Analysing Dutch Floodplain Management: A Practice Based Approach

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MSc Thesis Forest and Nature Conservation Policy

FNP-80436

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01-11-2016

WAGENINGEN UNIVERSITY & RESEARCH

Preface

Before you lies the end product of the time I have spent researching the role of practice in floodplain management. I'm happy to conclude that after the months spend on producing this report it became more than just a thesis. Working on a subject completely new to me and doing so with a novel theoretical framework has both challenged and inspired me. Having to turn this page, I look forward to writing a new chapter. A chapter that builds on the experiences I gained, not only during this thesis, but throughout my studies at Wageningen University.

In the process of conducting this thesis I have been fortunate enough to receive guidance and support from a lot of people. To all those who feel spoken to, I thank you. Acknowledging and accepting the risk of missing to thank certain people, I would like to mention a few.

I would like to thank Jelle Behagel who has supervised me throughout my thesis. Regardless of how much I was struggling, each meeting we had managed to reinvigorate me and filled me up with new thoughts and ideas on how to move on. Though it has been a long stretch (with a lot of text) you have been ever patient, for which you have my gratitude.

This research also couldn't have been performed without the willingness of my interviewees. I am grateful for the hospitality with which I was received, and for time they spend talking to me on their working experiences. I would also like to thank my friends and fellow thesis-students for their feedback, for our often fruitful discussions and for the times they helped me to think of something other than riparian forests, flood protection or practice. And to the one who has supported me throughout, I thank you for having always been there.

Summary

The Netherlands has a long history in dealing with high water levels. Since the beginning of the 21th century 'technical measures' (such as heightening dikes) used to fight the water, started to make room for 'spatial measures' (such as dike relocation) that accommodated the water. These spatial interventions take place in multifunctional floodplains where, aside from flood-risk prevention, also nature interests have been installed and protected via e.g. the EU's Natura 2000 protection regime. In dealing with these two interests, floodplain actors from the nature and water safety domains have developed 'a script' for managing the floodplains. Due to Arrest Briels (a new legal interpretation) the current model of water safety oriented vegetation removals would have to apply for permits via 'compensation' and not 'mitigation' (two different legal trajectories for dealing with impacts on Natura 2000 areas), altering the script and forcing actors to improvise. This research uses the Practice Based Approach (PBA) to analyse how actors react to such a change in situation, and to see whether or how the socio-historically developed logic that was part of the former script can help understand the improvised responses of the actors.

The case study on the Streamline water safety program has shown that the floodplain arena performs via a practical logic that is composed of three generative principles: the cooperative-, synergetic- and task-oriented principle. Together these principles compose of the script that floodplain actors follow in their role as floodplain management practitioners. The change in the script established by Arrest Briels qualifies as a temporary break of floodplain practice. It entailed a break, since practice could no longer function in accordance with the practical logic. The break was only temporary since, without ever being fully detached from their practice, actors attempted to accommodate the new situation in the existing web of beliefs and ideas that is bound to their practice. In the absence of routines on how to deal with this new situation actors had to improvise. This thesis found four response stages: 1) shock and evaluation, 2) early exploration, 3) postponement, and 4) the final engagement with the derogation tests. The logic of practice and its generative principles are found to have informed these responses. The agencies that underlay these responses have been found to be situated in the generative principles of floodplain practice. Practice is found to be resilient; though the Arrest was initially viewed as an insurmountable obstacle for performing floodplain practice, gradual experience with the new situation has led to developing new routines, a new script, on how to deal with Natura 2000 vegetation.

Instead of merely looking at how actors responded to Arrest Briels, the practice based approach has illuminated what actually happened when the Briels Arrest 'hit the ground'. The approach is more empirically grounded since it demonstrates a sensitivity to the specificities and complexities of the local situation. It was able to stress the contingent and situational nature of responses

and depict the social consequences of the Arrest that lie underneath the final outcome of floodplain actors engaging with the compensation track. This thesis application of the PBA also contributes on the understanding of social and behavioural change. Whereas the institutionalists' logic of appropriateness would argue that floodplain actors simply started to make use of the compensation track because they were expected to, the PBA has demonstrated that there is a whole process with on-the-ground effects (as indicated by the four response stages) that underlies this change. In contrast with the rationalists' understanding, the gradual learning curve that was found in these four responses is found to be based on a lack of practical experience, not a lack of information. Furthermore, this thesis has demonstrated added value in applying the practice based approach in analysing the 'nature safety dilemma'. The PBA's centralisation of practice does not mean that current emphasis on discourse and institutions is unimportant, but it sees a greater role for action and the performance of the generative principles. Reflecting on the PBA, it is argued that the performative features of the concepts 'logic of practice' and 'situated agency', the heuristic cycle already saturated before the last concept of performativity was officially applied. It is argued that the performativity concept is too much interwoven with the other concepts for it to be studied separately.

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Chapter 1 Introduction

The Netherlands is a densely urbanized country with a long history in fighting floods. Safety efforts conventionally consisted of solely technical measures such as building dikes and increasing drainage capacities. These tasks have been performed by engineers, who operate within well-established water agencies that control specific geographical areas (Wolsink, 2006). As a consequence of the European Union's emphasis on river basin scale measures and a diminished natural resilience due to climate change (Milly *et al.,* 2002), Dutch water management has strengthened linkages with land-use planning, creating a broader, more strategic role for water management (Woltjer & Al, 2007). Ultimately crystallized in the Room for Rivers report (Rijkswaterstaat, 1995; 'Ruimte voor Rivieren'), this new line of thinking swiftly evolved into a general policy wherein spatial developments are cornerstone to water (safety) management (Wolsink, 2006). These developments can be seen as part of a transition which has resulted in a type of water management that manifests a more adaptive and participatory nature (Van der Brugge *et al.,* 2005; Fliervoet *et al.,* 2013). Furthermore, the incorporation of water management in spatial planning resulted in the need to integrate safety values with other social, economic and –to most interest of this research- natural values (Brouwer & Van Ek, 2004). Already in the predevelopment phase of this transition, processes of integration between water management and nature development took place (Van der Brugge *et al.,* 2005).

Attempts at reconciling nature rehabilitation and flood protection have led to multifunctional riverine landscapes (Pahl-Wostl, 2006; Van Stokkom *et al.,* 2005). However, certain tensions still exist within these multifunctional landscapes. The self-regulating nature approach that was used in early efforts generated an increased amount of forest cover in the floodplains (Geerlings *et al.,* 2008). Among water managers, this raised the concern that the water discharge capacity of the river would decrease, supporting a 'trade-off view' on the relation between natural and water safety goals. This contributed to what Wiering and Van de Bild (2006) coined as 'the nature-safety dilemma'. Apparently, reconciling the 'self-regulating nature' approach and flood protection goals was challenging. However, Dutch governments' policy strategies still suggest that the incorporation of flood-reduction measures in existing land-use planning practices is to be seen as a *synergy*. These multifunctional landscapes should allow for a win-win situation in which both water management goals and environmental goals can be jointly achieved.

1.1 Dealing with Natura 2000 in realising multifunctional floodplains.

Activities aimed at realising multifunctional landscapes are not only subjected to ministerial policy plans and the national legal context. The spatial endeavours also have to take European nature protection regimes, for e.g. biodiversity conservation, into account. From the 1970s the European Union (EU) has had an increasing influence on nature conservation policies of its Member States. Since the European Commission's Birds (79/409/EEC) and Habitat directives (92/43/EEC) were installed by the European Economic Community in 1992, they have been the driving force of the renewal of many states policies (Alphandéry and Fortier, 2001). Large parts of our riverine body are also allocated as Natura 2000 areas, and are thus subjected to its legal regime. The obligatory adoption of these directives by EU member states enforces the designation of Special Protection Areas (SPA's) for the birds' directive and Special Areas of Conservation (SAC's) for the habitat directive. Jointly, these protected sites compose the Natura 2000 European Ecological Network (CEC, 2002), which is often referred to as Natura 2000 policy.

Due to the allocation of SPA's and SAC's in Dutch riverine systems, Dutch governmental floodplain management programs, such as 'Room for the River' (Ruimte voor de Rivier) and spin-off 'Streamline' (Programma Stroomlijn), have had to deal with these institutional frameworks. Both ventures were located within the 'synergistic philosophy' and aimed to ultimately contribute to a healthy combination of realising water safety and nature goals. In performing this synergy-script relevant actors developed certain methods on how to operate in the presence of SPA's, and more importantly SAC's, and their protection regime. When N2000 vegetation in the SAC's was 'significantly affected' by water safety measures due to e.g. a (partial) removal of this vegetation, a *mitigation* plan was drawn that centred the relocation of this vegetation towards non-flood prone areas. This 'mitigation method' was developed in the Room for the River program and has become core to operating in the floodplains. This 'mitigation method' has been developed, supported and performed by both nature conservation organisations and water safety institutes.

1.2 Streamline and Arrest Briels

The Streamline program is the most recent floodplain management program. It can be viewed as a follow-up to the large scale Room for the River program that involved a diverse set of spatial measures (such as relocating dikes, altering river flows, lowering groynes) to improve the flood protection status of Dutch river systems. Streamline delivers a vegetation-oriented contribution to flood protection by focussing on the removal of rough vegetation (i.e. mainly riparian forests) to ameliorate the hydraulic drainage capacities of the floodplains (Ministerie I&M, 2015). Part of the 'to be removed' vegetation is protected under Natura 2000 (riparian forests: EU habitat type H91E0 alluvial forests with Alnus glutinosa and Fraxinus excelsior). As has been the case in Room for the River, performing the interventions by means of the mitigation model would allow for

synergetic solutions. The 'State Forestry Service' (Staatsbosbeheer, or SBB) and the 'Directorate-General for Public Works and Water Management' (Rijkswaterstaat, or RWS) were both involved in establishing a plan for Streamline called 'Nature and Safety in Balance' (Staatsbosbeheer, 2014). This plan has combined the need for removing vegetation with the aim for defragmenting N2000 areas in the floodplains. The plan engaged with the question on how N2000 riparian forests could be spatially (re)arranged towards locations that were ecologically valuable and non-flood risk sensitive.

Recently, the institutional context in which this synergetic script of floodplain management was performed underwent an interesting change. Whereas performing vegetation relocations via *mitigation* previously found no legal resistance, a recent judicial decision displayed a more stringent interpretation on what can and what cannot be qualified as mitigation. Due to the coalescence of Natura 2000 goals with national legislation[1], any actions in dissention with these laws can be fought via the Dutch court of justice. In 2014 such a legal coercion led to a judgement in which the State was found guilty of non-compliance with the habitats directive, known as 'Arrest Briels'[2]. The harmful effects of widening the A2 highway on fen meadows (habitat type 7230) were planned to be mitigated through the allocation and development of a larger area of higher quality fen meadows at an alternative location. The Dutch Court of Justice judged that these efforts should be classified as *compensation*, rather than mitigation, since the measures are not taken at the site that endures the significant effects[1]. The legal consequences are that the three strict 'derogation tests'[3] need to be applied. Since floodplain practice has been performing the same model of 'mitigation', Arrest Briels' delineation between mitigation and compensation could have large consequences for the management of our floodplains. Aside from a direct influence on the outcomes of currently active projects, such as Streamline, there might also be a more general impact on the routines that floodplain actors developed for performing floodplain management.

