally, participants' involvement in online deliberation over the course of weeks appears to be more difficult to maintain than the face-to-face involvement during hours when all steps of the process can be taken synchronous. Whereas online participants can join regardless of their location and at their own preferred timeslot, in

a face-to-face deliberation participants are directly faced with a facilitator that guides the deliberation which could trigger more involved inputs. Summing up, the exploration and reflection of perspectives can be stimulated both in face-to-face and online settings, but the suitability of each setting depends on the context of the deliberation including the need for anonymity, requirements regarding accessibility, expectations in terms of response rates and involvement, and the need to develop a common language.

Sub-question 4. The role of values can evolve during policy making processes. Therefore, Chapter 7 discusses the question: *'To what extent can the conceptualisation of earlier identified values contribute to shared agenda-setting?'* It was found that by conceptualising values, the various interpretations of the values become explicit, which invites stakeholders to discuss these interpretations. This can result in a shared feeling of urgency to address the issue or value on the strategic agenda. These findings come from six parallel group discussions as part of an international gathering of port city stakeholders. During the discussions, participants were facilitated in conceptualising the values that were identified as relevant at an earlier event. Each group represented a port city with its own context and challenges, and conceptualised two earlier identified values in terms of goals, motivations and responsibilities. This uncovered the overlap and differences in interpretations of the values. For example, the value inclusiveness was conceptualised as including low skilled people while being an attractive environment for highly skilled people, whereas in another port city it was conceptualised as including youth to port-city life to prevent the ongoing large-scale migration of youth. The follow-up process, of formulating questions and voting for the most preferred agenda topics, resulted in addressing inclusiveness as one of the three issues on the strategic agenda.

Answering the sub-questions results in the outcome that values can contribute to the formulation of a common language, can contribute to an increase in mutual understanding among stakeholders, and that the the value deliberation method makes it possible to measure group proximity in different settings. Further, the value deliberation process can provide a stage for diverse view points by facilitating the exploration of perspectives. When the values are conceptualised during a follow-up step, the identification of common ground can be facilitated.

8.2 Contributions and recommendations

This research assessed the idea that making values explicit during policymaking processes can benefit such processes. The conceptual framework (described in Chapter 3) serves as the theoretical rationale for identifying, discussing and conceptualising values during policymaking processes. The rationale is based on the interdisciplinairy literature study that relates wicked problems, participatory policymaking, democratic and online deliberations, values and mutual understanding. The framework serves as the foundation for the development of the value deliberation methodology and a value conceptualisation approach. The experiments demonstrate that mutual understanding can increase when stakeholders deliberate on values, that group proximity can be measured as part of the delibertive process, and that the setting of a deliberation can influence participation. These insights on the role of values with respect to perspective exploration and consequent value conceptualisation, can serve as starting points for further empirical research on the role of values in policymaking processes.

Moreover, this research results in an openly available method that contributes to mutual understanding among stakeholders. The method can be used by practitioners who are involved in wicked problems with multiple stakeholder perspectives and who would benefit from an approach that is different from an exchange of arguments. In Appendix A, the value deliberation toolbox is described, including the needed materials that are available online.

Lastly, the outcomes of this research can be used for the exploration and development of structural online deliberation processes aiming for citizen involvement in local policymaking. Large scale value deliberations have been facilitated face-to-face during the citizens' summit, and a digital environment has been developed to facilitate parallel value deliberations among professional stakeholders. Further research could combine the large scale set-up, the online environment, and a mix of citizens and professional stakeholders deliberating on the values that they consider relevant, to create mutual understanding in the light of policymaking.

8.3 Limitations

In each of the experiments, various stakeholders and stakeholder groups were involved: professionals in the water sector pilot workshops, citizens in the citizens' summit, and professional stakeholder groups in the online deliberation. Even though the stakeholders in the online deliberation had very different perspectives, they all were involved from their professional roles. This means that the value deliberation process so far has not been applied to processes in which both professionally involved stakeholders and citizens participated. Value deliberations with professional stakeholder groups and citizens could have different dynamics than the contexts that are described in this thesis.

Further, the experiments of the face-to-face summit and the online deliberation are different in scale: during the summit 61 parallel deliberations were facilitated, during the online deliberation there were three groups in parallel. In order to understand what role scale plays in the outcomes of deliberative processes, experiments on various scales in various contexts should be performed.

Facilitation of online deliberation requires moderation. Moderators can influence online deliberative processes by keeping the discussion on topic and civil, but their own personal bias could shape deliberations more than justified. Larger scale online deliberations would provide insights in the impact of moderators on such processes.

Finally, the experiment that is described in Chapter 7 is an effort to perform a preliminary exploration of value conceptualisations. More research is needed to draw general conclusions about the role of value conceptualisation in the policymaking cycle.

8.4 Synopsis

By exploring what the role of values can be in facilitating participatory policymaking processes, this thesis describes how value deliberation can contribute to the formulation of a common language and to an increase in mutual understanding among stakeholders. For this, an openly available method has been developed that provides a platform for the exchange of diverse viewpoints by facilitating the exploration of perspectives.

Appendix A

Value deliberation protocol

In this appendix, a number of options regarding the value deliberation process are described, as well as the script mentioning all the steps, and the materials that are made available online for practitioners.

A.1 Options

To allow for a well facilitated deliberation process, choices need to be made about the openness, duration, identifiable versus anonymous participants, and amount of participants.

