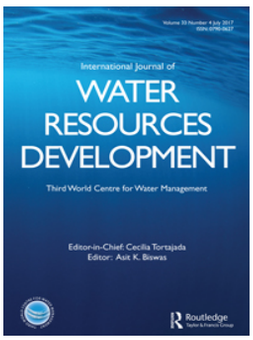

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From implementation towards maintenance: sustaining collaborative initiatives for integrated floodplain management in the Netherlands

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ABSTRACT

Collaborative governance has been introduced in the planning and implementation phases of river management, but has not yet reached the maintenance phase. In anticipation of this, this article explores how stakeholders shape collaborative initiatives aimed at maintaining multifunctional floodplains by analyzing their framing of collaboration objectives and membership structures. The case study shows that participants envisioned a shared governance structure, while no consensus was attained on the underlying collaborative objectives. Moreover, the envisioned structure revealed a tendency towards separation instead of integration, because participants abandoned the idea of public–private collaboration, which had previously been adopted in the planning and implementation phases.

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Collaborative governance; floodplain management; framing; multi-stakeholder platforms; Room for the River approach; Netherlands

Introduction

Over the last 20 years, an increasing number of collaborative and integrated approaches have been introduced in the management of natural resources, especially in river management (Hardy & Koontz, 2009; Huntjens, Pahl-Wostl, & Grin, 2010; Leuven, Smits, & Nienhuis, 2000; Lockwood, Davidson, Curtis, Stratford, & Griffith, 2010; Margerum & Whitall, 2004). The diversity of river functions, such as flood safety, nature restoration and other potentially conflicting land uses (i.e. recreational and agricultural functions), as well as the introduction of diverse stakeholders to manage the rivers, has led to a need for an integrative approach in river management. In this context, a number of researchers have identified a shift from hierarchical and highly institutionalized forms of government towards a more collaborative approach between public, private and societal actors: 'collaborative governance' (Ansell & Gash, 2008; van Buuren, Klijn, & Edelenbos, 2012; Emerson, Nabatchi, & Balogh, 2012; Meijerink & Huitema, 2014). The collaborative planning and implementation processes led to a shift from the former one-dimensional agricultural function towards multifunctional floodplains that combine flood protection, nature restoration, the mining of sand and clay, and recreation and agricultural uses (Pahl-Wostl, 2006). Additionally, these collaborative

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approaches led to the creation of multi-stakeholder platforms, such as river basin organizations, collaborative watershed partnerships, and 'collaborative superagencies' (Jaspers & Gupta, 2014; Pratt Miles, 2013; Sabatier et al., 2005).

In the Netherlands, these integrated approaches are reflected in national and wide-ranging planning and implementation programmes for Dutch rivers known as Room for the River and the Delta Programme, a medium and long-term strategy (2050–2100 – Rijke, van Herk, Zevenbergen, & Ashley, 2012). These programmes promote the widening and lowering of floodplains and the relocation of dikes, in combination with nature restoration and the strengthening of cultural and historical aspects through the discourse of living with water rather than fighting it. These integrated and collaborative approaches are also implemented elsewhere. For example, in Oregon, in the United States, stakeholders integrate flood protection, hydropower and nature restoration (Margerum, 2013). In England, the strategic programme Making Space for Water was launched in 2005 to integrate flood defence and riverine ecology goals (Potter, 2013).

While Koontz and Newig (2014) have observed a transition from planning to implementation in collaborative watershed management in Germany and the United States, in the Netherlands, a shift from implementation towards maintenance is occurring. The Dutch Room for the River programme should have reached its final stage at the end of 2015, but it has been extended till 2017, when the maintenance phase will be initiated. The planning and implementation phases led to land-use changes, while the maintenance phase addresses tasks such as monitoring, developing ecological infrastructure and the coordination of maintenance activities (e.g. mowing management, cutting of forested areas, grazing management). However, this latter phase will occur in the context of declining state budgets and long-term collaborative processes that often exceed the usual standard government term of four years. Another challenging condition occurs as a result of fragmented maintenance activities and policies, and actor configuration that is changing towards the local scale (Fliervoet, Van den Born, Smits, & Knippenberg, 2013). Reaching a common maintenance strategy is obstructed by narrow and conflicting policy objectives, especially those relating to flood protection and nature conservation goals (the so called nature-safety dilemma – Wiering & Van de Bilt, 2006). These challenges highlight the need for collaborative approaches in the maintenance phase, a requirement which is also acknowledged by stakeholders (Fliervoet et al., 2013).

While collaborative and integrated approaches are incorporated in the planning and implementation phases of Dutch river management, they do not, as yet, form part of the maintenance phase. Sustaining and developing collaborative initiatives is indispensable in this new phase. According to Gray (2004), it is essential to specify clearly agreed objectives to sustain a collaborative process. Moreover, Robinson, Margerum, Koontz, Moseley, and Lurie (2011) and Margerum (2011) conclude that more research is needed to understand how agreements between public and private actors, especially on sustaining collaborative initiatives, are enhanced or blocked. A case study is used to analyze discussions of the objectives and membership structures of collaborative initiatives that aim to realize integrated floodplain management. *Floodplain management* refers to the maintenance of multifunctional floodplains, including tasks such as monitoring and coordination of multiple management activities and functions in the floodplains. In 2011, a Floodplain Management Task Force was established, consisting of public and private organizations, with the objective of constructing and redefining the objectives of floodplain management. The task force originated from a planning and implementation programme named WaalWeelde (Wealthy Waal).

This provincial and multi-actor programme, strongly connected to the national Room for the River programme, aimed to develop a safer, more natural and economically stronger riverine landscape along the River Waal (Smits, 2009). To understand how the stakeholders framed the collaborative initiatives for maintaining floodplains after a shared planning and implementation process, both their objectives and the discussed membership structures were analyzed in an interactive setting. The following research question was applied to guide the analysis: How do diverse stakeholders frame common floodplain management objectives and the associated collaborative membership structures? This research question is explored using a qualitative approach based on an analysis of video and audio recordings, the minutes of meetings, and participant observation of members of the task force and the WaalWeelde programme during meetings.