1.3 A change in the script of floodplain management

In performing the Room for the River program and Streamline, the Dutch government developed a certain logic on how to deal with water management and nature conservation in floodplains. After this logic trickled down into the playing field of floodplain management, it has established a specific set of responsibilities and tasks for participating actors. In performing any type of management it is imaginable that actors develop certain routines consisting of

[1] The 'Natuurbeschermingswet 1998', in this thesis also referred to as Nbw, in english: Nature protection act.
[2] HvJ EU 15 mei 2014, zaak C-521/12, T.C. Briels e.a./Minister van Infrastructuur & Milieu, ECLI:EU:C:2014:330
[3] In the Netherlands these tests are comprised by the 'ADC-toets', which can be found in article 19g en 19h of the 'Natuurbeschermingswet',1998. When applying the three-step derogation tests one most 1) look for alternative solutions, 2) identify imperative reasons of overriding public interest, and 3) take compensatory measures.

methodologies, problem definitions, discourse and interaction patterns for fulfilling both the states' and individual goals concerning floodplain management. Arrest Briels could be seen as an obstacle for actors to play according to the synergetic script. This paper aims to analyse how actors react to such change in the rules of the game, and how improvisations as a result of this new script can lead to new and unexpected outcomes. This research is thus not based on the introduction of a new or adapted legal institution, nor about a shift in relevant actors. A single statement of a judge seems to have had a cascading effect into the floodplain management arena, which appears to have an impact on the practices of actors relevant to its management. The synergy that appeared to be present might be undergoing a change. The core questions of this research are:

- *What did the logic of floodplain practice look like before the instalment of Arrest Briels?*

The actors of the floodplain management arena operate on the basis of a certain script. This script embodies a certain logic that prescribes how floodplain practice is to be performed. The answer to this research question will deliver insight in this logic of floodplain practice and in its specific principles that organise how actors perform in floodplain management. These findings will serve as a fundament to the analysis on how the responses of actors to Arrest Briels relate to the logic of floodplain practice. The logic of floodplain practice can be found by looking at e.g. actors' objectives, discourse, interaction patterns and division of responsibilities.

- *Did the Arrest break up the logic of floodplain practice?*

By answering this question, it is aimed to understand how, and to what degree, Arrest Briels translates as a change in the script of floodplain practice. Analysing how the Arrest relates to the principles that drive floodplain practice provides insights in how a practice works and how it deals with extraneous factors. Investigating whether floodplain practice has broken down, why it has done so and to what degree, helps to understand the future responses to the Arrest and the impact of the Arrest on practice.

- *What kind of improvisations and responses are articulated by floodplain management actors in response to Arrest Briels?*

By asking this question it is aimed to make sense of the new course of events that will unfold at the interplay of this 'new' institution and relevant floodplain actors. Since their routines are blocked, it can be expected that the floodplain management actors will start to improvise. These improvisations can be discursive (e.g. involving meaning, thoughts and ideas) or action-based (involving activities, the material) in nature. In the face of Arrest Briels actors

might start to cooperate with different actors, develop new activities, re-open old discussions, or begin talking and writing in new ways or at different times. These responses of floodplain actors could both defect from- or align with the socio-historically developed logic that has been part of practice. By examining these responses insights are gathered on their origins, the role of the logic of practice in determining the responses, and on the future course that is set in the face of Arrest Briels.

- *What impact does Arrest Briels have on establishing a new practice of floodplain management?*

Arrest Briels appears to have an effect on the ability of actors to perform floodplain practice in accordance with the script. The answer to this research question will provide knowledge on whether and how the Arrest has impacted practice. In the face of Arrest Briels, floodplain practice might prove to be receptive: resilient and adaptive, developing new routines, or unreceptive: continuing without much reconsideration and reorientation. For determining the impact of the Arrest on practice this question builds on the analysis of the logic of floodplain practice *and* the actor responses addressed, respectively, in the first and second research question.

This research is initiated from a potential problem in practice, since Arrest Briels possibly hinders the current performance of the synergetic floodplain management script. This research is motivated by a specific interest in Natura 2000 and its impacts on actor-dynamics in conservation practices. The objective of this thesis is to *investigate how actors react to a change in situation, and to see whether or how the socio-historically developed logic of practice can explain the improvised responses to this new script*. This research also aims to contribute to understandings on effective policy-making by increasing the knowledge on the role of practice and improvisation in generating (un)intended policy outcomes. Furthermore, this thesis aims to develop understanding on the (im)possibility of steering these outcomes. Working on a project involving the most recent dynamics on the (suggested) trade-off between ministerial water management goals and European nature conservation goals, this research also hopes to elaborate on the 'nature safety dilemma'. Finally, this thesis also seeks to add to the practice based approach literature (Schatski *et al.,* 2001; Nicolini *et al.,* 2003; Van der Arend and Behagel, 2011; Arts *et al.,* 2012; Wagenaar, 2014) by contributing to the elaboration of its sensitizing concepts. In order to attain these contributions, the practice based approach is employed to analyse the interaction between the relevant actors and the new institutional context set by Arrest Briels.

The following chapter (chapter 2) will present the heuristic strategy that will be used for this research. It will display the theoretical debate, and present the

theory and concepts that are chosen for analysing floodplain practice. Additionally, this chapter will present the methodological aspects that are part of the heuristic strategy and introduces how these are entwined with the theoretical approach that has been chosen. The third chapter will present a description of the case, including: a general introduction to floodplain management, the Room for the River program and the set-up and methodology of the Streamline assignment. The fourth, fifth and sixth chapter will present the results of this thesis. Respectively, these will engage with the logic of floodplain practice, the effect of Arrest Briels on practice, and the situatedness of the responses to the Arrest. The seventh, final chapter will present and discuss the conclusions of this thesis.

Chapter 2 Heuristic Strategy - theoretical framework and methodology

In this research, theory and method are closely interlinked. The practice based approach that this research has adopted aligns closely with interpretivist research approaches. Wagenaar (2014) notes that method is never free from theory, making him suggest that for interpretive research one should speak of a *heuristic*, a strategy for discovery, instead of a method. Additionally, the iterative and overlapping character of interpretivist research supports a view in which data collection and theory development inform each other via a continuous spiral. Contrastingly, a method has a notions of finality, unilaterality and intellectual control, which doesn't capture the messy qualities of real life that interpretivist studies try to analyse (Wagenaar, 2014). Boiling this research's analytical perspective down to the mere application of a method would 'tax the heart and soul' of the 'heuristic lifeblood' of this interpretivist research (Wagenaar, 2014). Conversely, selecting and incorporating theory also has methodological consequences. In accordance with this understanding this thesis presents a heuristic strategy that presents both theoretical and methodological research components and their interrelatedness. This heuristic strategy will serve as this thesis' approach to generating 'a dialogue between theory and the world' (Wagenaar, 2014).

This chapter will start off with presenting an introduction to this research's epistemology and the scientific debate on the best way to define, conceptualize and analyse these types of problems (section 2.1). Subsequently, the practice based approach and its sensitizing concepts of Arts *et al.* (2012) are presented as the main components of this thesis' theoretical framework (section 2.2). Thereafter, the suitability of these theories and concepts for fulfilling the objective of this thesis will be discussed (section 2.3). Now that the theoretical pathway has been elaborated upon, the methodological consequences of this approach will be presented (section 2.4). Afterwards, the research design (section 2.5) and the approach to data analysis (section 2.6) will be introduced.

2.1 Introduction to epistemology

Rationalism (see Hardin, 1968), Institutionalism (see Ostrom 1992) and Practice are three different models for understanding 'the social' (see table 1, p16, for the main characteristics of the three epistemological views). Each school of thought implies different assumptions about agency, logic of action and social change (Adler, 2009: Arts *et al.,* 2014). With these three different epistemological positions come multiple approaches for this thesis' objective on analysing the impacts of Arrest Briels' institutional change on actors' behaviour. The policy arrangement approach (Arts *et al.,* 2006) is an example of an institutionalist framework that has often been used for analysing the interrelatedness of actors, institutions, resources and discourse (e.g. Hegger *et al.,* 2011 or Van Hoof & Van Tatenhove, 2009). Though it does offer more flexibility with regards to the structure-agency debate (Brukas, 2015), it still presents rather linear accounts of governance processes by neglecting the contingent and situational nature of outcomes and the social consequences that lie beyond the formal arrangements. Ayana *et al.* (2015) provide an interesting analysis on participatory forest schemes in which actor behaviour is found to not not logically follow institutions, but rather depends on practical logics that have local roots.

To fulfil the objectives of this research this thesis looks for an approach that is situated in what is called 'the practice turn' in social theory (Schatzki *et al.,* 2001). Due to the view of governance as a multi-actor, multi-level process, linear instrumental models of policy making firstly made way for the argumentative turn (see Fischer and Forrester, 1993) in which a focus was placed on dynamic processes of interpretation, negotiation and sense-making by multiple actors through different norms and at multiple sites. This discursive approach gained attention for practice since, aside from plainly addressing the use and meaning of language, it also scrutinizes the social context in which language is used and the social practices it gives meaning to (Arts *et al.,* 2012). This attention for meaning is embedded in interpretivism, which has developed into a myriad of interpretive policy analysis approaches (see Yanow, 2007).

As stated in this papers' objective, this research aims to answer how a change in rules of the game impacts the practices and routines of floodplain management actors. It is aimed to develop a rich and detailed description of events, the setting in which it takes place, and the people and interactions involved. Situating this research in the practice turn allows for such contextual accounts of actor behaviour, in which the complexity and contingency of local dynamics and existing practices are important (Arts *et al.,* 2014). We argue that the practice based approach that was developed by Arts et al, (2012) suits best to this research's needs. In contrast with other interpretive policy analysis approaches, the practice based approach has a more empirical nature with a stronger focus on action (Arts *et al.,* 2012).

	Institutional theories	Rationalist theories	Theories of practice
Logic	Logic of appropriateness	Logic of consequentialism	Logic of practice
Basis of action	Norms, rules	Reason, Utility	Patterns, routines, conventions
Policy intervention	Institutional reform	Altering incentives	Social-cultural change
Scientific claims	For width of institution	Universal	Situational

Table 1 Main characteristics of the three different schools of thought (adapted from Ayana *et al.*, 2015).

2.2 The Practice Based Approach

After having contextualized this research and the practice based approach, this section elaborates on the contents of the chosen approach and its conceptualization. Due to the relative novelty of this approach in forest and nature governance the amount of literature on its theoretical development and application is not yet abundant. For the upcoming description of the practice based approach, this thesis has therefore aligned closely with the book of its founders Arts *et al.* (2012).

The concept of practice has been widely studied in social science, and has been around long before governance. Though theoretical concepts of practice differ, Arts *et al.* distinguish a number of shared characteristics that led them to defining practice as: 'An ensemble of doings, saying and things in a specific field of activity' (2012: p.9). They describe 'doings' as 'social and society-nature interactions, the tacit knowledge and skills that people employ and the scripts that they follow'. 'Sayings' herein refer to 'people, their discursive interactions, as well as the explicit rules, norms, and knowledge that they utter' (Arts *et al.,* 2012: p.9). Things are 'materials and artefacts, like rocks and technologies, as well as nature more in general' (Arts *et al.,* 2012: p.9). The definition emphasizes the importance of the social and material settings in which these doings, sayings and things are situated and brought into being in accordance with a certain logic imprinted in this field. Arts *et al.* (2012) clarify the idea of practice via the practice of a scientist in a lab or a forester in the state forest service; both have developed routines, they say things in a certain way, possess knowledge on how to achieve certain outcomes and relate to a broader field (here science and forestry) that creates them, but which is also created by them at the same time (Arts *et al.,* 2012). As soon to be elaborated, the practice based approach thus deals with the interrelatedness of discourse, norms, values, roles, conflict and contingencies (Van der Arend & Behagel, 2011). In order to

guide practice-based, empirical research on forest and nature governance Arts *et al.* (2012) provide three interpretive devices, so called sensitizing concepts (see Bowen, 2006). Whereas clearly delineated and definitive theoretical concepts would provide prescriptions of what to see, the interpretive sensitizing concepts merely suggest directions along which to look (Blumer, 1954). They provide a general sense of reference and guidance in approaching empirical phenomena (Bowen, 2006). The sensitizing concepts could thus be said to assist the researcher in his or her attempt 'to discover, understand, and interpret what is happening in the research context' (Bowen, 2006; p. 14).