Invitation only or open to the public. In the debate about open versus closed deliberation, phrases such as 'the glare of publicity' or 'shielding deliberators from the public' are used to express the downsides of open deliberations: going public, opening up deliberation to a broad audience and mass media, can have negative consequences on deliberation (Chambers, 2004). Elster (1995) argues that, despite that publicity produces the democratic effect of forcing people to argue in public interest terms, it also can have a negative effect on the quality of discourse. Closed deliberation can therefore be a justifiable way to stimulate better discussion and more thorough consideration of policies (Gutmann and Thompson, 1998). However, deliberations that are open to the public can reach more participants during each stage of the process, which can stimulate inclusion (Allen and Light, 2015).

Duration. The duration of an online deliberation influences the possibility for asynchronous participation: if the process takes two hours all participants need to join at the same time. If the process is stretched over multiple weeks or months, there is room to join when it suits participants best (Davies et al., 2013). In cases where participants reside

in different time-zones (Schuler, 2010), asynchronous participation becomes crucial. However, if a deliberation is lasting for months the momentum can get lost, causing participants to drop out.

Identifiable or anonymous. Online anonymity can vary from completely identifiable by name, photo and location, to complete anonymity when not even the IP-address is known (Wallace, 2008). In online deliberations, anonymity can support individuals to feel free to participate and express thoughts and, at the same time, it can lessen ridicule and embarrassment (Nissenbaum, 1999). Conversely, online anonymity might also invite people to misbehave, caused by the lack of accountability (Leshed, 2009), when those responsible for misconduct cannot be identified and brought to justice (Wallace, 1999). The suitable trade-off of anonymity and accountability differs per context (Teich et al., 1999). An intermediate version of anonymity could be an environment where participants register with their real names and affiliations, while the discussions are anonymous. This has the advantages of anonymity (freedom to speak up) and participants can still be held accountable for their words by the moderators.

Amount of participants Experience taught that the optimal amount of participants regarding scale can differ greatly per context, however, the optimal amount of participants per group deliberation is between 5 and 10 participants. Facilitating four participants risks having two camps and too few different perspectives. A group of ten is a large group to facilitate given the principle that all need to be heard, but it is the maximum still manageable group size.

A.2 Protocol

In Figure A.1 and A.2, the script of a face-to-face value deliberation process is depicted, including preparatory steps, timing per step and responsibilities per step.

A.3 Toolbox

To make the face-to-face value deliberation process as presented in this thesis available to practitioners, we have developed a toolbox that is available at *https://www.delftdesignforvalues.nl/value-deliberation-toolbox/*. The toolbox contains the materials needed, including the poster (see Fig-

Proces description of Value deliberation workshop

For open group deliberation up to 10 persons per group

How to understand the role of values in deliberation processes

Process description for facilitator

		Who is..	Who needs to be	
		Responsible	**Counsulted**	**Informed**
time	A. Preparatory phase			
	Define workshop purpose: checklist			
	With whom is the workshop organised (hosting party)?	Moderator	Hosting party	
	What is the purpose of the workshop? (e.g. Demonstrating the method, deliberation about topic x)	Moderator	Hosting party	
	Who are the participants? Why are they participants?	Hosting party		
	How many participants will there be?	Hosting party		
	Choice of case:			
	Find case together with hosting party or suggest a case to deliberate on. Make sure the case fits the purpose: problem with numerous solutons/scenarios but where	Facilitator	Hosting party	
	Ask hosting party for documentation to be able to have some understanding of the content that the participants will deliberate on. Hosting party will also prepare a brief (5 minutes) presentation to introduce topic during the workshop. Also solutions or scenarios that will be	Facilitator, hosting party	Hosting party	
	Share preparations with hosting party, adjust where	Facilitator, ho	Hosting party	
	Pracical preparations			
	Invite participants	Hosting party		
	Arrange a room for two hours (or for how long you think	Hosting party		
	Prepare the workshop by making sure all expectations of the workshop are aligned	Facilitator		Hosting Party
	Make sure there is: For each group the poster with the process post-its in 4 colors, three post-its per color per person, a white board, window, or table to stick the post-it on, Markers to write on the poster	Facilitator		
	B. Workshop			
	(0,5 to 2 hours, depending on purpose, who are participants, availability of participants)			
	Start of the workshop			
00-05	Introduce yourself: deliberate on values in deliberation processes can increase mutual understanding of the	Facilitator		
	Describe collaboration with hosting party shortly: reason for collaboration	Facilitator		
515	Case introduction (by hosting party)	Hosting party		
	Deliberation phase			