Background

Before analyzing the collaborative objectives and discussed membership structures, the context and historical background of the collaborative processes is addressed. This highlights the organizational histories of the involved stakeholders, which have an important influence on the development and impacts of the collaboration (Watson, 2015a). Moreover, framing theory is used to identify how stakeholders construct meaning, and how the different frames play a role in finding common ground (or not). In this article, the terms *collaboration* and *collaborative* refer to any situation in which actors work across organizational boundaries to maintain floodplains (Huxham, Vangen, & Eden, 2000).

Historical context of the WaalWeelde programme

In the Netherlands, the Room for the River approach was triggered by two antecedents: the near-floods of 1993 and 1995; and the so-called Plan Stork (De Bruin et al., 1987), which focused on restoring dynamic natural processes to the floodplains. The near-floods had a huge influence on the traditional approach of the water managers; the philosophy of building higher dikes was replaced by one that gave more room to the river. Plan Stork showed how natural processes could be restored while respecting flood protection objectives. The idea of Room for the River started as a top-down solution, which initiated conflicts between governmental organizations and society. For example, in the Dutch village of Lent, the state's policy of dike relocation led to many citizens voicing reservations and considerable frustration about what was perceived as a drastic measure (Cuppen & Winnubst, 2008).

Analysis of such examples led the scientific community to realize that early involvement of diverse stakeholders, especially societal actors, could increase trust in decisions and avoid later frustration (Reed, 2008; Warner, 2006). Therefore, in 2006, Radboud University established the WaalWeelde programme in the Netherlands. The programme reconciled the Room for the River perspective with bottom-up and multi-stakeholder approaches to realize integrated river management in the planning and implementation phase. The WaalWeelde programme focused on the floodplain area of the River Waal, which is the main branch of the River Rhine in the Netherlands. The area covers a river stretch of 80 km or 152 km^2, which includes the territorial boundaries of one provincial government and 15 municipalities.

The programme identified stakeholders based on their position and role in the decision process (De Groot & Warner, 2011), which resulted in collaboration between directors of the

main authorities (i.e. the provincial government, the national water authority and the water board), public officers (including those representing knowledge institutes), businesses and representatives of citizen platforms. Multi-stakeholder processes were organized based on these four stakeholder groups, and supported by tools, such as digital map tables. These public–private collaborations resulted in integrated projects, such as the Stadswaard near the city of Nijmegen, where flood protection levels are increased, while riverine nature and recreational and educational activities in the floodplains are enhanced. Finally, the projects and ambitions of the various stakeholders were reconciled in a clear and shared vision called WaalWeelde (Willems, 2009). The aim of this vision was to develop a safer, more natural and economically stronger riverine landscape, i.e. multifunctional floodplains, along the River Waal (Figure 1). In 2008 this vision and programme was adopted by the provincial government to support and further develop the participation processes during the planning and implementation phases, but also to ensure that the plans would become reality.

Components of the collaborative process

The historical context shows the involvement of public, private and societal actors in a highly collaborative process that occurred during the planning and implementation phases. However, maintenance strategies and methods for sustaining membership structures were not discussed in this phase (Fliervoet et al., 2013). Figure 1 shows that the collaborative process moved into the phase of monitoring and controlling designed and implemented measures to address declining maintenance budgets, to tune diverse maintenance activities and to reconcile conflicting maintenance policies (flood protection versus nature objectives). In the Netherlands, collaborative maintenance may be seen as a challenging task when it is considered that the land is divided amongst 15,000 different landowners.

The literature indicates that collaborative processes are often characterized by complex, dynamic and non-linear interactions between diverse components, such as trust building, shared understanding, etc. (Ansell & Gash, 2008). The conceptual process was simplified by Selin and Chevez (1995) and further elaborated on by Watson (2015b), leading to the definition of five components that emerged from the examination of collaborative initiatives

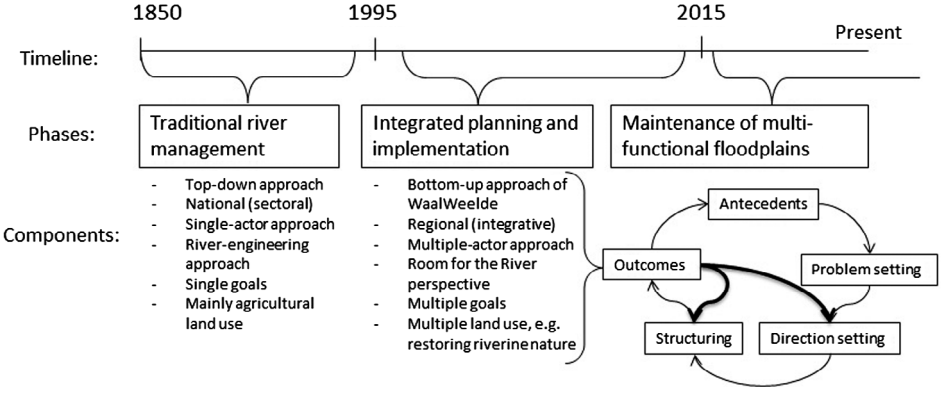

Figure 1. Simplified historical time line of river management in the Netherlands and its related components, such as the five components of a collaborative process, based on Selin and Chavez (1995). Bold arrows represent the return to the direction-setting and structuring phases of the collaborative process.

on natural resource management. Collaborative processes may be characterized by the following components, which are encountered sequentially: antecedents (starting conditions); problem setting; direction setting; structuring; and outcomes (see also Figure 1). The integrated planning and implementation approach followed the five phases of the collaborative process, which resulted in the implementation of multifunctional floodplains. So, although broadly the same organizations involved in the implementation phase are also involved in the maintenance phase, the direction setting and structuring phases had to be revisited because they did not elaborate on the issues of floodplain maintenance up until this point (bold arrows, Figure 1). This is not surprising, as studies emphasize the importance of feedback loops and the cyclic nature of collaboration (Ansell & Gash, 2008; Selin & Chevez, 1995; Weber, 2003).