2.2.1 Logic of Practice

The first sensitizing concept Arts *et al.* (2012) introduce is 'logic of practice'. This concept allows for a critical look at the ability of institutions to steer behaviour. Logic of practice is said to acknowledge that there is a certain logic in social action, but claims that it does not 'follow a predesigned and general model, theory, rule or plan' (Arts *et al.,* 2012; p10). However, this logic does play a role in the patterning of social action (Arts *et al.,* 2012).

Most academic literature that engages with the logics of everyday practice, strongly draws upon the theorizing of Bourdieu. He states that 'practice has a logic which is not that of the logician' (Bourdieu, 1990: p86). This practical logic organizes all doings, sayings and things (Bourdieu, 1990) by means of a few generative principles (such as reciprocity in social relations, or equality in democracy). It challenges the disorganized nature as portrayed in the garbage can model (Cohen *et al.,* 1972). These generative principles are said to be closely interrelated and shape an integrated assemblage called practice (Bourdieu, 1990). Central to Bourdieu's understanding is that the socio-material conditions that make up a specific environment produce certain routines, which are repetitively and often unconsciously reproduced through their enactment in everyday practices (Sandberg & Tsoukas, 2011). The logic of practice is thus produced historically in time and space (Arts *et al.,* 2012). Actors herewith reproduce the conditions that make their actions possible (Giddens, 1984: p2). These routines are socially acquired dispositions in relation to behaviour and practices, which Bourdieu coined: 'habitus' (Bourdieu 1977; Bourdieu 1990). For an example on such routines in drug use and local drug economies, see the article of Rhodes (2009). The habitus is a product of history, and produces practices that add to this history, in accordance with the patterns generated by and in the past (Bourdieu 1990: p52). It can thus be said that past experiences are active in current day practice. As Bourdieu notes these past experiences are deposited in individuals as schemes of perception, thought and action. The perceptions, thoughts and actions of these individuals shall thus be in congruence with the practice's history, which tends to guarantee the 'correctness' of practices. The habitus is therefore said to be more constant in determining outcomes than all formal rules and explicit norms (Bourdieu 1990).

Or as Giddens puts it: that what structures social practices 'is more internal than exterior to their activities'(Giddens , 1984: p25). By introducing the habitus as a set of structured and structuring dispositions, we have identified the motor that drives actions from the view of practice. For establishing an understanding on how this habitus interacts with the social world it's in, I again reach for Bourdieu.

Bourdieu deepens the understanding of the logic of practice by viewing practice as a site of a dialectic between the 'modus operandi' and the 'opus operatum' (1990: p 52). When looking at a practice as a set of tasks, the latter concept sees practice-related actions in terms of the task alone, how it looks in retrospect as a finished task. To illustrate this idea, Brown and Duguid (1991) compare it to an abstraction, such as a route map that shows roads, buildings, important sites etc. The modus operandi, however, as an embodiment of habitus which informs these actions, views practice-related actions as they evolve over time, filled with changing circumstance and ad hoc decision, from the view of someone at work on it. When returning to the map-analogy, this view emphasises the changing conditions (road works, parades, traffic jams) that are present when travelling from A to B as indicated on a map. Since in practice people are often held accountable to formal tasks (being at B on time) and not on their path towards completing the task (acting on bad road conditions etc.), practice requires an interpolation between abstract accounts and situated demands (Brown & Duguid, 1991), in its intrinsically coherent orientation towards practical functions (Bourdieu, 1990). From these descriptions we can note that interpolating between abstract tasks and situated demands are an imperative component of the logic of practice.

Via a narrative on an administrative worker Wagenaar adds to our understanding of the previously mentioned abstractions by elaborating on the role of rules in a logic of practice (2004; p644). He recognizes that rules are able to structure a situation, but only as a natural part of this evolving situation, resonating with Sandberg & Tsoukas' 'entwinement' (2011). Rules should herein thus not be seen as deterministic guidelines (Wagenaar, 2004). These external constructs are thus not internal mechanisms that drive behaviour and thoughts in a pre-constructed manner. Rules can structure a situation by signalling that a situation deserves attention. Rules set constraints but also suggest possibilities, making them a potential part of problem and solution. The room for situated interpretation of these rules and situations, underlines that the functioning of the rule, cannot be seen apart from the users' grasp of the rule (Wagenaar 2004). On this understanding Giddens notes that rules are often only tacitly understood by actors, they know enough to go on (Giddens, 1984). Something as simple as ''the discursive formulation of a rule is already an interpretation of it, (...) and may (...) alter the form of its application''(Giddens, 1984: 23).

In order to describe the previously described inseparability of actors and social context, Sandberg & Tsoukas refer to the 'Heideggerian notion' of 'being in the world', which stresses that people are never detached, but always entwined with

other actors, institutions, knowledge and things in socio-material practices (2011: p 343). They talk on the situated-ness of practices and the entwinement of the logic of practice. This logic is therefore not shaped by epistemologically dichotomous relations (such as subject/object or structure/agency), but is formed by the interrelatedness of ourselves with others and things (Sandberg & Tsoukas, 2011: p 345).

On a daily basis actors are immersed in practice without being aware of this involvement. When confronted with a specific situation an actor will not stop and overthink how possible reactions relate to his/her practice, but shall react spontaneously and therewith routinely. In accordance with the recently described entwinement of the logic of practice, this habitus-based reaction is both an enactment and an embodiment of the logic of practice (Sandberg & Tsoukas, 2011). Sandberg and Tsoukas (2011) named this habitual mode of engagement 'absorbed coping'. It can be added that these absorbed coping responses can easily, and shall often, be performed without necessarily having a complete understanding of the situation at hand (Wagenaar, 2004). This has of vital importance for actors since it allows them to cope with the uncertainties and complexities of life (Giddens, 1984). Understanding what the appropriate response is, lies in the actions that are performed when faced with the situation.

These absorbed copings can be interrupted whenever practitioners are faced with ideas, dilemma's or disruptive events that are incompatible with the current logic of practice (Bevir & Rhodes, 2006). According to Sandberg and Tsoukas this can result in temporary- and complete breakdowns of practice. When temporary breakdowns occur, practitioners enter in a 'thematic deliberation mode', which allows them to pay deliberate attention to components of their practice (themselves, others and tools), and their relations, whilst still being involved in the practice. In these moments the components, and their role in the (logic of) practice becomes highlighted. A complete breakdown, on the other hand, makes actors fully detached (by not engaging in act - panicking- or by theorizing over situation) from their practice, and presents the components of these practices as disconnected entities. The relational whole of the practice as absorbed coping is gone, blurring the relations and therewith the entwinement of the logic of practice (Sandberg & Tsoukas, 2011). Both breakdowns entail a changeover to epistemological subject/object relations, but do so to a different degree (Sandberg & Tsoukas, 2011).

'Thwarted expectations' is of the types of the temporary breakdowns that might be of special interest to this research. Whenever circumstances occur that change the setting of a practice, prior developed expectations can hopelessly fall, such as the one on the mitigation construction for removing riparian forests. This could result in a breakdown of practice, laying to bear the central aspects of the logic of the practice. Acknowledging that the principles that guide human behaviour –such as expectations- are situated in specific, socio-historically shaped fields of practice, distances from the idea of impactful universal accounts

on how people should behave. It herewith 'decentres' the institutions that affect people's behaviour from general, large scale accounts, to local, specific practices. Instrumental norms and goals of formal institutions (such as Wagenaar described on rules), interact with norms and values that are part of a logic of practice. The logic of practice allows for analysis of "the working of institutions in broader terms than just instrumental success or failure" (Arts et al 2012). Herewith it could shed new light on the effects of institutions and structures on a practice.

2.2.2 Situated Agency

The second sensitizing concept of importance to the practice based approach is 'situated agency'. Situated agency assumes that actors' identity, ideas and behaviour are shaped by the social practices they are in (Arts *et al.,* 2012; Van der Arend and Behagel, 2011). It herewith challenges widespread rational-strategic accounts on individuals and organizations, which build on the ability of agents to operate strategically and autonomously, detached from social context (Barker, 2005). Contrastingly, the model of practice acknowledges that agents can act in novel ways, but can do so only in the context of a social background or *tradition* (Bevir and Rhodes, 2006). Sandberg and Tsoukas (2011) contribute to this understanding by noting that 'agencies are exercised in-situ'. The behaviour and beliefs of actors are built on their situated interpretations of objectives, rules, relations, discourses and knowledge. The practice in which an actor partakes thus influences their behaviour and ideas, via situated interpretations of objectives, rules, relations, discourses and knowledge (Bevir and Rhodes, 2006; Van der Arend & Behagel, 2011; Arts *et al.,* 2014).

Rationalism claims that autonomous individuals can have experiences, reason and act detached from social context. From a poststructuralist view, and in interpretive approaches, the concept of autonomy is often rejected, since all experiences and thoughts are said to be influenced by societal structures and discourse. Bevir and Rhodes (2006) however emphasize that the rejection of autonomy does not exclude a role for agency. Actors can work intentionally and sensibly, making decisions to achieve specific goals (See e.g. Nandigama, 2012). These sensible and intentional actions however start from a certain background; such as discourse or practice. Nevertheless, actors still have the ability to act and reason in novel ways. Agency is thus not autonomous, but performed in- and influenced by a social context; it is situated. Exemplary studies on situated agencies can e.g. be found in the fields of risk environments (Fitzgerald, 2009), gender and social choice (Peter, 2003) and foreign policy (Bevir *et al.,* 2013; Bevir & Daddow, 2015).

Situated agency states that the ability to conform to, or reject, rules, traditions and discourse is located in practice (Arts *et al.,* 2012). For illustrating this situated-ness, Bevir *et al.* (2003) introduced the concept of tradition. Individuals are 'born' in a social structure, a tradition, that functions as an influential background to their actions and beliefs. Nevertheless, these individuals are able to adapt, refute or renew the traditions they inherited. The incorporation of new

aspects, and therewith change of the tradition, is however brought about via the reasoning of the tradition they inherited (Bevir & Rhodes, 2006). When applying this socio-cultural notion of tradition to everyday (working) practices, these traditions can be viewed as routines. People act routinely and in accord with the 'modus operandi' that is embedded in a specific practice and its routines and principles (Arts *et al.,* 2012). As the example of tradition made clear actors are merely guided (not constraint) by these routines, which allows for actors to act otherwise. This again indicates that actors are to a certain degree produced by social structures, whilst also acknowledging the capacity of actors to exert a certain type of agency (Van der Arend & Behagel, 2011; Arts *et al.,* 2012).

When actors are confronted with dilemma's, disruptive events or novel ideas these situated agencies become most visible (Bevir & Rhodes, 2006; Arts *et al.,* 2014). Actors have the capacity to accommodate new interpretations in an existing web of beliefs and practices (Bevir *et al.,* 2013) . Via e.g. the adoption of new discourse or the performance of actions that lie outside original practices, actors can gradually change or add to the practice they are in (Van der Arend & Behagel, 2011). However, since people can adopt beliefs and routines for reasons other than given by social structure, agency also occurs on a daily basis, in absence of shock events (Bevir & Rhodes, 2006; Van der Arend & Behagel, 2011). In these daily routines, interpretations are made whilst thinking, speaking and acting (Arts *et al.,* 2012). Or as Van der Arend & Behagel (2011) formulate it, these interpretations are applied in 'real-time'. This capacity is essential due to the 'circularity of social knowledge' (Giddens, cited in Bevir *et al.,* 2003; p 7) - and the new circumstances it creates- altering the playing field for actors. Since the interpretations are specific and contingent, there will always be scope for improvisation (Arts *et al.,* 2014). This leaves space for behavioural and social change (Arts *et al.,* 2012). It should be stressed that that this potential for doing things differently is neither to be attributed to these actors' autonomy, nor to agency. Moreover, social change is shaped in the entwinement of individual actors and institutional structures (Arts *et al.,* 2014). Determinants of change are herein: the practice in which the actors are situated and the capacity of actors to improvise (Arts *et al.,* 2012). Situated agency thus 'decentres' the source of agency away from individual autonomous actors, and towards practice (Arts *et al.,* 2014). Situated agency herewith "emphasizes the social dimension of agency (organisations, networks), its discursive aspects (language, discourse) as well as its material setting (bodies, artefacts, nature)" (Arts *et al.,* 2012; p 11). Furthermore, situated agency recognizes that 'ideas, behaviours and identities of actors one the one hand, and traditions, rules and discourses on the other continuously co-shape each other (...) one cannot be taken to pre-exist or cause the other' (Arts *et al.,* 2014; p3). From the characteristics on situated agency displayed above, one could distil a certain discussion on the role of the situated-ness of agency. Though the situated-ness of agency could be viewed as a constraint on the agencies of individuals, it also embeds notions of empowerment when actions arise via active interpretation, reshaping and use of social context in accord with their own intentions (Bevir, 2006). An example of empowering

notions on situated agency can be found in e.g. bricolage practices (see De Koning, 2011).