Figure A.1: Value deliberation script - page 1

	Following the introduction from the hosting party, the facilitator takes over and briefly repeats the prepared solutions or scenarios, and suggests the option 'do nothing', since this is often the most realistic scenario.	Facilitator		
15-25	Ask participants to write down additional solutions on post-its. Post-its are put on whiteboard to show all	Facilitator		
25-30	Read all the solutions out loud once they are collected and make, together with the group, a selection of the four to five solutions that will be discussed.	Facilitator		
30-40	Ask participants to write down arguments for or against the solutions/scenarios. Post-its are put on poster to show all arguments linked to the solutions/scenarios.	Facilitator		
	Read all the arguments out loud once they are collected to give the group an idea of what the attitudes in the group are towards the solutions.	Facilitator		
45-50	Ask participants to rank all the solutions/scenarios on the 'first round ranking' paper or sticky-note. The moderator can use the calculator from the toolbox to see how they	Facilitator		
	Ranking is read out loud	Facilitator		
50-60	Ask participants to write down the values that they consider important per solution/scenario and ask them to stick them on the poster.	Facilitator		
60-80	Values discussion: read out loud the values of one solution/scenario, ask if one of those values are suprising, or if participants want to discuss one of the values. If not, pick one your self and ask who has written that down, why did you write this value down? Do others agree? Why (not)? And so on for the rest of the solutions Make	Facilitator		
80-85	Ask participants to rank solutions again on the second	Facilitator		
	Write down the ranking in the calculator, to see if there are differences per participant, and to see if this changes the overall outcome. If there are changes: monitor changes, and ask for explanation for changes.	Facilitator		
90-100	Discuss eventual changes,	Facilitator		
100-110	Discuss what the participants think of making values explicit like this (and take notes of the discussion): does 'making values explicit' make you perceive the alternatives arguments in a broader scope? What do you	Facilitator		
110-115	Ask participants to fill out survey	Facilitator		
	Wrap up session			
	Discuss: what did we learn?	Facilitator		
	Take notes on ranking behavior, this is what happens when participants see alternatives in early stage of	Facilitator		
	Take photo's of the poster to collect the data	Facilitator		
	C. After the session	Facilitator		
	Write and send report of the workshop	Facilitator		Hosting party, participant

Figure A.2: Value deliberation script - page 2

ure A.3), ranking forms, and an Excel sheet to easily sum the rankings. In figure A.4, a screenshot of the webpage is depicted.