Challenges: reconfiguration of actors and variety of membership structures

Understanding stakeholders' objectives and roles in collaborative initiatives is important for a common maintenance vision, which is necessary for effective collaboration (Hardy, Lawrence, & Grant, 2005). Establishing a formal collaborative structure offers the opportunity to solve problems regarding the maintenance of floodplains that are rooted in fragmentation that occurs due to the diverse actors, properties and policies involved. In other words, formal institutional change, such as the introduction of nested enterprise, is needed to overcome fragmentation (Ostrom, 1990). Discussing collaboration raises issues of *who* is engaged and *how* they are involved in a membership structure (Huxham & Vangen, 2000). In this article a *membership structure* refers to a structure of collaboration between two or more organizations, excluding collaboration within an organization, to maintain floodplains.

The shift towards the maintenance phase adds new geographical interests to the collaborative process, as maintenance activities often take place on a local scale and include all floodplain areas, even in areas where no initial management interventions were carried out. The addition of other local nature conservation organizations, landowners and farmers, who combine agricultural activities with nature management on their property, results in the emergence of a new actor configuration.

The second challenge is related to the variety of membership structures and the stakeholders' framing of how they want to collaborate. In 2008, five possible approaches to membership structures for integrated river management in the Netherlands were elaborated on by Vreugdenhil, Slinger, Smits, and Kater (2008), p. 3: maintain the existing institutions but adapt the working method; expand the water boards; participate in a project bureau that cooperates with landowners; develop a floodplain stewardship council; and create a new regional government. Besides these new formal governance approaches, studies show the importance of informal networks or shadow networks to drive innovation and learning and to tackle maintenance issues (e.g. Olsson et al., 2006). The research of Vreugdenhil et al. (2008) indicates that approaches using a project bureau or a floodplain stewardship council are more promising from a maintenance point of view. In 2011, Fliervoet et al. (2013) interviewed stakeholders regarding their willingness to contribute to the initiation of a floodplain stewardship council, a financially independent floodplain organization that includes public and private stakeholders. The results highlighted resistance in the form of a number of perceived constraints, voiced especially by governmental organizations that feared the creation of an additional level of administration. Moreover, governmental organizations argued

that too many organizations with conflicting stakes existed, making collaboration within a stewardship council too complex.

Theory of framing

To understand how stakeholders construct the meaning of collaborative objectives and structures, different perceptions, opinions and stakeholder frames of reference need to be analyzed (Emerson et al., 2012; Gray, 2004; Selin, Schuett, & Carr, 2000; Termeer, 2009). The research presented here uses the theory of framing developed in the domain of multi-actor collaboration (Dewulf, Mancero, Cardenas, & Sucozhanay, 2011; Gray, 1989; Hardy et al., 2005). Framing theories are "generally focused on studying the various ways in which people strategically make sense of reality and how they add meaning to ambiguous and complex situations" (van den Brink, 2009, p. 35). Different underlying visions and identities in collaborative processes often prevent stakeholders from finding common ground (Gray, 2004) and can form an obstacle to shared understanding. Fragmented frames can also evolve into a prolonged conflict regarding what the problem or issue is really about (Schön & Rein, 1994), with the risk of delaying effective decision making. It is rarely the case that consensus on collective action is achieved through a process of divergent reframing, but Emery, Perks, and Bracken (2013) showed that it is possible if participants reframed the problem according to their own prior values in an environmental case.

Methodology

The fragmentation of floodplain management in the Netherlands is reflected in the present case study, the floodplains of the River Waal. The study area – WaalWeelde programme – includes a diverse group of governmental and nongovernmental actors, when focusing on the maintenance of floodplains (Table 1). The Rijkswaterstaat (Directorate for Public Works and Water Management) and the water boards are the authorities responsible for flood protection. The Rijkswaterstaat is responsible for the river, and is allowed to regulate all activities in the floodplains that influence water quality and quantity. The water boards are mandated to maintain the levees and dikes. In 2014, the Dutch Ministry of Economic Affairs devolved responsibilities for the development and maintenance of nature areas to the provincial governments. The provincial governments' plan was to implement and protect European Natura 2000 objectives, such as hard and softwood forest in the floodplains, based on relevant European legislation, and allocate subsidies to third parties for nature conservation. The municipalities maintain the recreational infrastructure in the floodplains, such as the roads, hiking trails and benches.

The group of nongovernmental organizations with an interest in maintenance activities in the floodplains includes nature conservation organizations, farmers, landowners, citizen platforms, and sand, gravel and clay mining industries (Table 1). Farmers are interested in nature conservation, as management practices (e.g. habitat provision for wetland birds) qualify them for nature subsidies. This interest has led to the establishment of farmer associations with the goal of combining nature conservation and agricultural activities.

Table 1. Characteristics of the actors involved in the maintenance of floodplains.

Actor	Organizational aim or responsibility	Governmental or nongovernmental organization	Landowner
Rijkswaterstaat (Directorate for Public Works and Water Management)	Manages all activities in the floodplains that influence water quality and quantity (flood protection) on a national scale.	Governmental	YES
Ministry of Economic Affairs	Responsible for national agriculture and nature policies	Governmental	YES
Provincial government	Responsible for nature conservation goals, including the implementation of the European Natura 2000 objectives on the provincial scale	Governmental	NO
Water Board	Responsible for dikes and levees (flood protection)	Governmental	Owner of dikes and levees
Delta Programme	A medium- and long-term strategy (2050-2100) to keep the Netherlands flood- and drought-free in the face of extreme climate change scenarios	Governmental	NO
Municipality	Responsible for local spatial planning: regional development through balancing economy, nature, recreation and flood protection.	Governmental	Owner of floodplain infrastructure, e.g. cycling and hiking trails
State Forestry Service	National nature conservation	Governmental	YES
Nature conservation organizations	Nature conservation, sometimes in combination with the conservation of cultural heritage	Nongovernmental	Some do, others do not
Agricultural Nature Association	Combining agricultural activities with nature conservation	Nongovernmental	NO
Sand, gravel and clay mining industries	Making profit and generating a long-term perspective for the extraction of sand, gravel and clay from floodplains	Nongovernmental	YES
Farmers and other landowners (e.g. camping sites)	Farming or other local business	Nongovernmental	YES, but farmers often rent areas on floodplains for cattle or crop farming
Citizen platforms	Provision of attractive and accessible riverine landscape for recreation (e.g. bike and hiking trails)	Nongovernmental	NO