As part of exploring the characteristic and potential of situated agency, we here also discuss the relation between meaning and discourse. Bevir and Rhodes claim that poststructuralists sometimes rely on large, aggregate concepts -such as discourse- to explain situations. The idea that these 'quasi-structures' could fix meanings fully neglects agency and is incompatible with the poststructuralists' own emphasis on contingency and particularity (Bevir & Rhodes, 2006). An emphasis which we also see in the practice based approach (Arts *et al.,* 2012) and the wider domain of interpretative policy analysis (Yanow, 2007). Suggesting that people can arrive at beliefs via disembodied discourse or structure, rejects the capacity of people to change this discourse of structure. The concept of situated agency can aid in developing understanding of the relation between meaning and discourse.

2.2.3 Performativity

'Performativity' is the final sensitizing concept of the practice based approach. It argues that language, be it spoken word or written text, is not something neutral but an active intervention into the world it seeks to represent. It is 'language that does something besides being representational' (Waage & Benediktsson, 2010). By shaping our understanding of things, language -or discursive materials- can have effects on the social construction of reality.

A central construct for understanding reality is discourse, which could refer to 'a specific series of representations and practices through which meanings are produced, identities constituted, social relations established, and political and ethical outcomes made more or less possible' (Bialasiewicz *et al.,* 2007: p 406). From a poststructuralist point of view, discourse involves not only linguistics and the spoken 'ideal', but also non-linguistics and the 'material' practice. Discourses are said to be 'performative', since they affect reality by constituting the objects of which they speak (See Beunen *et al.,* 2013). Therewith, it impacts both how we understand the world and the way we act upon it. In this light, discourse is not just something that individuals use to describe objects, it is something that performs by constructing both actors and their surroundings in accordance with the discourse they utter (Bialasiewicz *et al.,* 2007). The concept of performativity refers to both 'the power that knowledge and discourses have to create social practices and to the role that these practices play in sustaining, changing or even resisting these forms of knowledge production' (Arts *et al.,* 2014: p3).

The turn towards performative construction implies that identities, discourse and the social world do not exist ex-ante to social processes, and therewith offers possibilities for thinking about the social constructed-ness and embedment of identity and agency (Gregson and Rose, 2000). Furthermore, this move away from the idea from discourse as descriptive and deterministic, leads us towards the 'materialization' of discourse (see Butler as cited in Bialasiewicz *et al.,* 2007; p.407). This 'materialization' of discourse stresses an embedment in practice by:

linking the linguistic features to material realities, acknowledging the social constraints of discourse production, and noting the non-deterministic nature of discourse and leaving room for agency (Bialasiewicz *et al.,* 2007). Performativity herewith negotiates the ideal/material dichotomy; image and text versus lived practice (see Nash, 2000), and does so without privileging one over the other.

Whereas the origin of performativity was founded in linguistics (theory of speech, see Austin 1962), the Foucault-inspired poststructuralist interpretation focuses on its capacity to construct social reality and the continuous, contingent and temporal nature of this construction (Beunen, *et al.,* 2013). Performativity is thus not a single act, but a reiteration of norms that have become central to a socio-historically shaped practice through repetition and narration (Nash, 2000). Hence, discourse and knowledge cannot be distilled from practice, since they are part of this practice and are herein performed through improvisation, dilemmas and social events (Arts *et al.,* 2014). These 'citational practices' can both reproduce or subvert discourse, and both enable and restrict individuals (Gregson and Rose, 2000: p 434, 441). Stating that discourse can be subverted requires the possibility for acts of reiteration to deviate from the norm. Lloyd acknowledges this thought and emphasizes that agents performing the citational practices can improvise and find new possibilities, however, they do so remaining relatively close to the norms embedded in the practice (Lloyd, 1990: 197). Research on the performance of a failure narrative in conservation policy by Beunen et al (2013) exemplify this, by showing how alternative understandings of reality were marginalized once a certain understanding (that of failure) had become entrenched. This repetitive nature of performativity thus creates a certain focus which has implications for real life settings. In the article of Turnhout et al (2014) this is demonstrated via the concept of biodiversity (also see Boonman-Berson and Turnhout, 2012). An 'ecosystem service' discourse will produce biodiversity knowledge that performs a world in which ecosystems are to be measured, valued and governed. This focus leaves out other aspects, such as (keystone) species composition and diversity, which could be vital to ecosystem survival (Turnhout *et al.,* 2014: p 585).

Gregson and Rose (2000) see performativity as an important tool to emphasize the creativity of daily life, and point out the contingent nature of taken-for-granted social practices. However, performativity can still be seen as a 'discursive mode through which ontological effects are established' (Bialasiewicz *et al.,* 2007: p. 408). Even though this notion does challenge the idea of individuals ever being free from their performative practice, it does not remove the previously named creativity of daily life, by preserving a form of agency. Individuals can 'perform', but they are confined to conditions laid by the infrastructure of performativity (Bialasiewicz *et al.,* 2007). Performance can be viewed as 'people bringing narrative to life', which entails both the interpretation and embodiment of this narrative (Beunen *et al.,* 2013). Performativity and 'performance' -what individuals do and say- are herein intrinsically connected

through the situated-ness of the performer in a discursive field (Gregson and Rose, 2000).

An important point of discussion herein could be the origins of change in performativity. On the one hand performativity suggests that discourse and knowledge, positioned 'up there', have the ability to shape local practices 'down here'. On the other hand, the local performance of alternative interpretations of discourse and knowledge, could lead to a change in discourse and views on knowledge. Whether a single person could evoke such a change by enforcing a decision of court would be an interesting question in the context of this research.

2.3 Reflections and relevance

2.3.1 Strengths and reflection

This section starts off with highlighting a few of the strengths of the practice based approach. It is aimed to sketch a view on the suitability and applicability of the theory and its methods for certain research fields. Subsequently, some points of reflection are put forward and elaborated upon.

The practice based approach itself can be viewed as a critique of currently accepted theories. Instead of adhering to historical/path-dependent institutionalism (see Hay & Wincott, 1998; Thelen, 1999) or bounded rationality (see Busenberg, 2004), this approach adheres to the epistemological approach of practice, which truly deviates from rational choice and institutionalist positions. It aims to deliver 'a fresh perspective on the (im)possibility of steering, tempering overly optimistic instrumental and sometimes politically naive beliefs about how plans, interventions, models, data and rules can make a difference' (Arts *et al.,* 2014; p6). It is presented as a challenge to linear accounts of governance processes and the too idealistic and straightforward role of knowledge (Wesselink *et al.,* 2013). The sensitizing concepts can generate a deeper understanding of governance processes and outcomes by looking at the intended and unintended consequences of any form of intervention. They are 'sensitive to local and situated contexts, keeping an open vision for alternative explanatory factors that the ones previous research results and/or hypotheses would suggest, and explicitly recognizing heterogeneity of practice' (Arts *et al.,* 2014). It lays bare that apparent evident outcomes can be both contingent and complex, and fragile and context dependent (Arts *et al.,* 2014). By acknowledging the difficulties in steering outcomes the practice based approach presents a more realistic model for understanding human behaviour and social change.

After having noted a few of the strengths of the practice based approach, it is crucial to reflect on the implications of selecting this approach, and with it its theoretical framework and methods. Though practice approaches can and have been widely used, the application of the practice based approach in this

research's domain of land-use or spatial planning seems to be a proper fit. Since Dutch spatial planning is characterized by specific routines the application of the proposed approach could turn out to be fruitful. When reflecting further, it could be said that the approach delivers only few, and non-demarcated analytical concepts. Though Arts *et al.* (2012) note that clearly pre-defined concepts would lead to unjust acts of interpretation, the application of these sensitizing concepts can be a struggle. Gilgun (2002) states that it is important to bear in mind that whilst sensitizing concepts might generate attention for certain aspects, it is very well possible that they draw away attention from other aspects that might be of interest. Finally, this research strongly deals with the impacts of the institutional change caused by Arrest Briels. In essence the practice model, and thus the practice based approach, trivializes the importance of institutions in impacting behaviour and actions. However, formal institutions -such as conservation law- could in this case be a factor that is of significant impact on practices. Even though dealing with regulations could be seen as part of practice, the role of formal institutions (such as laws) in practice theory is somewhat ill-described.

2.3.2 Relevance of PBA for analysing Streamline's practices

In this research we aim to analyse the impact of a recent judicial interpretation (Arrest Briels) of an institution (Habitats directive) on the combination of nature and water-safety goals in the management of floodplains. The change of the script in the middle of performing floodplain management, i.e. program Streamline, has consequences that this thesis agrees to be determined by a situated-ness in practice. Actors that are part of this practice might have to improvise, resulting into different behaviours, altered relations and changing roles of knowledge and discourse. In order to develop such a thorough and deep understanding of what the impacts are, the practice based approach displays a sensitivity to: what was done, by whom, how, where and with what (un)intended consequences, at various levels of the process (Arts *et al.,* 2014). The practice based approach allows for these 'thick descriptions' of impacts on floodplain management. It allows for exploration of the space that is taken for this improvisation, and its effect on floodplain management and the nature it creates

This paper argues that the agency that underlies the responses of actors is not to be attributed to Arrest Briels, nor to the respective actor(s). Rather this agency lies in the entwinement of both, which is situated in socio-historically shaped practices. Furthermore, this thesis acknowledges the importance of site-specific logics of action in determining behaviour of these relevant actors, and refutes the idea of prominent universal logics. Knowledge and discourse can both influence floodplain management practices, but –in the view of this thesis- at the same time practice plays a role in sustaining, changing or resisting this knowledge and discourse, by performing them through improvisation. The practice based approach fulfils this papers' theoretical needs by offering a realistic, critical and in-depth analysis of the consequences of a changing script for the floodplain management arena. By analysing practices in the floodplain management arena with the critical and in-depth orientation of the practice based approach, this

framework can also generate a contribution to the literature on the nature-safety dilemma. It is a type of research that focusses on doings (and sayings and things) and their interrelations (Van der Arend & Behagel, 2014). In establishing this orientation there is a great role for the sensitizing concepts, which allow for methods that can deal with the specificity, contingency and comprehensiveness of practices (Arts *et al.,* 2014).

2.4 Methodological consequences of the practice based approach

The past three sections (2.1/2.3) have been presenting the theoretical aspects of the *heuristic strategy* of this thesis. Now that the practice based approach has been introduced as the main theoretical structure of this thesis, the following section will describe the methodological consequences of selecting the practice based approach.

The practice based approach of Arts *et al.* aims to '(...) *interpret how actors are situated in practices and fields, to observe what they do and say, and with what consequences*' (2012: pp 12). Applied to the problem statement of this thesis, the practice based approach aims to deliver insight in our floodplain actors' practices and observe their improvisations and educed consequences. Arrest Briels can be seen as the 'surprise' that starts off almost all practice based research, as noted by Schatzki *et al.* (2001). This new legal interpretation of one of the institutions in play was unanticipated, and clashed with floodplain management practices (i.e. the routines for relocation of riparian forests) and ultimately the goals of Streamline ánd those of the nature and safety in balance report.