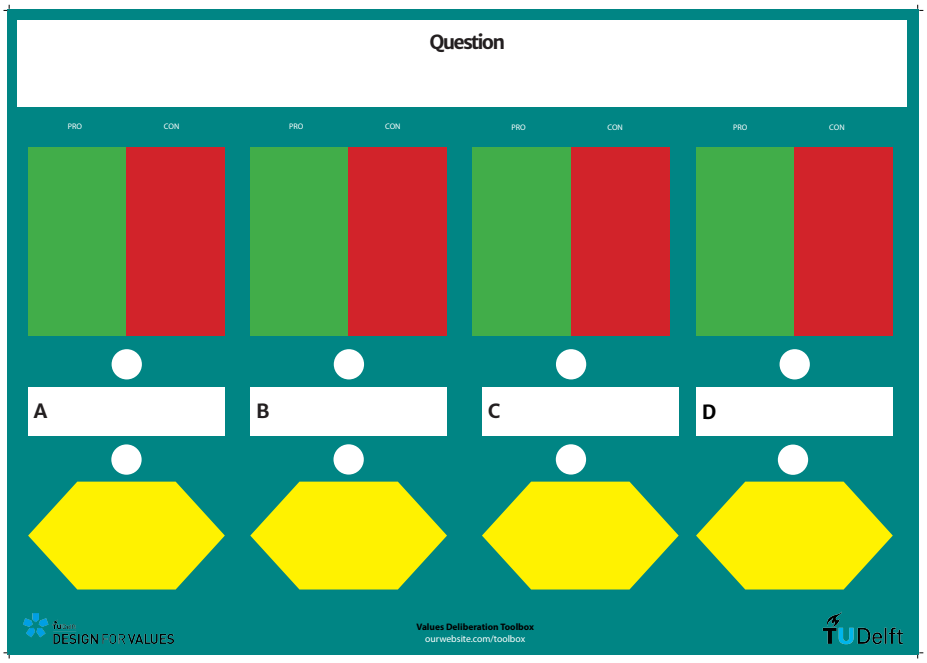


Figure A.3: Poster to guide the value deliberation process

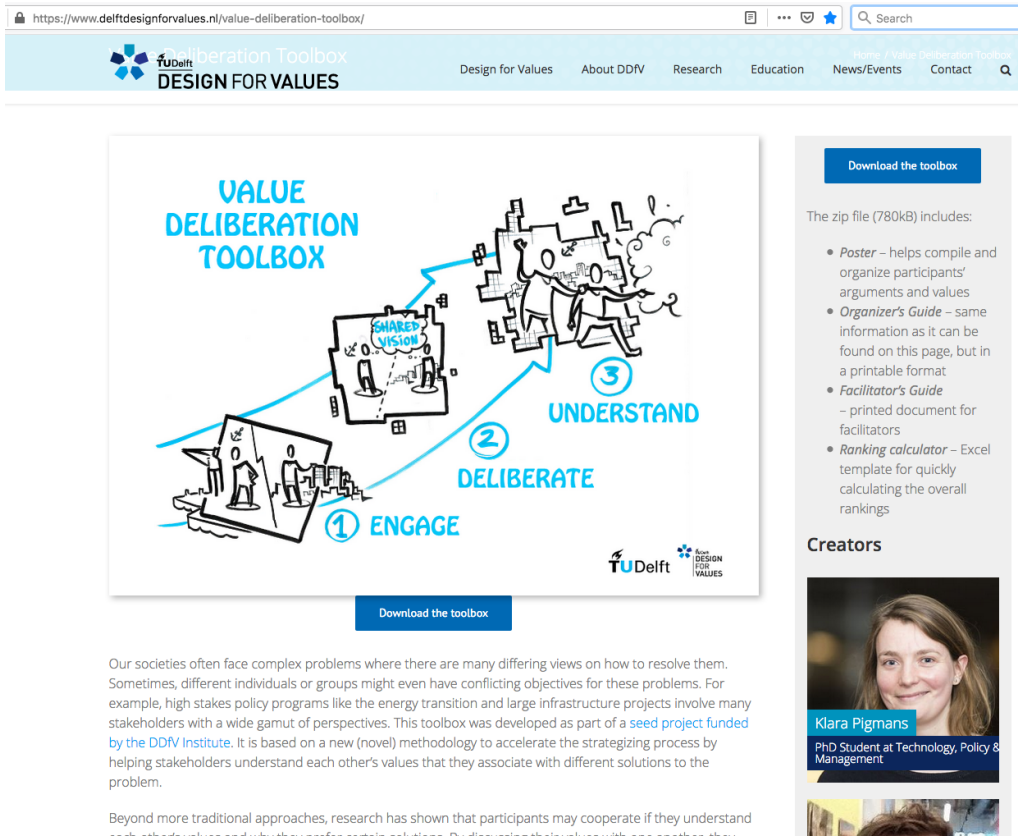


Figure A.4: Screenshot Value deliberation toolbox

Appendix B

Two pilots

B.1 Survey

The survey as distributed at the end of the workshops. Since both workshops were held in Dutch, the original survey was also composed in Dutch. This is the English translation.

Process

1. Can you describe what you think of the process?
2. Did you think the process was clear?
3. Did you think the process was useful?
4. Did your ideas change after discussing the values? Can you explain why (or why not)?
5. Did the process teach you something new? Give different insights?

Role in the process

1. What is your job title?
2. What is your experience with the topic on a scale from 1 to 7, where 1 stands for no experience at all, and 7 for a lot of experience?
3. Do you have a direct stake in the final decision that will be made?

B.2 Outcomes workshop 1

Outcomes ranking per participant for workshop 1: ranking 1 – ranking 2

1. CDBAE – CBADE
2. CDBAE – CBADE
3. CDBAE – CDEAB
4. CABED – CBADE
5. CBAED – BCAED
6. CBAED – CBADE

The overview of alternatives, arguments and values of workshop 1 are listed in Table B.1. Arguments and values are written down in a random order. The values that were discussed are marked in bold.

The values that were mentioned as overarching, not related to one specific alternative are: agriculture, economy, solidarity, **safety**, ease, democratic values, we are a knowledge economy, making money with agriculture is so last century, agricultural economics, local assignment, national assignment, **intragenerational justice**, **intergenerational justice**, future resistance, the pollutant pays.

B.3 Outcomes workshop 2

Outcomes ranking per participant for Workshop 2: ranking 1 – ranking 2

1. AFBECD – CEFABD
2. ACBDFE – CEDABF
3. DBFCEA – DCEFBA
4. ADCBFE – DACBFE
5. FCABED – FCABED
6. ADCBEF – DACFBE
7. ACDBEF – DCBAEF
8. ACFEDB – AEBCFD
9. ACDBEF – DECABF

Alternative	Arguments Pro	Arguments Con	Values
A: Under water drainage	Conserve the peat field as long as it is Conservation of the functions Acceptance by farmers	Is only delaying, without any vision on future of cattle farming No future-proof, sustainable solution Expensive	Stimulates economy Social value **Cultural history** **Individual governance** Autonomy of farmers
B: Level fixation	Slows down subsidence and simplifies level management Clarity	Economic and spatial adaptation is needed in case of re-wetting Finite	**Safety** **Governance** Clarity Transparency
C: Transition land use	You give time to society to get used to the changes Less lock-ins Choice for the future Adjustment to situation is a sustainable solution Agricultural profit Flexible on the long term and robust for changes Quick delay in subsidence	Who is going to pay what? Who is responsible? Loss of exploitation space Subsidence is limitedly reduced Political suicide? Especially because of conservative attitudes and trivializing the problem Costs to invest and to govern Loss of agriculture and loss of landscape	New commodity (economy and culture) Nature/Ecology Solidarity **Landscape innovation and landscape disappearance** Recreation Distribution costs and benefits Climate
D: Accept that it happens	Maintaining current culture landscape Acceptable now for agriculture Use our strengths	You need cooperation from everyone, no 'secret' pumps or private drainage Continuing subsidence, damage, risks Postponing the problem Everything is solvable nowadays, make-able. So how do you sell this alternative to the inhabitants? On long term high societal costs High costs for later, ostrich approach Difficult to organise: no clear problem owner, and how do you maintain the political course on the long term?	Progressive, so not stay with the old **Cultural history** Good for Economy Cultural landscape **Bad for safety** Bad for Climate Social
E: Accelerate to end state	Economical profit is also possible towards transition Clearly working towards an end goal Conscious decision of how to deal with subsidence Faster clarity than with option D End situation becomes visible	If the peat is gone, there will be a water problem in the surroundings This will be a shock to the societal system, not everyone can keep up with that Is there already consensus on the desired end goal? Dry feet versus conservation of agricultural values Political suicide High initial costs to achieve new system CO2 emission	Bad for social cohesion Transparency Follows natural processes, minimize human intervention Nature value **Innovation**

Figure B.1: Alternatives, arguments and values of Workshop 1.

The overview of alternatives, arguments and values of workshop 2 are listed in Table B.2. Arguments and values are per alternative written down in a random order. Values that were discussed are marked in bold.