Data sources and data gathering

Data collection involved participant observation and the analysis of video and audio recordings, meeting minutes, and documents over the period of June 2011 to January 2014 (Table 2). To understand how stakeholders construct the meaning of collaborative objectives and structures in an interactive setting, two events were used for the collection of primary data: an exploratory workshop in June 2011; and the task force writing session, Stewardship Floodplain Management, in June 2013. Both workshops were key events for the development of the final report of the task force. During the study period, all workshops and meetings were organized by Radboud University and an independent mediator who chaired all events and discussions.

The first recording was made during an exploratory workshop, where 29 participants discussed questions such as "What is integrated floodplain management?" and "How can we collaborate to realize integrated floodplain management?" The workshop was used to identify problems concerning maintenance objectives, organizational structures and financial resources. This workshop initiated the establishment, in 2011, of the Floodplain

Table 2. Chronological overview of events.

Date	Events	Dates and themes
June 2011	Explorative workshop, Integrated Floodplain Management†	Video recording of the discussion (29 participants) on 24 June; minutes
October 2011	Task force meeting 1	Minutes, formulating objectives of task force
December 2011	Task force meeting 2	Minutes, serious gaming
March 2012	Task force meeting 3	Minutes, formulation of pilots
April 2012	Task force meeting 4	Minutes, proposal dashboard floodplain management
May 2012	Task force meeting 5	Minutes, progress of task force objectives
June 2012	Task force meeting 6	Minutes, Rijnwaarden pilot proposal
September 2012	Task force meeting 7	Minutes, table of contents for report, *Integrated Floodplain Management*
October 2012	Task force meeting 8	Minutes, floodplains and biomass
December 2012	Task force meeting 9	Minutes, financial flows in floodplains
March 2013	Task force meeting 10	Minutes, progress dashboard and proposal for a second pilot, ARK-A50
April 2013	Task force meeting 11	Minutes, stewardship council presentation
June 2013	Task force writing workshop, Stewardship Floodplain Management (12)†	Audio recording of the discussion (eight participants) on 27 June; minutes
October 2013	Task force meeting 13	Minutes, discussion on report 'Governance structure floodplain management'
November 2013	Task force workshop, Recommendations (14)	Audio recording of the discussion (8 participants), minutes
December 2013	Task force meeting 15	Minutes, discussion of final report and recommendations
January 2014	Task force meeting 16	Minutes, discussion of final report and recommendations

†Selected as primary data.

Management Task Force, whose function was to explore possibilities for collaboration. The task force was composed of members of the provincial government of Gelderland, the Rijkswaterstaat, the Government Service for Land and Water Management (later disbanded due to state budget cuts, at the beginning of 2015), the Dutch State Forestry Service, the Ministry of Economic Affairs, and a water board, plus one representative of the agricultural sector and and one of Radboud University. The second event included the recording of a writing session in which eight participants (members of the task force) elaborated on possibilities for collaborative floodplain management in a pilot project. The workshop consisted of presentations on and round table discussion of possible membership structures. The workshop led to the organization of 14 meetings and three workshops with the stakeholders (Table 2). The task force finished its report, with recommendations for integrated floodplain management, in January 2014.

The secondary data consisted of the minutes of other meetings, participant observations, and documents that supported and provided context for our interpretations. The first author of this article participated in all events and was the assistant process organizer. The atmosphere of the meetings and workshops can be described as open, constructive and friendly. The meetings were captured in written minutes, and the workshops in video or audio recordings, which were literally transcribed (Silverman, 2006) using the software program f4.

Transcription analysis

The qualitative analysis started by identifying and labelling issues relating to collaboration objectives and membership structures in the transcripts. Later, these quotes were grouped

into categories such as efficiency, coordination, and flood protection objectives. The transcripts were repeatedly read and compared to get a full understanding of the interactions that occurred in the different workshops. The transcripts were analyzed by coding and memoing in the software program ATLAS.ti. The codes referring to *collaboration objectives* were related to the question: What are we aiming for in collaborative floodplain management? *Membership structure* codes dealt with the questions: How do participants construct collaborative arrangements? And who is regarded as a member of the collaboration? Table 3 illustrates the variety of membership structures discussed.

Additionally, conversations concerning the interaction of collaboration objectives and membership structures were identified to illustrate how collaborative floodplain management was shaped. Again, by thoroughly reading and interpreting these selected sequences, how objectives and structures evolved over the course of the interactive process was analyzed. In this way, fragmentation or agreement on the objectives or structures could be identified. A limitation of this approach is that it did not provide insight into other collaborative and informal relationships between the participants outside the workshops.

Results

The results of the analysis show how participants shaped collaborative floodplain management. First, the range of collaboration objectives and membership structures expressed by the participants is presented. Second, a conversation between participants in the writing workshop was analyzed to illustrate the influence of different public servants' frames on the envisioned governance structure.

Collaboration objectives

In both workshops a wide range of collaboration objectives were discussed, and participants tried to find synergy between the different objectives. A nature conservationist stated that collaboration should integrate floodplain maintenance into floodplain planning, because "maintenance is not included in the planning phase; it's just afterwards; now they [water managers] have a gigantic problem" (rapid softwood growth). A representative of an NGO framed the aim of the collaboration as "the challenge to just simplify the fragmented picture". These objectives relate to the need for coordination of the fragmented decisions and maintenance activities in the floodplains and were repeated by many participants. Especially private participants highlighted these objectives, stating that coordination of public decisions should create more flexibility for entrepreneurship in the floodplains. A representative of the sand and clay mining companies articulated a need for clearly formulated objectives that allow public organizations to take a facilitator's role in the collaborative process.