Whereas a traditional linear research process would describe a uni-directional path from question to collection and analysis, the practice based process is overlapping and continual as are many interpretive approaches (Van der Arend & Behagel, 2011: Arts *et al.,* 2012). The practice based approach follows an interpretive approach that builds on ethnography, in depth-case studies or combinations hereof (Arts *et al.,* 2014). As in ethnography, the practice based approach requires 'thick descriptions', which refers to detailed accounts of an event, its contextual setting and the actors and interactions involved (Arts *et al.,* 2012). In ethnography, however, it is all about 'being there' as a way of collecting data (Hammersly & Atkinson, 2007). In this research, as in the policymaking studies of Van der Arend and Behagel (2011), it is not always possible to be present at key events, which mostly take place in informal settings. This prescribes the need for interviews as a main source of data, a topic on which shall be elaborated in the next section.

Practice based research starts from case studies on local problems and relates these to broader theoretical discussions (Arts *et al.,* 2012). In this research the latter regards the (im)possibility of steering governance outcomes

and the use of institutions for establishing behavioural and/or social change. Accordingly, the in-depth case study of Arrest Briels is not employed to make empirical or theoretical generalizations on practices and improvisations, but it can; 1) provide detailed understandings of complex social processes, 2) deliver critical accounts vis-a-vis the proclaimed universality of certain theories, and 3) deliver elaborations of the sensitizing concepts of the practice based approach (Arts *et al.,* 2012).

2.5 Methods: In depth case study and data collection

In order to answer this research's questions and to fulfil its objectives, this study adheres to a single, in-depth case study design. In-depth case studies enable a thorough analysis of a particular phenomenon, and give a holistic and rich understanding of the case (Kumar, 2011). For this research Program Streamline was selected as the in-depth case study through which the impact of Arrest Briels on floodplain management practices was researched. Program Streamline has been selected as the main case of this research due to the relevance of the Arrest within the program (due to the planned vegetation removal measures), and the timing of the appearance of the Arrest in the programs' schedule. Since the program was already up-and-running (in its planning phase, at some locations in executive phase) when the Arrest was installed it provided an opportunity for observing the impact of institutional change on governance outcomes and responses.

For researching whether and how Streamlinepractices have changed, data has been gathered by means of interviews, participant observations and document collection. By interviewing a representative set of involved actors, insights have been gathered on the consequences of Arrest Briels for the field of floodplain management, and the responses by the involved actors. These interviews helped to identify the effects of the Arrest on the actors' modus operandi and the interaction rules concerning floodplain management. Secondly, the analysis of these interviews also provided a proper starting point for analysing a possible change in the actors' relations to knowledge and discourse in the light of this newly adapted script of floodplain management. Since this research aims to get a deeper understanding of the actors' operations and views, the interview format required flexibility in order to indulge in any specificities when they arose. Therefore, this research has made use of open-semi-open interviews, a combination of designs in which a certain layer of basic questions or themes have been addressed, whilst leaving space for additions dependent on the interviewees answers and the dynamics of the interview as a whole. As performed by Van der Arend and Behagel (2011), interviews did not start with addressing policy matters or formal issues, but commenced with the interviewees' experiences, activities and concerns. Whenever a conflict or disruptive event related to the 'change in the floodplain management script' occurred, further probing questions have been posed. In order to remain close to

the interesting, divergent practices of floodplain management, this thesis attempted to answer the research questions at the local and regional level, at which management strategies and problems are most tangible.

Interviews have been conducted with (see table 2, p 30) national government ('Economic Affairs' and 'Infrastructure and Environment' departments), provincial governments (Gelderland, provides N2000 permits), Rijkswaterstaat ('Directorate-General for Public Works and Water Management'; governmental executive organisation on water management), an executive organisation performing Stroomlijn management (i.e. Krinkels-CSO), nature management organisations (i.e. Natuurmonumenten, Staatsbosbeheer), an environmental research institution (i.e. Alterra) and an environmental NGO (i.e. GNMF). The selection of these organisations has not been restrained by a specific geographically demarcated area, such as a river branch. They have been selected on their general role in river management, their involvement in Streamline, the potential scale at which a possible impact could resonate, and their willingness to cooperate. The specific interviewees within these organisation were selected on their knowledgeability regarding floodplain management policy and practice, ánd on their first-hand experience with Arrest Briels and/or its implications. Interviewee selection in this research has been based on the previously named criteria combined with snowballing.

Furthermore, documents have been gathered to add to the contextualisation of the data retrieved from the interviews. Whenever relevant reports or other writings on the matter were available these have been collected and studied in order to contribute to knowledge on the floodplain management practices and their societal, political and policy context. These documents range from informative flyers for local inhabitants regarding the performed streamline activities, to correspondence to/and from the house of representatives, to strategic policy documents, such as the Nature and Safety in Balance report. In addition, participant observation has been analysed and incorporated in the detailed accounts on relevant actors. These should contribute to the understanding of floodplain management practices, the improvisations of relevant actors and the (un)intended consequences thereof.

2.6 Methods: Data analysis

The analysis of the collected data has been performed in close alignment with Wagenaar's application of grounded theory in his book 'Meaning in Action'(2014). When discussing data analysis in an interpretive approach, such as the practice based approach, it should firstly be underlined that data collection and data analysis are not two separate steps in a uni-directional process. Also for this research it has been an iterative process in which the collection and analysis phases overlap. Only for presenting the reader with a comprehensible structure these two are addressed separately.

Before addressing the actual analysis of the data it is important to briefly clarify this research's view on the link between method and theory, as it is fundamental for understanding the path this research has followed. As noted by Wagenaar (2014): boiling this research's analytical perspective down to the mere application of a method would '*tax the heart and soul*' of the '*heuristic lifeblood'* of this interpretivist research. Method and theory have been far from detached components in this research. Method is never free from theory, noted Wagenaar (2014), making him suggest that for interpretive policy research one should speak of a heuristic, a strategy for discovery, instead of a method. In accordance with this understanding this thesis attempted to install a heuristic strategy that, as Wagenaar coined, was to generate '*a dialogue between theory and the world*' (2014). This call for a continual interplay between collection and analysis has already been introduced in the 60's in Grounded Theory (Glaser & Strauss,2009), and is also typical for a practice based approach (Arts *et al.,* 2012). In this thesis understanding has been developed gradually by letting data collection, analysis and theory building shape each other. Whilst data was collected it was already scrutinized for evidence of early hunches and possibly the development or adaptation of these hunches. Exemplary for the iterative nature of this process, this mix of data collection and analysis has resulted in the further development of the data collection process, and the development of theory. In order to accommodate an ongoing dialogue between theory and data, interviews and other empirical materials were analysed in between and during the collection of other and new data. This pathway underlines that assumptions, and the room for adapting these through the slow accumulation of knowledge and expertise, have been important in conducting this research.

Coding

For the actual analysis of the interviews two sets of coding have been used. For designing and applying the codes this research has made use of 'Atlas.ti', a qualitative data analysis research software program. By coding, the empirical realities from the interviews could be lifted to a higher level of conceptual abstraction. This allowed for a description and explanation of the data at a scale that was relevant to not only the interviewed actor, but also to the field of floodplain management as a whole. Firstly, an inductive style of coding has been applied. Codes were developed on the basis of the interviewees reports, whilst reading, without establishing linkages with theoretical framework of this research. This strategy of 'bottom-up' coding allowed for the empirics to speak without too much steering and/or intervention by theoretical frames (i.e. the sensitizing concepts and practice theory). Secondly, a top-down style of coding has been applied that made use of codes that were developed at more of a distance to the data. These codes were designed on the basis of practice theory and two of its sensitizing concepts; logic of practice and situated agency. This top-down coding collected data that was directly relatable to the sensitizing concepts and the research questions they are linked with. After having coded all

the interviews the bottom-up codes were, when applicable, linked to the top-down codes in order to enrich the answers to the (theory guided) research questions. The method for coding enabled a thorough and in-depth analysis of the interviews reports. The document analysis has served to establish a solid understanding on the contents of- and dynamics surrounding the Streamline program. Also these could be placed in perspective by examining earlier floodplain management projects. For getting a better grips on how the operational phase of such a program is ran, this research also included an observation of the performance of Streamline measures. This form of participant observation has supported a more thorough understanding of the workings of the project which has benefitted both the analysis as the outcomes.

Table 2 Overview of interviewees. Note: abbreviations in the text that are followed by a number refer, whilst abbreviations without a number refer to organisations.

Interviewee Code	**Organisations**	**Position**
EZ1	Ministry of Economic Affairs	Senior policy officer
EZ2	Ministry of Economic Affairs	Permit operator
RWS1	Directorate-General for Public Works and Water Management (Rijkswaterstaat or RWS)	Environmental advisor
RWS2	Directorate-General for Public Works and Water Management	Program director Streamline
IenM1	Ministry of Environment and Infrastructure	Senior policy officer
IenM2	Ministry of Environment and Infrastructure	Senior policy officer
SBB1	State Forestry Service (Staatsbosbeheer or SBB)	Program director Streamline
SBB2	State Forestry Service	River ecologist
PG11	Province of Gelderland (or PG)	Senior policy Officer
NM1	Natuurmonumenten	Nature management officer
GNMF1	Geldersche Nature and Evironmental organisation (Geldersche Natuur en Milieu Federatie or GNMF)	Senior policy officer
ALT1	Alterra	Researcher

Chapter 3 Case description

This chapter will provide a concise description of the field of floodplain management, and engages with; the a general introduction to Dutch floodplain nature management, the Room for the River program, and in more detail the Streamline project and the Briels Arrest. This chapter aims to deliver both a structured overview of- and more detailed specifications on this thesis' in-depth case and its context.

3.1 Floodplain management

The Netherlands is a densely urbanized country with a long history in fighting floods. Safety efforts conventionally consisted of solely technical measures such as building dikes and increasing drainage capacities. These tasks have been performed by engineers, who operate within well-established water boards that control specific geographical areas (Wolsink, 2006). In the years pre-dating the 1980s the main thoughts on appropriate usage of riverine systems were safety-oriented and/or of an agricultural nature. One of the most influential changes concerned an increase in attention for the rivers' ecological status. Implementing these thoughts in Dutch floodplains required an integrated land-use approach in order to address its trade-off with flood protection. Bringing together nature rehabilitation and flood protection, 'Plan Ooievaar' (Bruin et al, 1987) was the first spatial development endeavour that attempted to reconcile these differences and incorporate nature with other societal demands such as recreation, maritime transport, mining extraction and flood protection.

Core to the natural rehabilitation approach has been the concept of 'self-regulating nature' (Ward *et al.,* 2001); which translated to a focus on natural processes (such as erosion, sedimentation, natural rejuvenation of vegetation) and dynamic management by means of large grazers. It argued for a spatial rearrangement of nature and agriculture that resulted in, amongst others, a more dominant presence of nature and natural processes in the floodplains. For the first time such linkages between different domains were made and performed in the floodplains on this scale. Accordingly, this cooperation could be seen as part of the fundament on which current thoughts of the potentiality of a synergetic nature-safety relation have been build. Even though there was international recognition of the imperative role of nature in flood-protection (declaration of Arles), the floods of 1993 and 1995 (Van Heezik, 2006) increased the awareness that, as a downstream country, the Dutch rivers' discharge capacity had to be promoted.

3.2 Room for the river

The Room for the River program, launched in 2006, aimed to increase the river's discharge capacity through spatial measures. The use of space behind the riverine dikes had intensified over the years, resulting in more severe consequences if a flooding would occur. Furthermore, climate change is expected

to result in an increase of peaks in river discharge, adding to the vulnerability of the areas that are prone to flooding. It was reasoned that raising the dikes, as has been done extensively in the past, would lower the flood risk, but also increase the potential consequences.