The values that were mentioned as overarching: a healthy society, future of clean and healthy environment, protect water for future generations, prevention is better than healing, awareness, sustainability, quality of life, **survival**.

Alternative	Arguments Pro	Arguments Con	Values
A: Surface water/waste water treatment plants	Waste water treatment plants are installed to purify, is therefore THE location for effect oriented approach All the water goes through the waste water treatment plant Action at the place where it comes together and where they already invest in purifying Effecting in preventing spread	Do not solve the problem of some else if they do not ask for it To circular economy Only end-of-pipe solution (Will we keep going on?) Expensive Only if health/ecology is in danger	We are a societal player, so we are part of the issue Employment opportunities Clean water for people and animals (Cost)-efficient No turning back Healthy ecology
B: Drinking water points	Relatively cheap and easy compared to other options Priority is with risks public health Humans are central	Decreases urgency to deal with spread from the source Negative effects on ecosystem are not solved What about the fish? What about the ecology? No protection of nature Is a facade, go to sleep, but the problem doesn't get solved Don't make separate purification, waste water treatment plants are suitable for this Does not solve the source of the problem, maybe extra purification near hospitals	**Safety** Human health Health Clean drinking water
C: Health Policy	List requirements for the developments of medication for companies and universities Use of medication is a societal issue and should therefore also be dealt with in this playing field What isn't in there, also doesn't need to be taken out Action at the source Prevention is best, less medication, leftovers not in toilet Less at the source is always good	It's about health Opinion is not seen as a task of the water authority Difficult and longterm trajectory, difficult to influence Clean as a base for health	A healthy future for my children **Gaia** Health and wellbeing of humans Health Prevention Nature
D: No action	What to worry about?Value of water for the next generations If there is no problem, then don't give it extra attention First more investigation, we now know too little No headaches in Rotterdam Cheap There are more important issues	The effect could be there in the long term Will accumulate, and then it might be even harder to deal with Especially when you don't know the effects, you should prevent it It's time to investigate this	**Priority** (Own) health first
E: Awareness citizens	Extra effect is health awareness	So you think that I am not living healthy Follows citizens	Awareness of the close environment Alternatives **Own responsibility**
F: Pharmaceutical industry	Fine, then have an extra fee for the medication business	Very difficult to influence, too many financial interests The constant gardener	Fairness/equality: the pollutant cleans up after itself Power Sustainable use of medication

Figure B.2: Alternatives, arguments and values of workshop 2

Appendix C

Group proximity

C.1 Calculating mean ranking and group proximity

The distance between two rankings can be measured by counting the minimum number of times that the order of two solutions has to be flipped in order to transform one ranking into another. This is known as Kendall's distance (Emond and Mason, 2002).

With the proposed value deliberation process, ties are not possible in the individual rankings, since participants have to rank each solution from most preferable to least preferable. However, ties can occur in the median ranking of a group, so a method is required that is able to work with ties. Kendall also proposed a way to extend this distance to handle rankings with ties, in which two solutions are ranked equally high. However, when Kendall's tau is used to compare the all-options-tied ranking to any other ranking, it gives $0/0$, which is not defined, as shown by Emond and Mason (2002). They further show that the median ranking for Kendall's tau changes in an undesirable way when adding an irrelevant option that all rankers agree is their last choice, and that the measure $1 - \tau$ does not satisfy the mathematical properties of a distance metric.

The Spearman correlation is a commonly used rank correlation, but it has problems when comparing rankings that have ties. For example, like Kendall's tau, the Spearman correlation is not defined when comparing the all-options-tied ranking to any other ranking.

Kemeny (1959) has an axiomatic approach to this distance measure. They state that the way we measure the distance between two rankings should be based on four conditions:

1. It must satisfy the basic mathematical requirements of a distance;

2. It should not be affected by a re-labelling of the solutions (whether we call one option A and another B, or vice versa, should not matter);

3. If two rankings agree on the solution that is most preferred, then their distance should be the same as their distance with this most-preferred solution omitted, and likewise if they agree on the solution that is least preferred. For instance, the distance between ranking A, B, C, D and ranking A, C, B, D should be equal to the distance between the rankings B, C and C, B, because A is the most preferred and D is the least preferred by both rankings.

4. The minimum positive distance is 1, so a distance cannot be between 0 and 1.

The median ranking for a group can be defined as the ranking with the smallest average distance to the rankings of the participants in the group (Emond and Mason, 2002).

Although it is not obvious which distance measure would meet all of Kemeny's requirements for rankings that may include ties, or even that such a distance exists, Kemeny and Snell show that there is one such distance (Kemeny and Snell, 1972), namely the Kemeny-Snell distance. We therefore base our calculations on the Kemeny-Snell distance to measure whether the order of preferences after the deliberation process have become more similar. The Kemeny-Snell distance can be used to calculate the proximity of an individual ranking to a median ranking.

Compared to Kendall's tau, $1 - \tau_x$ for τ_x the Kemeny-Snell correlation is a distance metric in the mathematical sense. Consequently, we may interpret the median ranking based on the Kemeny-Snell correlation as a kind of median of the group rankings, whereas no such interpretation is available for the median ranking based on Kendall's tau.

The proximity is calculated as follows. The Kemeny-Snell distance is the smallest number of half-flips that are needed to change one ranking (1) into another (2). We need this to be able to measure the proximity of an individual ranking (1) to a median ranking (2).