A consultant said that the collaboration should "activate private organizations to realize the public objectives". This reflected the idea that public organizations should coordinate their floodplain maintenance objectives, and create win-win situations by combining them with activities of farmers or recreational organizations. A consultant added,

> As I see it, gains can be made in efficiency, in collaboration. Today, the slope of the dike is mowed twice by the water board, and each time the cows have to be moved; and then the Rijkswaterstaat comes along to remove the trees on the groins. I mean there is a lot of inefficiency.

The consultant was suggesting that the mowing and tree removal should be carried out at the same time by one organization. This argument is related to efficiency as an aim of collaboration; it also refers to the notion that private organizations are more efficient at providing public services, and therefore suggests more collaboration with public organizations.

Participants emphasized the added value of private organizations investing in public objectives. An NGO representative said, "More value can be achieved, such as private and public benefit, for the same amount of government investment." Additionally, the efficiency aim is possibly achieved through the advantage of economies of scale through collaboration. As expressed by a public servant,

> "If it is part of your pilot project, part of your aim, to show that it is more efficient to make a choice of left or right [of the river] where you intervene periodically [to remove vegetation], then a single floodplain section [of approximately 500 ha on one side of the river] is not enough" as scale for the collaborative pilot.

This suggests that the collaboration objective is linked to the scale of the working area. The above quotes reveal that efficiency objectives refer to different activities, both on the decision level (scale of pilot) as on an operational level (removing of forest vegetation).

Participants also discussed access to financial or knowledge resources as an objective for collaborative initiatives. A public servant stated: "What we see is that the Rijkswaterstaat has a number of financial flows, the provincial government has a financial flow, the water board has some financial flows.... You need to be able to reshuffle these financial budgets." Moreover, "You want to get knowledge from the parties who are in [the collaboration]." Additional objectives for collaboration are: easing the government's burden; working together with farmers; and promoting a moral imperative that "there is no other way than collaboration", based on the idea that integrated floodplain management cannot be tackled by organizations that act alone.

All these objectives of coordination, efficiency and access to resources showed that participants sought different benefits from the collaboration. Interestingly, the discussion did not touch upon the underlying issue of reconciliation of nature and flood protection goals, or the common vision of WaalWeelde adopted in the planning and implementation phases.

Membership structures discussed

During both workshops, the proposed membership structure was required to adhere to the shared baseline requirement that the structure should not lead to a new administrative level. This boundary condition was set by the governmental organizations, who argued that a new administrative level did not fit the spirit of decentralization. The results highlight a difference between the membership structures envisioned in the exploratory workshop (2011) and the writing workshop (2013) (Table 3). In the exploratory workshop, the majority of participants suggested structures that resulted in collaboration between public and private organizations. For example, the representative of the sand and clay mining industry stated that "We do not need a new level of administration, but a structure that links private and governmental organizations." Some participants argued that the existing water board should function as an umbrella organization for floodplain management. Furthermore, some specific structures such as a landowners association, a collaboration between the largest nature conservation organizations, or a collaboration of four stakeholder groups (directors, public

Table 3. Possible membership structures envisioned by the participants in both workshops. Number indicates participants arguing in favour of corresponding collaboration.

Membership structures discussed	Exploratory workshop ($n = 29$)	Writing workshop ($n = 8$)
Collaboration between directors, public officers, businesses and citizens (WaalWeelde approach)	1	
Water board as umbrella organization	3	
Public-private structure	6	2
Collaboration between landowners and nature conservation organizations	1	2
Collaboration between the largest nature conservation organizations	1	
Collaboration between the public organizations (provincial government, Rijkswaterstaat, Water Board, and municipalities)		5
Governance structure including two levels of collaboration: who decides, and who implements	1	1

officers, businesses and citizen platforms – the WaalWeelde approach) were mentioned in the exploratory workshop.

In the writing workshop, the emphasis focused more on collaborations between governmental organizations (public–public collaboration) than on a public–private structure. Some participants also proposed membership structures between landowners and nature conservation organizations (private–private structure). A public servant said, "If you really want to unburden the government, then I do not want to be a member [of the collaboration]. The province of Gelderland wants an external organization that does it all." Here, "an external organization" refers to an organization separate from the province of Gelderland that would take responsibility for maintaining the floodplains. Only two participants expressed the need for a governance structure that included collaborative initiatives on a public and private basis.

Discussions of membership structures were framed in relation to the scale of the geographical area, such as all floodplains near the River Waal or a specific floodplain area (see the earlier subsection on the efficiency objective). Scale frames were also applied from a more administrative point of view. For example, a public servant argued that a decision should be made on "who decides and who performs, based on the two levels in the national coalition agreement". Additionally, it was suggested that the time scale, such as long-term versus short-term objectives, influences the size of a membership structure and who should be involved. According to a public servant,

> The size of the area [to be managed by the membership structure] is determined by the willingness and interaction of both sides; the top layer including the governments and the bottom layer which consists of nature managers and land owners.

In the exploratory workshop (2011), the participants envisioned a public–private membership structure, but during the writing workshop (2013) the emphasis shifted towards public–public collaboration. Additionally, participants often used arguments relating to scale or efficiency objectives to support or reject the proposed membership structure.