In order to keep the Netherlands both safe, liveable and attractive it has been chosen to provide more 'room for the river'. In 2006 the Cabinet drew up the Spatial Planning Key Decision Room for the River (in Dutch: Planologische Kernbeslissing Ruimte voor de Rivier, or PKB RvdR). Throughout the Room for the River program was performed by a diverse set of spatial measures, amongst which: the displacement of dikes further inland, deepening of the forelands, excavating lateral branches and lowering of groynes (see fig. 1). Non-spatial interventions, i.e. the reinforcement of dikes, are only applied when the spatial measures appear to be inadequate or non-cost-effective.

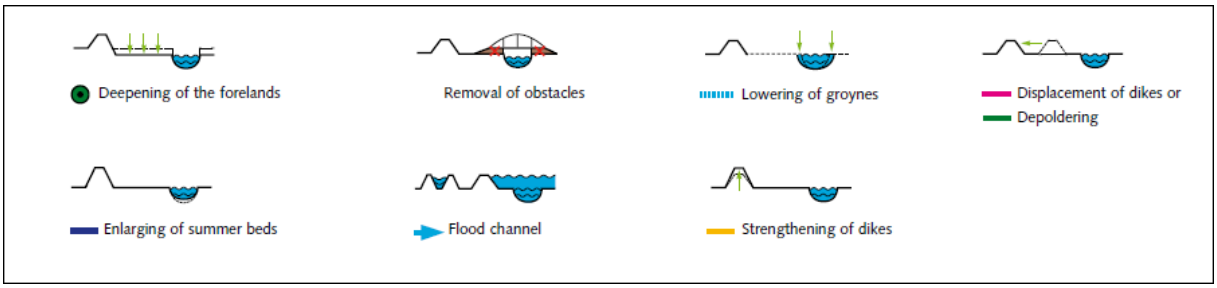

Figure 1 Overview of spatial interventions in the Room for the River Program. From Ministry I&M, 2006.

The PKB RvdR's spatial measures combined flood protection with other interests, stimulating integrative approaches and 'win-win' situations that lead to positive outcomes in multiple domains, also for nature (Fliervoet *et al.,* 2013). Many of the spatial measures potentially allow for more natural dynamics supporting a more natural fluvial system, e.g. via the reconstruction of natural river components such as lateral branches. The PKB RvdR officially ended in 2015 and was viewed by many as a success. The large scale, win-win, spatial interventions resulted in multifunctional landscapes that were established in accord with many different groups of actors.

3.3 Streamline: back to the baseline

The Streamline program is an effort that aims to reduce the amount of rough vegetation in the floodplains to a level as seen in 1996. The hydraulic state of the floodplains in this year has been used as a reference for the design of the PKB RvdR (Ministerie I&M, 2012c). Completing Streamline's vegetation removal can be viewed as a precondition for the PKB RvdR program to reach its envisioned flood risk reduction targets. Already in the early phase of designing the PKB RvdR it was acknowledged that something had to be done with regards to vegetation in the floodplains:

> *"(..) Compared to 1997 the riverine areas have shown a lack of management at a nationwide level (Meuse and Rhine) of approximately a few hundreds of hectares*

of rough vegetation spread over different floodplains and river banks. (…) The cumulative effect of this vegetation along the rivers is expected to amount to a few centimetres. In order to nullify this obstructing effect it has priority to compensate or remove this vegetation". (Ministerie I&M, 2007; p 98)

As identified by Geerlings *et al.* (2008) the cover of vegetation in the floodplains has increased considerably due to the conversion of agricultural grasslands to natural grasslands, and due to the development of scrubs and riparian forests in nature areas and on 'extensified' agricultural lands.

For removing this 'excess rough vegetation' from the floodplains (see table 3 for an overview on classifications), Streamline has developed a 'stroombaan approach'. The 'stroombaan' (in English: 'flow path') is a term used to demarcate the area in the floodplains where the water discharge of the river is calculated to be largest[4], and where therefore the removal of vegetation is most effective (Ministerie I&M, 2012). For *inside the stroombaan* RWS applied the adage: 'Stroombaan glad, tenzij' (in English: 'Flow pathtroombaan Smooth, unless') (Ministerie I&M, 2012a). Any vegetation that does not belong to the 'smooth' vegetation class 'Grass- and arable lands' is to be removed from the floodplains, unless; a) other arrangements have been made (established in permits or private law agreements), or b) the removal is incompatible with laws and regulations. For the part of the floodplain that lies *outside of the stroombaan* a 'stand still' principle is applied. This principle entails that the vegetation in this zone may not: a) change in roughness class (e.g. develop from reeds to forest,), b) exceed its current cover, or c) move from its current position on the map (since an alternative location -e.g. closer to the riverbed- may pose a larger flood risk).

	Nr of Ha.
Project area Streamline vegetation removal	70.451
Area in project area where vegetation management is required, but not yet arranged	37.408
Outside Stroombaan	24.183
Inside Stroombaan:	13.225
• Agricultural grassland and arable farming lands (inside stoombaan)	11.782
• Areaal of Rough Vegetation (inside stoombaan), of which;	1.443
➢ Reeds/roughness	*724*
➢ Thicket /Shrubs	*160*
➢ Forest	*559*

Table 3 Cover of different areas within the project area of Streamline (adapted from Ministerie I&M 2012a; p 19)

In performing the stroombaan approach certain flood protection targets were aimed for. Streamline had to complement the PKB Room for the River (Rhine) and Maaswerken program (Meuse) that were designed to keep the Netherlands safe at 'Maatgevende Hoogwaterstand', or MHW, of Rhine (16.000 m3/s) and

[4] WAQUA calculations for Rhine and Meuse. The results of the analysis are described in the CSO report "Stroombaananalyse Stroomlijn, verantwoordingsrapportage, projectcode 11k127, 7 december 2011

Meuse (3.275 m3/s). MHW refers to the water level that is used as a point of reference for the design of the primary water defence structures (e.g. dikes). Model calculations on the success of the performance of Streamline will however only be performed after completion of the program. To provide the engineering firms that design and execute the removals with a guideline on how much rough vegetation was to be removed the '70% removal' rule of thumb was established. Streamline's vegetation removal is performed in different stages, since this allows for *"applying past experiences for making later measures to be implemented faster and more effective, and to allow for steering during the project"* (Ministerie I&M, 2012d: p2). The 'Normative Framework Vegetation Management Large Rivers' document (Ministerie I&M, 2012a) has been the product of this learning experience and has guided the performance of the streamline program. In the first two phases of the project Rijkswaterstaat cooperated with the large site management organisations, amongst which mostly nature management organisations (such as the State Forestry Service, Natuurmonumenten etc.). In the third and final phase the smaller sized floodplain lands are addressed. These include small areas of e.g. nature management organisations, but also 439 ha. Belonging to individual landowners and businesses. For planning and performing this third stage engineering/advisory agencies were hired. For the five different project areas (for spatial locations see fig. 2, next page) Rijkswaterstaat selected four different executive agencies.

After Streamline's efforts on re-establishing the vegetation baseline, both in and outside of the stroombaan, the newly acquired vegetation state of the floodplains has to be maintained. The management of the floodplains is designed via the 'vegetatielegger'. In essence, the vegetatielegger is no more than a set of overview maps (with descriptions) that displays the location of the vegetation and the roughness class it is assigned to (see fig 3 for an example, next page). Since the ownership of lands in the floodplains is diverse, the project leader Rijkswaterstaat cooperates closely with many other site management organisations. If needed vegetation can legitimately be removed from the lands of third party lands via the 'gedoogplicht', that is embedded in the Waterwet, which would legally coerce the external party to 'tolerate' such actions.

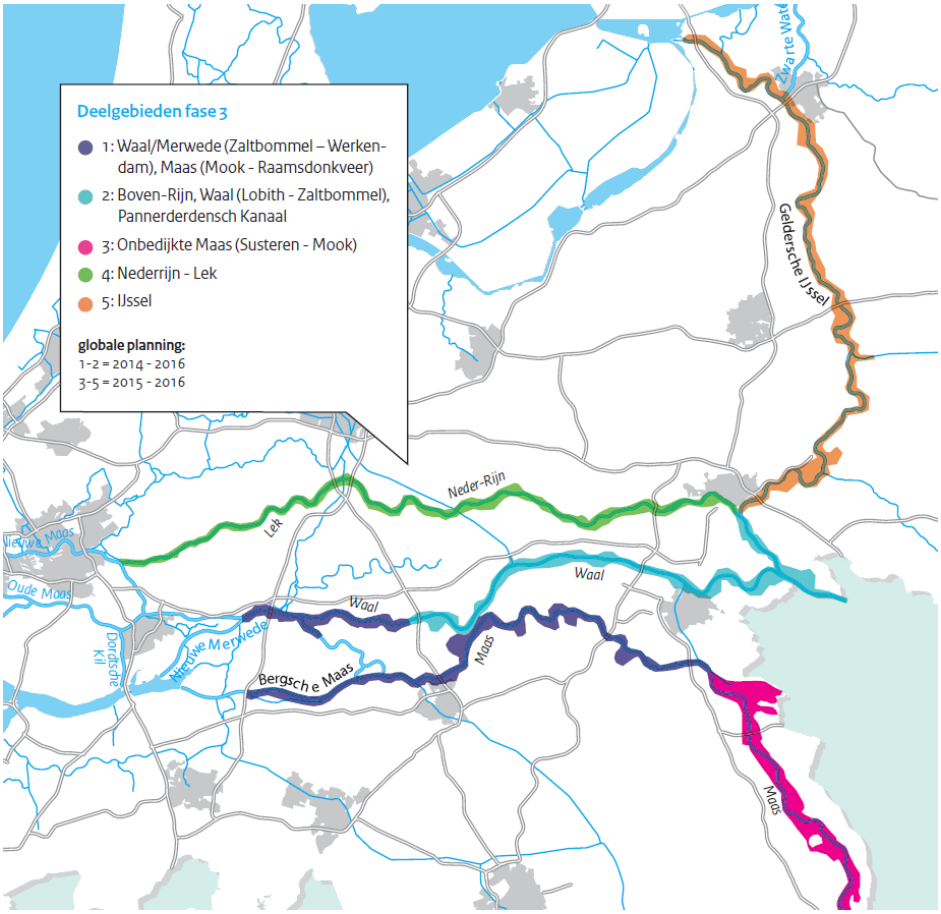

Figure 2 Overview of the project areas, retrieved from **http://www.rijkswaterstaat.nl/water/waterbeheer/bescherming-tegen-het-water/maatregelen-om-overstromingen-te-voorkomen/programma-stroomlijn/** (07-07-2016: 13:45)

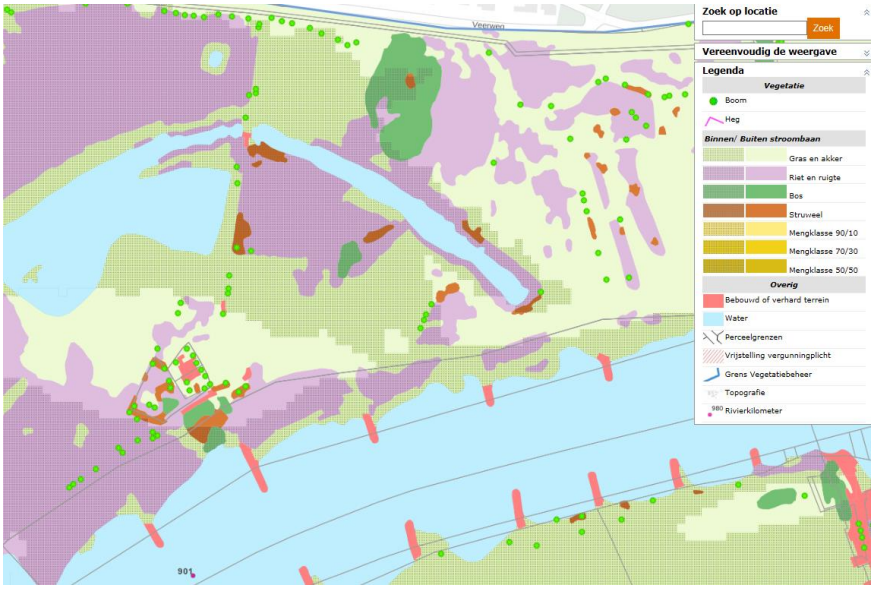

Figure 3 A vegetatielegger overview map of the Wageningse Bovenpolder, Lower-Rhine. Retrieved via the 'Vegetatielegger GIS-viewer' on 08/07, 14:45 (http://demo-geoservices.rijkswaterstaat.nl/vegetatielegger/).