A half-flip makes a tie of two options that are subsequent in the ranking. For example, the ranking A, B, C, D is turned into A, B/C, D with a half-flip, where B/C indicates that there is a tie between B and C. Two half-flips are needed to take a full flip, that is, to switch

a solution one place on a ranking. For example, here we count two half-flips (arrows):

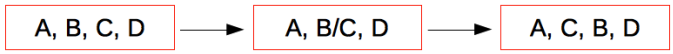


Figure C.1: Example: two half-flips

Since we are searching for correlation of the rankings in this research, the Kemeny-Snell distance is used to calculate rank correlation. The *group proximity* is the average proximity to the median ranking, and is calculated from the average rank correlation τ_x (Emond and Mason, 2002), by computing

$$1 - (x/6)$$

where x is the number of half-flips. The maximum Kemeny-Snell distance in full flips is twelve, when ranking four options, as is the case at the summit. Since correlations are defined between -1 and +1, the Kemeny-Snell distance needs to be scaled to comply with this range in order to become a correlation. Turning a distance measure into correlation is a common mathematical concept. The maximum Kemeny-Snell distance between four options is 4*(4-1)=12. So to translate the distance into a correlation, we first divide the Kemeny-Snell distance by 12, after which the distance is expressed in a figure between 0 and 1. We then multiply it by 2, to scale it to the range of 0 - 2. Then we take 1-x/6 to get a figure of between -1 and +1.

Two half-flips are equal to one full flip. If in a group each participant needs one full flip to arrive at the median ranking, the group proximity would be

$$1 - (2/6) = 0.66$$

In other words, a group proximity of 0.66 means that everyone in the group would have to flip (on average) one of their solutions to reach a median ranking. For more information on τ_x, we refer to Emond and Mason (2002).

C.2 Survey

This is the survey that was distributed at the end of the deliberation.

1. What was your group number today?
...

2. Did you think the process in the afternoon was clear (Please tick the box next to your answer)?

1. Very clear
2. Clear
3. Not clear, but also not unclear
4. Unclear
5. Very unclear

3. Did you think the process was useful (Please tick the box next to your answer)?

1. Very useful
2. Useful
3. Neutral
4. Not useful
5. Not at all useful

4. Did your ideas change after discussing the values? (Please circle your answer) ?
Yes No

5. Did you gain more understanding of the perspectives of others during the process in the afternoon (Please tick the box next to your answer)?

1. A lot more understanding
2. More understanding
3. No difference
4. Less understanding
5. Much less understanding

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Summary

This research is part of the Values4Water project, which includes TU Delft, Waterschap de Dommel, Deltares, Royal HaskoningDHV and Synmind as consortium partners.

Policymaking can involve as many perspectives as there are stakeholders. In case of complex societal policies, many interpretations of the problem are possible and often there is no optimal solution. Such problems have also been referred to as wicked problems. Stakeholders are increasingly participating in policymaking to ensure that all perspectives are considered. In a wicked problem, stakeholder perspectives can be so different that they are conflicting. So before a solution can be accepted, stakeholders need mutual understanding of each others' perspectives. This thesis uses a dialogic action research approach to explore the role of values in facilitating mutual understanding by using deliberation, not necessarily to find consensus but to allow for the exploration of stakeholder perspectives. The main research question is: *To what extent can the identification, deliberation and conceptualisation of values contribute to increasing mutual understanding during participatory policymaking processes?*.

For this, a conceptual framework is constructed that addresses the need for a common language as the starting point for stakeholder perspective exploration, the need for stakeholders to reflect on their perspectives through deliberation, and rapprochement of the stakeholders. The framework forms the theoretical basis for the design of the value deliberation method. This method is developed to facilitate the identification and deliberation of stakeholders' values to increase mutual un-

derstanding of perspectives. It was evaluated in two pilot workshops, initiated by two consortium partners of the Values4Water consortium: the Dutch water board Waterschap de Dommel and the Dutch water research institute Deltares. The pilots suggest that if stakeholders' values can be identified and discussed as part of the deliberation process, then stakeholders' preferences can change, and participants can develop a mutual understanding of each other's' values and perspectives.

Next, 61 parallel groups were facilitated in value deliberations during a citizens' summit in Rotterdam, on how to maintain social stability in the city. As part of the process, participants were asked to rank the solutions in their order of preference, before and after the value deliberations. We introduce and explore the concept of group proximity, to measure the impact that value deliberations can have. Group proximity can be calculated with a rank correlation, enabling a precise comparison of participants' preferences in each deliberative group. High group proximity indicates very similar rankings in a deliberative group, low group proximity demonstrates the opposite.

The value deliberation process has been applied to face-to-face and online settings. Earlier research has identified units of analysis to compare face-to-face and online consensus-oriented deliberations. In this thesis, these units are analysed to explore to what extent they can be used to compare exploratory deliberations. This resulted in an adjusted list with units of analysis, to compare face-to-face and online value deliberations. The largest differences are the accessibility for the participants, being concise versus abundant when giving input, and the involvement of participants once the deliberation has started.

In addition, it was explored to what extent the conceptualisation of earlier identified values can contribute to shared agenda-setting. A four-week online value deliberation on the energy transition in port cities, prepared the Port City Futures initiative for the formulation of a shared research agenda. To conceptualise these values, the stakeholders participated in six parallel groups, each representing a port city. The groups formulated operational goals, motivations, responsibilities and time-lines to address the earlier identified values. The varieties in conceptualising a particular value demonstrated both differences and similarities in different geographical and political contexts, which contributed to the development of a shared agenda.