Framing floodplain management in interaction: mapping a governance structure

The results reveal a broad range of proposed collaboration objectives and discussions on *who* should be engaged and *how* they should be involved in a membership structure. The following exchange between participants illustrates how a shared governance structure was shaped in an interactive setting. The reader should be aware that the underlying collaborative objective of reconciliation of nature and flood protection goals was not discussed during this exchange. The example was selected from the writing workshop, where participants discussed how collaborative floodplain management could be shaped in a pilot project. The contributors were members of the Rijkswaterstaat (R) and the provincial government (P), and a scientist (S). The public servants (P and R) discussed which organizations should be part of a new collaborative structure for floodplain management. Participant P preferred private–private collaboration ("stewardship"), while R was in favour of a public–public partnership. A public–private structure was considered unrealistic and ineffective given the many stakeholders involved. The exchange also illustrates the role the public organizations wish to play in floodplain management:

(1) P: If you really want to unburden the government, then I do not want to be a member [of the collaboration]. The province of Gelderland wants an external organization [i.e. non-public] that does it all…

(2) R: I would find it insufficient [with regard to the issue of trust] if a stewardship would consist of all those [private] representatives who cooperate and decide together on the right management proposal. Would that lead to a positive response from the government? For example a permit from the Rijkswaterstaat?

(3) S: What I find important to note here –

(4) R: And if you want to … add those private organizations … I think they will have a long way to go before they are trusted [by the Rijkswaterstaat].

(5) P: Well, to be honest, that is a reason, or would be a reason, for the provincial government to do it, because you want to be carefree; you want to place floodplain management outside your doors. You do not want to be a member yourself [of a collaboration structure]…

(6) R: If you choose a private organization. Actually, my vision would be to build on existing structures, to make a membership structure consisting of public servants who are already involved in floodplain management. In the end, the collaboration will literally deliver more…

(7) S: Such as the Delta Programme [a public collaboration, wherein representatives of public organizations are seconded to a new organization].

(8) R: That is able to work faster, that is more accepted … and cheaper too.

The proposal by public servant P is to create a private–private collaboration, which coordinates decisions on maintenance activities and management proposals to unburden the government (1). In (2), participant R explains that coordination of activities without involving the Rijkswaterstaat will obstruct permits for maintenance activities, because of the issue of trust. Additionally, in (4), R argues that if the decisions are shifted to a more private structure, it will be difficult to get the trust of the water managers. In conclusion, participant R advocates a public–public collaboration including the Rijkswaterstaat as a member. Public servant P still argues, in line (5), that the province does not want to participate in such a public–public collaboration because it neglects the aim of unburdening the government. In (6), participant

R tries to set up a new objective in favour of a public–public partnership by arguing that a structure should connect the (public) persons currently operating in the floodplain management field. In response, participant R rephrases the collaboration objective to one of efficiency: "faster, accepted, and cheaper" (8). The scientist interjects an example of a possible public–public structure, the Delta Programme (7).

This exchange illustrates that the public servants (P and R) want to play different roles in floodplain management. P is happy to leave the responsibility to private organizations and implicitly suggests that enhancements, especially increased coordination, have to be made on a private level. R prefers a high degree of influence on floodplain management activities and speaks about trust and efficiency gains on the level of public–public collaboration. The representative of the Rijkswaterstaat wants to be part of a new membership structure instead of devolving power to private organizations.

The combination of the two dominating membership structure frames described here formed the basis for designing a governance structure for floodplain management which includes public–public collaboration (Waal Board) and private–private collaborations (stewardships). Further elaboration by the participants of the membership structures revealed that the Waal Board is composed of representatives of four public organizations and is framed as a project bureau rather than a new administrative level. The stewardships consist of structures between land owners and nature conservation organizations who collaborate on a local scale (Figure 2). The envisioned governance structure makes a clear distinction between the decision and operational levels by dividing public and private stakeholders.

In summary, one public servant pursued collaboration without private organizations in order to be fully in control of floodplain maintenance decisions; the second public servant expressed a wish to shift maintenance responsibilities to the private level. The predominance of these two membership structure frames resulted in an avoidance of discussions concerning the construction of a public–private collaboration, but instead shaped a vision of a shared governance structure.

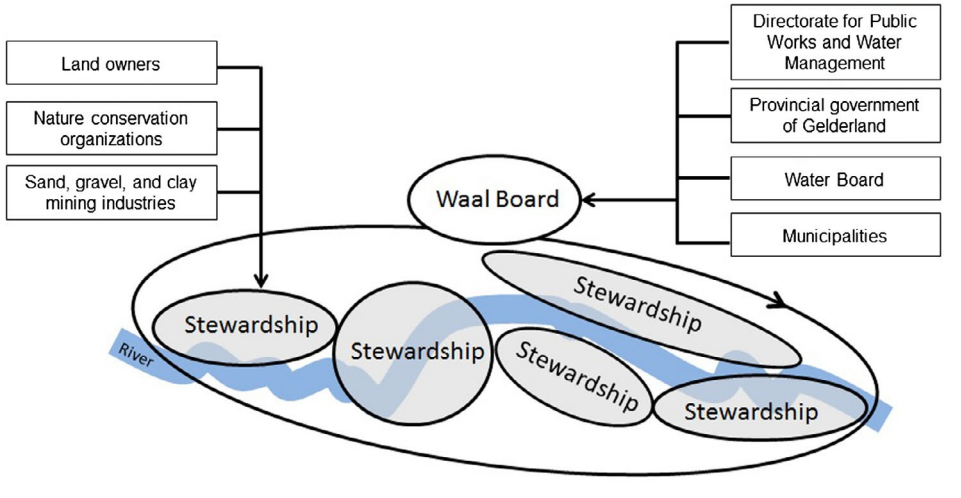

Figure 2. Overview of the governance structure as described by the task force; it includes a Waal Board (public–public collaboration) and stewardships (private–private collaboration). The thick line symbolizes the river.

Discussion

This section discusses the collaboration objectives and membership structures favoured by the stakeholders in floodplain management. We discuss how the participants shaped a vision of a shared governance structure for floodplain management (Figure 2) without discussing the underlying collaborative objective of integrating flood protection and nature goals. Before drawing some conclusions, we reflect on the opportunities and challenges of this newly envisioned governance structure.