3.5 The nature and safety in balance report

As has been the case in the Room for the River program, the floodplain arena developed a cooperative approach to the Streamline's vegetation removal that was to account for both flood protection and nature interests. Furthermore, the Streamline program has also embedded the floodplain management's ideal of establishing synergetic solutions.

In the context of Streamline, Rijkswaterstaat requested Staatsbosbeheer to draft a report that supported the search for a balance between nature and safety values in the floodplains. The 'Nature and Safety in Balance report' (Staatsbosbeheer, 2014) is a report that provides a vision on the sustainable combination of values, both on the short term; in Streamline, and on the long term; in the Vegetatielegger (Ministerie I&M, 2015b). Streamline's planned removal of rough vegetation also included the removal of N2000 protected vegetation. The report therefore thoroughly engaged with the question on how N2000 riparian forests could be spatially (re)arranged from the stroombaan towards locations that were both ecologically valuable and non-flood risk sensitive (outside of the stroombaan). The added value for ecology would be to relocate the vegetation into forest core areas that are located outside of the stroombaan. This spatial rearrangement or re-allotment that is part of the report is referred to as the Reparcelling plan (in Dutch: Herverkavelingsplan). Since the current status of N2000 forests in the floodplain displays a high degree of fragmentation, executing the Reparcelling plan is of great value for achieving defragmentation oriented nature objectives. Using Streamline's mandatory compensation efforts for realizing a Reparcelling is therefore viewed as a win-win situation.

The Nature and Safety in Balance report delivered an overview of the most optimal and promising locations for where to develop rough vegetation types (mainly focussed on forests) and where to locate the hydraulically smooth 'xeric sand calcareous grasslands' (H6120, 'Stroomdalgrasland'). This report concluded that there was about 1200 ha of land where rough vegetation could potentially be developed (Staatsbosbeheer, 2014). For the third phase of Streamline approximately 35 ha of N2000 protected riparian forest would have to be removed. In essence, this would mean that around 40 or 50 ha of new forest would have to be developed to comply with Natura 2000's mitigation or compensation obligations. However, as reported in the letter from RWS to I&M (Ministerie I&M, 2015b) it was found that only 3 ha could be used for developing rough vegetation on the short term. It is argued that ownership of the lands, municipal zoning plans' status, rigid nature legislation and lack of local support are some of the main causes for the little surface area available for the Reparcelling plan. The next section of this research, however, presents Arrest Briels as a paramount legal issue in finding opportunity for using the 1200 ha for completing the relocation of rough vegetation.

3.6 The Briels Arrest

As already introduced in the problem statement of this thesis Arrest Briels[5] is a legal interpretation of Natura 2000 legislation that was intalled during the Streamline program. The Arrest delineated the two routes, mitigation and compensation, via which (expected) impacts on Natura 2000 are to be dealt with. This delineation prevents the routinal use of mitigation that has become an important approach to dealing with N2000 vegetation removal in the floodplains.

In performing a spatial intervention in the Dutch floodplains it is necessary to pay attention to habitats and/or species that are protected via the Natura 2000 protection scheme. Whenever a N2000 site (protected under the Nature protection act) could potentially endure any effects, the project initiator has to apply for a permit at the ministry of Economic Affairs. Firstly, to establish whether there could be an effect, a 'screening' (in Dutch: 'voortoets') has to be performed. Whenever this Screening reveals that there is a chance of these effects being significant the 'appropriate assessment' (in Dutch: 'passende beoordeling') has to be made. The appropriate assessment, in turn, entails a further exploration of the potential impacts and an assessment on the potential for mitigating the potential effects. If *mitigation* cannot prevent significant effects on the 'conservation objectives' (in Dutch: instandhoudingsdoelstellingen), the three-step derogation tests[6] have to be entered to see whether or how these effects can be compensated for. When applying the three-step derogation tests one most 1) look for alternative solutions, 2) identify imperative reasons of overriding public interest, and 3) take compensatory measures (Kistenkas, 2012).

Floodplain programs would *mitigate* for the significant effects caused by removing N2000 vegetation by developing the lost natural values at an alternative location. Before Arrest Briels, the distinction between mitigation and compensation was relatively vague. This has provided the applicant with a certain degree of freedom, which was used to steer the application away from the compensation track, and towards the mitigation track. The origin of Arrest Briels lies in a project led by the ministry of Infrastructure and Environment. The planned broadening of the A2 motorway between s-Hertogenbosch and Eindhoven was identified to produce significant effects on the conservation targets of N2000 areas: 'Vlijmens Ven', 'Moerputten' & 'Bossche Broek'. Already at an early stage the project initiators therefore set up plans to mitigate these effects by developing the affected vegetation types at an alternative location. Briels judged that these measures qualify as compensation rather than mitigation, resulting in the need for taking this different legal trajectory.

[5] HvJ EU 15 mei 2014, zaak C-521/12, T.C. Briels e.a./Minister van Infrastructuur & Milieu, ECLI:EU:C:2014:330

[6] In the Netherlands these derogation tests are known as the 'ADC-toets', which can be found in article 19g en 19h of the 'Natuurbeschermingswet',1998.

Since a similar use of the now obstructed mitigation mode was also applied in the floodplain arena, this jurisprudence installs a new legal context for floodplain management. The way in which N2000 vegetation was removed and relocated in many floodplain management projects could no longer qualify for a permit via the mitigation trajectory. Arrest Briels, finalized in May 2014, inhibits the further procurement of permits via the mitigation track. Streamline had already applied the mitigation track for removing and relocating N2000 vegetation (e.g. in the de Beuningse Waard). The remaining vegetation removals, that were to be applied for permits in the phase after May 2014 (Arrest Briels), could from now on only be performed via compensation, which deviates from floodplain arena's routines. Compensation requires the obligatory search for alternatives. Rijkswaterstaat fears that this search will prescribe costly and time-consuming measures for flood-risk reduction, such as the heightening of dikes, lowering of river groynes and digging of laterals. Aside from being regarded as expensive and time-consuming, these measures are also seen as dissentious with national policy aims, which prescribe a larger role for spatial measures. In the view of Rijkswaterstaat the alternatives-research could thus amount to limited space for integral, win-win oriented projects.

Chapter 4 Results – The generative principles of floodplain practice

In this chapter the collected data is confronted with the *logic of practice,* this research's first sensitizing concept, and vice-versa. Establishing an interface between the empirical materials and this theoretical point of view aims to both shed a new light on the Streamline case, and enrich the concept of the logic of practice. Entangled in this coaction of empirics and theory the following research question is placed:

What did the logic of floodplain practice look like before the instalment of Arrest Briels?

By asking this question it is aimed to make sense of the new course of events that have unfolded at the interplay of this 'new' institution and relevant floodplain actors. The new policy practices and other reactions are responses that are oriented from a certain socio-historic field, which builds on a specific logic that constitutes this field. In order to understand the reactions of floodplain actors it is thus imperative to cognitively dismantle their practice, with the aim to: identify its building blocks, scrutinize their interrelations, and reveal the intrinsic drivers that privilege certain responses over others.

For describing what the *logic* of floodplain practice actually entails this chapter has gathered insights on its constituents. These parts that make up a logic of practice are described as generative principles, a term coined by Bourdieu (1990). This research identifies a *cooperative*, a *synergetic* and a *results-oriented* principle. This chapter will describe these generative principles by means of historical floodplain narratives, (in)formal policy documents and practical examples as provided by the interviewees.

4.1 The cooperative principle: floodplain management as a joint venture

The first of the principles that is identified as guiding in floodplain management interactions is one of *cooperation*. The results show that floodplain discussions display a type of mutual understanding amongst actors from the nature and water safety domain. On the basis of this mutual understanding, actors report that it is attempted to work towards each other, taking each other's objectives into account and making concessions when possible. This resulted in an unwritten rule on informing and involving other actors and their interests when dealing with floodplain management. The results show the presence of a cooperative principle through the interviewees acknowledgements of other interests and attempts of 'working towards each other'. It is important to note that this cooperative principle is reported to be based on a give-and-take attitude or providing service to one another, with limited joint responsibilities. This

approach can be contrasted by a more collaborative approach, involving shared author- and ownership, which will be discussed in the synergetic principle.

In the first part of this chapter on the cooperative principle section the degree of mutual understanding between water safety- and nature actors is introduced. Subsequently, the thoughts of floodplain actors on the need for cooperation will be presented. Thereafter, some concrete examples on 'working towards each other are presented'. In conclusion, a brief summary with the main findings is presented.

4.1.1 Mutual understandings and the acknowledgement of each other's interests

Whenever the balance between water safety- and natural values in floodplain management was brought up, most of the interviewees started off with acknowledging the presence of the other values and interests aside from their own. As also noted by the Wolfert *et al.* floodplain actors are required to *'demonstrate a certain suppleness to find space for the multiple goals'* (2006: p. 37).

Nature actors

Recognizing the importance of water safety values has shown to be very prominent amongst the interviewees from the natural domain. SBB1 acknowledges the importance of water safety values:

> ***SBB1*** *No one can be against safety, we think safety and nature are equally important, as more or less a governmental agency we therefore also want to contribute to that, but it shouldn't be at the expense of nature. And at a local level that means that sometimes you need to make compromises, at one location nature and at the other safety.*

As a Streamline project manager, SBB1 is responsible for the coordination of SBB Streamline activities for the riparian region of the IJssel river. Since SBB1 herein also functions as RWS's main partner for dialogue, SBB1 has extensive, first-hand experience with negotiations on the balance between nature and water-safety values. The quote demonstrates that SBB1 strongly acknowledges the importance of water safety values. After introducing that "no one can be against safety", water safety and natural values are presented as equally important to Staatsbosbeheer's floodplain practices. Accordingly, cooperating with RWS in establishing multifunctional floodplains seems to be viewed as an important aspect of floodplain practice. Interestingly, the felt obligation to contribute to water safety values is (to a certain degree) explicitly linked to SBB's affiliation with the Dutch National Government. Interviewee GNMF1 concurs with this view and states that SBB is properly schooled in cooperation and deliberation tactics. Furthermore, SBB1 notes that safety efforts should not come at the expense of natural values. According to SBB1 this translates to making compromises at the

local level: "at one location nature and at the other safety". Maintaining a balance between water safety and nature values is herein reached through compromise. In such a 'give-and-take' approach the 'you scratch my back, and I will scratch yours', or *quid pro quo*, mentality appears to be prominent. On the continuum of interaction such an approach aligns strongly with 'cooperation'; a mode of interaction in which actors primarily share information whilst working towards their own objectives. The latter is an important characteristic since the lack of integrated, co-authored solutions distinguishes this mode of interaction from the mutual-gains oriented forms of 'collaboration'.