The thesis concludes that identifying relevant values can contribute

to the formulation of a common language and can contribute to an increase in mutual understanding among stakeholders. Also, the value deliberation method makes it possible to measure group proximity in different settings. Further, the value deliberation process can provide a stage for diverse view points by facilitating the exploration of perspectives. Finally, formulating measurable goals and responsibilities about how to address a value can stimulate the explicit consideration of values in a policy agenda.

Samenvatting

Dit onderzoek is maakt deel uit van het Values4Waterproject, waarin TU Delft, Waterschap de Dommel, Deltares, Royal HaskoningDHV and Synmind consortiumpartners zijn.

Bij het ontwikkelen van beleid kan iedere belanghebbende een eigen perspectief op het probleem hebben. Als het om complex maatschappelijk beleid gaat, zijn vele interpretaties van het probleem mogelijk en vaak is er geen optimale oplossing voor handen. Zulke problemen worden ook wel 'wicked problems' (gemene problemen) genoemd. Belanghebbenden participeren in toenemende mate in beleidsontwikkeling om te waarborgen dat alle perspectieven worden overwogen. In een wicked problem kunnen de perspectieven van belanghebbenden zo verschillende zijn dat ze met elkaar in conflict zijn. Daarom is het belangrijk dat belanghebbenden wederzijds begrip van elkaars perspectief hebben, voordat een oplossing geaccepteerd kan worden. Dit proefschrift maakt gebruik van de *dialogic action research approach* om de rol van waarden te onderzoeken in het faciliteren van wederzijds begrip door deliberaties in te zetten, niet noodzakelijkerwijs om consensus te vinden, maar vooral om de verkenning van de perspectieven van belanghebbenden mogelijk te maken. De hoofdonderzoeksvraag is: *In hoeverre kan de identificatie, deliberatie en conceptualisatie van waarden bijdragen aan een toename van wederzijds begrip tijdens participatieve beleidsprocessen?*.

Hiervoor is een conceptueel raamwerk opgezet, dat de behoefte aan een gemeenschappelijke taal als uitgangspunt gebruikt voor het verkennen van de perspectieven van de belanghebbenden, evenals de be-

hoefte voor belanghebbenden om op hun perspectieven te reflecteren door middel van deliberatie, en de toenadering van belanghebbenden. Het raamwerk vormt de theoretische basis voor het ontwerp van de waardendeliberatiemethode. Deze methode is ontwikkeld om de identificatie en deliberatie te faciliteren van de waarden van de belanghebbenden, om wederzijds begrip van de perspectieven te vergroten. Dit is geëvalueerd in twee pilot workshops, geïnitieerd door twee consortiumpartners van het Values4Water consortium: Waterschap de Dommel en het wateronderzoeksinstituut Deltares. De pilots suggereren dat als de waarden van belanghebbenden kunnen worden geïdentificeerd en besproken als deel van het deliberatieproces, dat dit de voorkeuren van de belanghebbenden kan veranderen, en dat deelnemers wederzijds begrip van elkaars waarden en perspectieven kunnen ontwikkelen.

Vervolgens zijn 61 parallelle groepen gefaciliteerd in waardendeliberaties tijdens een burgertop in Rotterdam, over hoe de vrede te bewaren in de stad. Tijdens het proces werden deelnemers gevraagd om oplossingen in hun volgorde van voorkeur te zetten, zowel voor als na de waardedeliberatie. We introduceren en onderzoeken het concept group proximity (groepsnabijheid), om de impact te meten die de waardedeliberaties kunnen hebben. Group proximity kan worden berekend met een rankcorrelatie, wat het mogelijk maakt om een precieze vergelijking te maken van de voorkeuren van deelnemers in iedere deliberatiegroep. Hoge group proximity is een indicatie voor erg gelijke ranking in een deliberatiegroep, lage group proximity demonstreert het tegenovergestelde.

Het waardedeliberatieproces is toegepast op rechtstreekse en online settingen. Eerder onderzoek heeft analyse-eenheden geïdentificeerd om rechtstreekse en online consensus-georiënteerde deliberaties te vergelijken. In dit onderzoek worden deze eenheden geanalyseerd om te onderzoeken in welke mate deze gebruikt kunnen worden om verkennende deliberaties te vergelijken. Dit resulteerde in een aangepaste lijst met analyse-eenheden om rechtstreekse en online waardedeliberaties te vergelijken. Bij het vergelijken van twee cases, bleken de grootste verschillen de toegankelijkheid voor deelnemers te zijn, beknopte versus uitgebreide bijdragen, en de betrokkenheid van deelnemers vanaf het moment dat de deliberatie begonnen was.

Voorts is onderzocht in welke mate de conceptualisering van eerder geïdentificeerde waarden bij kan dragen aan gedeelde agendaontwik-

keling. Een vierweekse online waardedeliberatie over de energietransitie in havensteden was de voorbereiding voor het Port City Futures Initiative voor de formulering van een gedeelde onderzoeksagenda. Om deze waarden te conceptualiseren, namen de belanghebbenden deel in zes parallelle groepen, die ieder een havenstand representeerde. De groepen formuleerden operationele doelen, motivaties en verantwoordelijkheden om de eerder geïdentificeerde waarden concreet te maken. De variaties in de conceptualisatie van een specifieke waarde lieten zowel de verschillen als de overeenkomsten in geografische en politieke contexten zien, wat bijdroeg aan de ontwikkeling van een gedeelde agenda.