Fragmented issue framing

As stated in the introduction, while the collaborative and integrated approaches are incorporated in the Dutch *planning* and *implementation* phases, they have not yet been introduced in the *maintenance* phase. The analysis of the collaborative objectives and membership structures showed that collaboration in floodplain management is a dynamic and complex issue, which is framed by participants in many divergent ways.

Participants framed collaboration objectives in terms of efficiency (e.g. economies of scale), coordination, sharing knowledge and financial resources, easing the government's burden, working together with farmers and "there is no other way", instead of addressing the conflicting issue of integrating flood protection and nature rehabilitation objectives. Of course, no one would be against more efficiency in floodplain management, but discussions of efficiency objectives only may be described as shallow, superficial, and not substantive. Discussions between participants never touched upon the substantive or underlying objectives. Similarly, the study of collaborative efforts by Layzer (2012, p. 198) concluded that "stakeholder groups tended to avoid the most difficult issues or to mask differences by using vague language – decisions that ultimately haunted implementation". According to Agranoff (2003), not including issues on the agenda that are threatening or contrary to consensus building is required to sustain collaborative initiatives. To conclude, the diverse and vague collaborative objectives show that the participants did not find a common collaborative objective aimed at maintaining the multifunctional floodplains. Moreover, the expectation is that a discussion of more fundamental objectives will return when collaborative initiatives are implemented (Gray, 2004; Margerum, 2007).

Secondly, in an interactional setting, we analyzed how participants framed diverse membership structures. The majority of the participants initially envisioned a public–private structure. Later in the process, public–private collaboration was no longer an option because it was considered unrealistic and ineffective given the diversity and large number of stakeholders that would be working together. The issue of diversity prevented public–private collaboration, which is quite common in managing complex issues (Huxham et al., 2000; Scarlett, 2013). However, analyzing the discussions revealed two predominant frames that defined possible membership structures. The representative of the Rijkswaterstaat wanted to be involved and in control of a new collaborative initiative and proposed a public–public collaboration structure. The Rijkswaterstaat still maintains a powerful position and is strongly driven to control the maintenance of floodplains instead of sharing decisions with civil society actors or private organizations (van den Brink, 2009). The representative of the province, on the other hand, preferred a private–private structure to unburden the government.

However, the participants solved the differences in issue framing by adopting a governance structure which included elements of both membership structures, instead of deciding on one of the structures initially proposed. This strategy is similar to the interaction strategy of "frame reconnection" proposed by Dewulf and Bouwen (2012). Frames were connected by taking both membership structures seriously and by neglecting the incompatibility between them (Dewulf & Bouwen, 2012) to achieve consensus among the participants of the task force. This consolidation of different issue frames into one that is jointly meaningful can provide motivation and commitment for collective action (Dewulf et al., 2011), which is reflected in the collaborative agreement of governmental directors. In March 2014, during a provincial conference, the agreement was announced by the provincial government and Rijkswaterstaat to cooperate on the maintenance of flood protection and nature rehabilitation goals.

Throughout the analysis, the participants use collaboration objectives and scale frames to support or reject the discussed membership structures. The use of collaboration objectives reflects the idea that structures of collaboration are continually changing, partly because unavoidable changes in the collaborative objectives simply meet different membership needs (Huxham & Vangen, 2000). Participants used diverse scale frames, such as geographical, administrative and time frames, to include or exclude stakeholders from the membership structure. Research illustrates that the diversity of scale frames or even mismatches of scale frames hinder the decision-making process (van Lieshout, Dewulf, Aarts, & Termeer, 2011).

Increased separation, despite shared governance structure

The analysis of discussions between participants surrounding *who* should be engaged and *how* they should be involved in a membership structure indicated that participants recognized the importance of collaboration for maintaining multifunctional floodplains. This recognition is reflected in the vision of integrating private, locally based organizations into stewardships and the public organizations into a Waal Board, and the intention of the governmental directors to cooperate. This horizontal integration is understandable when issues such as organizational arrangements, implementation strategies and trust are taken into account (Robinson et al., 2011; Termeer, 2009).

However, what was observed over the course of the study period was a separation instead of integration, due to abandonment of the vision of a public–private collaboration, which had been envisioned in the exploratory workshop and applied in the planning phase of the WaalWeelde programme. Despite the provision of a platform for all stakeholders through the creation of a Waal Board and stewardships, a clear distinction of responsibilities between public and private organizations is made, in contrast to the joint planning approach of the WaalWeelde programme, in which a range of actors were involved in the redesign of floodplains based on a bottom-up approach, in public–private collaboration.

Reasons for this separation of responsibilities could be the vague collaborative objectives proposed, and a lack of shared understanding that occurred due to the initial focus of the members of the task force on the direction setting and structuring components of the collaborative process. Layzer (2012) showed that collaborative and adaptive approaches often lead to a lowest-common-denominator approach, because participants cannot achieve consensus on the most challenging issues or, as in this case, are unwilling to address issues relating to core value differences (flood protection versus nature goals).

An additional potential reason for the separation of responsibilities is that participants reverted to traditional approaches by using traditional instruments, such as permits and single maintenance activities (Klijn & Teisman, 2003). Since the maintenance of the Dutch floodplains comes from a long tradition of organizations acting alone, it seems to be difficult to abandon sectoral and unilateral traditions, which is expressed by sentences such as "build on existing structures, so making a membership structure of public servants who are already involved in floodplain management" and "you will not get a permit from the water authority." These perspectives based on the past and the reliance on existing governmental actors do not enhance innovative inter-organizational arrangements (Hibbert & Huxham, 2010). Therefore, we argue that the traditional approach, in combination with framing the public–private structure as complex, unrealistic and ineffective in view of the variety and number of stakeholders that would need to work together, contributed to the avoidance of discussions on the opportunities for a public–private collaboration. To avoid this reversion to a traditional approach, it is necessary for public servants and practitioners to begin to understand the potential outcomes that could be realized by these new collaborations in order to maximize the benefits (Keast, Mandell, Brown, & Woolcock, 2004).

Implications and future challenges

Translating the governance structure into practice will result in opportunities as well as new challenges. An opportunity is that the envisioned governance structure (Figure 2) creates flexibility by enabling a response to any problem and any objective concerning the maintenance of floodplains. This is because collaboration objectives or boundary conditions that could limit creativity are lacking. Potentially, the proposed structure can be seen as a way of enhancing adaptive management, in that it can adapt rapidly to meet diverse challenges (Scarlett, 2013). The governance structure allows policy fragmentation to be addressed, a factor that often obstructs the formulation of joint objectives (De Boer & Krantzberg, 2013). This opportunity occurs because the governance structure allows public servants to integrate policies and share responsibilities as part of one governmental entity (e.g. Waal Board). In this way the floodplains may be maintained holistically as one social-ecological system. Robinson et al. (2011) also emphasize the need for more collaboration on a policy level to address the diffuse and complex nature of integrated water resources management. Enhanced institutional change may be facilitated by creating private–private collaborations (stewardships) to overcome land fragmentation, which obstructs the operationalization of integrated floodplain management. In this study, the provincial government made a strong case for supporting collaboration between private actors, which was followed by a local pilot. Time will tell whether this will lead to the described benefits being achieved.

Although the proposed governance structure is likely to support more collaboration in floodplain management, challenges and limitations will remain. First, the case study illustrated how fragile a collaborative process is and showed the difficulties faced when attempting to sustain public–private collaboration in integrated water resource management, in particular in integrated floodplain management. According to Biswas (2008), the definition of integrated water resource management remains highly amorphous, which prevents full integration and reduces the feasibility of operationalizing the concept in practice. Moreover, Rijke et al. (2012) emphasized the challenge of continuing the newly introduced governance

approach of Room for the River in the middle- and long-run strategy (2050–2100) of the Netherlands, i.e. the Delta Programme.

Second, collaborative initiatives are hard to sustain over a long period of time, especially when collaboration is based on voluntary actions (Margerum, 2011). The role of trust, relationships and understanding each other are key issues in collaborative processes (Ansell & Gash, 2008). The challenge is to enhance collaborative capacity by finding key persons or facilitators for both collaborations (Waal Board and stewardships) within the governance structure, "because they can provide leadership, trust, and meaning, and they can help the transformation of organizations toward a learning environment" (Folke, Hahn, Olsson, & Norberg, 2005, p. 441).

Third, the challenge for the managers of public organizations is to adapt to a more facilitative or collaborative role in the context of collaborative governance, because public organizations still continue to be powerful and influential stakeholders (Fliervoet, Geerling, Mostert, & Smits, 2016). For example, state water agencies in England strengthened their command and control in the water sector, going against the spirit of collaboration, despite using words such as "partnerships" and "collaborative governance" (Watson, Deeming, & Treffny, 2009). Benson, Jordan, and Smith (2013) described increased collaboration compared to previous approaches in catchment management in Europe, the United States and Australia. However, the authors also stated that "a shift towards collaborative governance has been marginal; because power is still largely concentrated by the government, the style remains essentially centralized" (p. 1708).

Nationally and internationally, questions have been raised as to whether the envisioned governance structure will move river management towards a more collaborative and integrated floodplain management process in the future. We argue, based on the observed separation due to abandonment of the vision of a public–private collaboration, and the described challenges, that the envisioned governance structure will not result in a major transformation of the collaborative process to maintain multifunctional floodplains. This will threaten the win-win solutions developed by stakeholders during the planning and implementation phases. However, the need for collaboration, recognized by participants, may form a first step towards a change in floodplain management if key leaders and informal networks (shadow networks) are included in the formal governance structures (Olsson et al., 2006). Shadow networks are characterized by political independence from formal rules and regulations and are motivated by a willingness to experiment and generate alternative solutions to emerging problems (Olsson et al., 2006). In Hungary, Sendzimir et al. (2007) described the failure of the formal river management regime, leading to informal learning. In this case, a dialogue was set up between international scientists and an informal shadow network composed of Hungarian stakeholders with the aim of exploring new ideas to facilitate the transformation of the failed river management regime.

In other words, further institutional developments (including the emergence of shadow networks) and the avoidance of traditional approaches are required to ensure that integrated and collaborative floodplain management will occur and be effective. Therefore, more research is required to describe collaborative processes and how they may be sustained in the face of changing actors and during a shift towards the maintenance phase.

Conclusion

This case study described the framing of collaboration objectives and membership structures by participants of two workshops on the collaborative management of floodplains. The results illustrate how the Netherlands has struggled with the adoption and continuation of integrated and collaborative approaches in the maintenance phase of river management. Issues of fragmentation and complexity of current maintenance activities were highlighted. Collaboration objectives were discussed, but remained superficial, framed only in terms of efficiency and coordination, and did not address the need for reconciliation between flood protection and nature objectives. While no consensus was found on substantive collaboration objectives, participants jointly mapped a governance structure for new collaborative initiatives by reconnecting the two dominant membership structure frames. Participants envisioned a public–public collaboration (Waal Board) and multiple private–private collaborations (stewardships).

This governance structure divides responsibilities between public and private organizations, in contrast to the vision of public–private collaboration adopted during the planning and implementation phases. This division could have stemmed from the vagueness of the proposed collaborative objectives, conflict between membership structure frames, a lack of shared understanding of the problems faced, or a reversion to traditional approaches by participants. Based on our observations, we suggest that it is difficult to sustain integrative and collaborative arrangements when a shift from the planning and implementation phases towards a more locally based maintenance phase occurs, i.e. a shift to floodplain management. These difficulties will increase complexity when adopting a collaborative governance approach in river management because newly constructed collaborative approaches need to take into account all the different phases of river management. Finally, analysis of other case studies relating to the maintenance phase are needed to increase understanding of how institutional settings develop over a long period and what kinds of institutional settings are required to maintain the floodplains in an integrated way. Moreover, these case studies should include descriptions of the stakeholders' frames of the collaborative processes in floodplain management in order to gain further understanding of their dynamics.

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