Het onderzoek concludeert dat het identificeren van relevante waarden kan bijdragen aan de formulering van een gemeenschappelijke taal, en kan bijdragen aan een toename van wederzijds begrip onder belanghebbenden. Daarnaast maakt de waardedeliberatiemethode het mogelijk om group proximity te meten in verschillende settingen. Ook kan het waardedeliberatieproces de ruimte bieden aan diverse standpunten door de verkenning van perspectieven te faciliteren. Tenslotte kan het formuleren van meetbare doelen en verantwoordelijkheden om een waarde concreter te maken, een stimulans zijn om waarden expliciet onderdeel te maken van een beleidsagenda.

CV

Klara Pigmans was born on 22 June 1983 in Breda, The Netherlands. In 2002, she received her high school degree from Stedelijk gymnasium Breda. She has a bachelor's degree in Information Science (2006) and a master's degree in Business Informatics (2009). For her master's graduation, she worked at Royal HaskoningDHV as an intern, writing the thesis titled 'The development of knowledge governance in project-based organizations'. Later, she was employed at the International Institute for Communication and Development (IICD) in The Hague.

The focus of interest during her PhD research was on the role of values in participatory policymaking processes or wicked problems. Her research explores the use of value deliberations to facilitate mutual understanding among stakeholders, whether this is face-to-face or online.

Since finishing her PhD research, Klara has been hired by the Alliance on AI (ALLAI) to work as a consultant for UNICEF to develop UNICEF's global policy guidelines and recommendations for Children and AI.

List of publications

- Pigmans, K., Dignum, V., and Doorn, N. (2019) Group proximity and mutual understanding: Measuring onsite impact of a citizens' summit. *Journal of Public Policy*, p1-23. doi: 10.1017/S0143814X19000230
- Pigmans, K., Aldewereld, H., Doorn, N. and Dignum, V. (2019) The role of value deliberation to improve stakeholder participation in issues of water governance. *Water resources management*, 3, p4067–4085
- Pigmans, K., Aldewereld, H., Dignum, V. and Doorn, N. (2017) The role of values. In: *Coordination, Organisations, Institutions and Norms in Agent Systems XII*, Springer, 2017, 139-148
- Pigmans, K., Doorn, N., Aldewereld, H. and Dignum, V. (2017) Decision-Making in Water Governance: from Conflicting Interests to Shared Values. In: *Responsible innovation 3: A European Agenda?* Asveld, L., van Dam-Mieras, R., Swierstra, T., Lavrijssen, S., Linse, K. and Van den Hoven, J. (Eds.), Springer
- Pigmans, K., H. Aldewereld, N. Doorn, and V. Dignum (2016), 'The Role of Values'. BNAIC 2016, *Proceedings of the 28th Benelux Conference on Artificial Intelligence*. November 10 – 11, 2016. Amsterdam, The Netherlands: pp. 178-179.
- Contribution to the general publication on the results of the G1000 meeting in Rotterdam "De Staat van Rotterdam", compiled by collaborative partner Stichting Lokaal Rotterdam.

Presentations

- Pigmans, K. Value deliberations to create a common language for policymaking. Invited speaker for the Lorentz Center Workshop 'Exploring the Role of Values in RRI for Energy Systems' January 2019, Leiden, The Netherlands
- Pigmans, K., Bieger, J., Dignum, V. Introduction to the value deliberation process and Port-city-region values, Port City Futures conference, 19 December, 2018, Rotterdam, The Netherlands.

- Pigmans, K. Public presentation of results from G1000 project, 11 October 2017, Rotterdam, the Netherlands.
- Pigmans, K. The role of values in complex decision-making processes, 20 March, 2017, Bi-weekly colloquium of the ICT section, TPM faculty at TU Delft, the Netherlands.
- Pigmans, K., H. Aldewereld, N. Doorn, and V. Dignum, 'The Role of Values'. BNAIC 2016, Poster presentation. November 10, 2016. Amsterdam, The Netherlands.
- Pigmans, K., H. Aldewereld, N. Doorn, and V. Dignum, 'The Role of Values'. ECAI 2016, 30 August 2016. The Hague, The Netherlands.
- Pigmans, K. Designing multi-stakeholder decision-making processes that are both socially accepted and morally acceptable, Invited talk at Monthly seminar, 27 January 2016, Department of Social Studies, Linnaeus University, Sweden.

Grants

- 2019: Erasmus+ Mobility grant. Covering travel costs for the four-day course 'Advanced leadership' at Politecnico di Milano, Italy.
- 2018: DDFV Seed fund. Joint proposal together with Tino Mager. We received 7000,- euro to hire two research assistants during five months to support the development of the value deliberation toolbox
- 2015: Values4Water. (Not a formal applicant). Part of the Responsible innovation program of NWO.

Extra curricular activity

- 2015-2017: Setting up and maintaining a network for early stage academics, in collaboration with the Royal academy of sciences (KNAW) and the Hendrik Muller fonds. Organizing a yearly event at the Royal academy where participants discuss a general research topic (e.g. academic freedom, diversity), with both an established researcher and a member of the Royal Acedemy of Arts who both reflect their views on the topic.