SBB1 states that discussions between water- and nature practitioners are an important aspect of cooperation in floodplain practices. These discussions are noted to serve the purpose of "learning from each other" and "learning each other's language". SBB1 links these to the need to cooperate: "we have to do it together". In turn, the learning and improved understanding of one another should benefit the cooperation between the water and nature practitioners. Also at the management level of Staatsbosbeheer's practices there seems to be an acknowledgement of water safety values. SBB2, riverine ecologist at SBB, states that their floodplain nature management measures are to an important degree adjusted to achieving these water safety goals. Accordingly, Staatsbosbeheer places water safety at an equal footing with their own *raison d'être* of nature.

Also at the management level of other nature organisations nature management is being adapted to water safety goals:

> ***NM*** *(t)here is one thing I've always known: you cannot let the floodplains encroach (with vegetation), that's not going to happen, for that the safety interest is too vital, too enormous (…).*

The development of vegetation is being managed to prevent encroachment and its adverse effects on the "vital, to enormous" safety interest. On the basis of the statement by NM1 it could be said that the water safety interest is not simply being acknowledged. Stating that its "something I've always known'' exemplifies that this understanding is core to NM's thoughts on floodplain management.

When looking at the view of the ministry on the balance of water safety and nature objectives EZ1 notes:

> ***EZ1*** *regardless of whatever, we will always have nature in the context of the Netherlands, in which many people live (…) so we, also from Nature, we most certainly realize that it is primarily about us being safe.*

As a nature policymaker at a national government level, EZ1 is involved with developing frameworks and long-term visions on the location, quality and quantity of nature in the Netherlands. From this position EZ1 situates the nature objectives in a context that prioritizes people and their safety. Accordingly, water safety interests are not simply acknowledged and placed alongside nature interests, as initially done by SBB1, but appear to be stated as important

preconditions for performing floodplain nature management. EZ1 formulates that this recognition is widely shared amongst actors from the nature domain through stating that "we, also from nature, we certainly realize that it is primarily about us being safe". In accordance with such a broadly shared recognition on the importance of water safety values, such acknowledgements are likely to be part of the logic through which nature organisations operate.

Water safety actors

Water safety practitioners also acknowledge the presence of nature objectives in the floodplains. National policy maker IenM1 notes that in whatever policy the ministry of Infrastructure and Environment makes, they try to hold into account the natural values present in the working areas. In Streamline, IenM1 also feels to have done so through stepping from the initial 'hotspot method' (a predesigned plan on removal of proliferated vegetation at risk areas –hotspots- to improve hydraulic characteristics) towards the more flexible stroombaan approach that still aims for a reduction in water levels but without predetermining the location of vegetation removal. Though the stroombaan approach holds more uncertainty on attaining Streamlines water safety targets, it is better compatible with nature objectives and meets less resistance from nature organisations. Accordingly, the stroombaan model can be viewed as an embodiment of floodplain practice's cooperative nature.

The following statement of RWS1 demonstrates a recognition of the interests of nature actors in Streamline:

> ***RWS1*** *In phase one and two there was a lot of cooperation. Even though this was installed via a paid assignment for SBB. The hours are paid for because we need to realize this water safety assignment, but we recognise your interests therein, as a nature organisation, so we would like to cooperate with you to see how we can both achieve our targets.*

RWS1 notes that Nature actors have been included in the Streamline assignment on the basis of Rijkswaterstaats' acknowledgements on the interests of nature actors in the floodplains. For completing their water safety objectives, RWS1 notes that Rijkswaterstaat wants to work together. RWS1 portrays Streamline negotiations as open-hearted conversations that were characterised by a down-to-earth attitude where there was "a large dose of level-headedness" concerning each other's' interests. According to RWS2 the importance of pursuing a balance between water safety and nature values in the floodplains is agreed upon by all actors.

RWS2 furthermore notes that, from a historical perspective, this mutual understanding and acknowledgement of interests is not something that is to be taken for granted

> ***RWS 2****: "that is something that has changed the last 10 years. This awareness that we both are to realize safety, everyone wants dry feet, also SBB, that is widely shared. And at the same time I, and we at RWS, also understand that the*

river also plays an important role in the natural system of the Netherlands, and that is something we need to have scope for. For this I thought of the adage: smooth where it's needed, and rough where possible (smooth and rough in vegetation terms)".

RWS2 stipulates that, unlike earlier in time, all actors nowadays acknowledge the importance of 'keeping dry feet'. Moreover, this awareness also is said to extent towards a joint responsibility. Noting that the awareness involves the understanding that "we both are to realize safety", suggests that nature actors also have their part to play in keeping the floodplains safe. RWS2 explicitly addresses that Rijkswaterstaat also opened up and now has more scope for treating the river as part of a natural system. It could thus be said that RWS accepts that they have a role to play in maintaining natural values in the floodplains. The adage, as introduced by RWS2 in the quote, could be viewed as a tool through which the interests of water safety and nature actors are balanced.

The statements by RWS1 and RWS2 demonstrate that the acknowledgement of alternative values and interests is widely spread. The prominence of these acknowledgements in floodplain practice underlines the presence of a cooperative logic. Having already identified some links between mutual understanding and cooperation, the next section further explores the role of the cooperative principle in floodplain practice.

4.1.2 Floodplain management: a cooperative effort

The previous section has presented mutual understanding and the acknowledgement of different interests as the first component of floodplain practice's cooperative principle. On the basis of interviewee reports this section will demonstrate 'working towards each other' as the second component on which the cooperative principle is built. After presenting some general thoughts on the importance of working towards each other, some practical examples are presented to demonstrate how it is part of practice.

In order to successfully cooperate in these multifunctional floodplains, interviewees report that there is a need to 'work towards each other'. RWS1 recognizes that there are differences between the water safety- and nature actors, and –in response- argues for working towards each other:

***RWS1:** yes, you do notice that you approach such an assignment from a different perspective. And SBB, for example, they are there for defending nature interests, and they want to make the most of it from that perspective. And RWS just wants to make sure that as many hectares (of rough vegetation) as possible are removed. Well, if everyone keeps on sitting on their own island you won't come together. So you have to meet each other somewhere in between.*

In order to bridge the different perspectives RWS1 sees a need to work with- and towards each other. It is claimed that in the context of the multifunctional nature

of the floodplains it is of no use for both parties to remain 'on their own island'. RWS1 states that the actors of both floodplain dimensions need to meet each other somewhere in between. RWS2 adds that working towards each other is shaped in discussions on how to combine nature and safety interests:

> ***RWS2:*** *You need to get around the table, you need to see what you want to do together. And how can you manage to adapt your plans only a little bit, and satisfy the most number of people. In my experience, this always works out to a large extent.*

RWS2's method on reaching mutually satisfying outcomes through making concessions is demonstrative of working towards each other. By trying to understand each other and looking for common ground, actors attempt to explore the possibilities of assisting or not hampering other interests. Activities related to these attempts are however not to significantly conflict their own interests. RWS urges that for reaching floodplain goals and arriving at broadly supported plans actors need to continue to work towards each other.

Nature management coordinator NM engages with the importance of working towards each other by stressing the need to "join forces". NM stipulates the need for a "long-term development trajectories that aims to have these two objectives come together". In accordance with NM's statement these trajectories involve working towards each other, built upon mutual understanding and acknowledgement. NM stresses the importance of (inter)acting and joining forces for overcoming antagonistic relations, and working towards cooperative ones. NM notes that though actors are doing fairly well in working towards each other, changing policies and rules make the search for common ground into a complex and ponderous process. As an example of a platform for dialogue that provides the base for working towards each other, NM mentions the Nature Managing Organisation days (or NBO-dagen; Natuur Beherende Organisatie dagen) that were set up in Streamline. The NBO days had a valuable role in developing mutual understanding and long-term cooperation as a connector between actors from different domains.

In the following paragraphs four practical examples on this 'working towards each' will be presented and analysed on their role in the cooperative principle.

The first example comes from IenM1, who notes that there is close cooperation between them and the Directorate-General of Agro and Nature, housed by the Ministry of Economic Affairs:

> ***IenM1*** *We (IenM and EZ) always work together in working groups whenever something is drafted. Often with an independent facilitator so we are not the one that has to be sending (information or plans), but we are part of the group that is building it. This results in an advice with which our legal colleagues and us rewrite to a policy guideline. But really, we always make the ideas together.*

In the development of any policy or program, joint working groups are established in order to come to outcomes that are appropriate in multifunctional

floodplains. As an example of the close interaction between these ministries, IenM2 notes that the 'Policy directive Large Rivers' (Beleidslijn Grote Rivieren), was jointly evaluated only recently. One of the outcomes of this evaluation has been that the current 0.1cm maximum of water level increase for spatial interventions is interpreted as a hindrance for reaching nature objectives. Compensating for significant effects on N2000 sites is performed by developming the affected vegetation type at an alternative location. Due to the hydraulic characteristics of such vegetation, its 'roughness', the 0.1cm limit is often exceeded. The 0.1cm-limit is viewed as an impediment for successfully realizing Natura 2000 compensation efforts. IenM2 notes that the evaluation resulted in a review and potential adaptation of the the 0.1cm-policyrule. Accordingly, this joint evaluation can be understood as part of a shift towards an IenM water policy domain that has greater institutional scope for supporting nature objectives. The proposed adaptation also aids water safety interests, since the 0.1cm-maximum could also be a hinder for water safety projects in dealing with nature in a flexible manner.

The second practical example of working towards each other comes from EZ1. EZ1 demonstrates the role of cooperation in contemporary floodplain management by introducing the derogation for the Forest law given for the Streamline program:

> ***EZ1:*** *Yes, that (the derogation from the obligation to replant – Forest Law) happened in a single take. RWS2 was really happy with that. This is a nice example. RWS has shown that they were willing to look at the problems, and to look at how to solve them. (…) And on the other hand EZ also shows willingness to look at where the parties can meet halfway. I believe that the derogation of the forest law is a great example of this.*

Due to this derogation, RWS is no longer obliged to replant all of the trees that are to be removed from the floodplains for completing the Streamline program. EZ1 believes that this derogation is a good example of meeting each other halfway. It is recognized by EZ1 that, unlike earlier, both EZ and RWS are no longer thinking 'monogamously' and show willingness to tackle problems together. Also for Streamline, RWS is said to have acknowledged the interests of nature by looking at how RWS and nature organisations are to come to solutions. EZ1 in turn also sees that EZ has also been prepared to explore where concessions could be made, with the derogation as a fitting example. Accordingly, this example illustrates the important role that a cooperative attitude has come to play in floodplain practices.

As a third example, EZ1 introduces the adaptation of conservation goals in the N2000 concept management plan of the Rijntakken area:

> ***EZ1*** *But as soon as you create lateral trenches, and lower the floodplains, the forage area of the geese is affected. (I)nstead of a foraging conservation target we installed a resting conservation target (..) with the current set of instruments a lot can be done.*

For the Room for the River program soil removals were to take place in order to increase the hydraulic drainage capacity of a specific floodplain. As a consequence, the area of grasslands that was protected as geese foraging area under the Birds Directive, would be decreased. The soil removal would have had significant effects on the foraging conservation goal that was installed in this Special Protected Area (SPA). As a consequence, the Room for the River project had to be put on hold, since the situation appeared to be in a deadlock. For overcoming this problem, the involved nature actors (i.e. the Province of Gelderland, EZ) adapted the SPA's 'foraging conservation goal' into a 'resting conservation goal', allowing for the Room for the River project to continue. EZ1 notes that the adaptation of the conservation goal was deemed justifiable due to the abundance of geese foraging opportunities in adjacent areas. Additionally, the lateral water trench that was to be created by the water safety project, would be able to support the resting conservation goal. Combining these two arguments with the water safety aspect involved, the nature actors showed willingness to make a concession in order to contribute to a balance between water safety and nature values in the floodplains.

The fourth and final example on the presence of working towards each other in the floodplains comes from interviewee CSO. Advisory agency CSO deals with floodplains management at an operational level. By situationally adapting the removal of rough vegetation to the interests of the involved actors, CSO aims to complete its objective with a minimum of local dissatisfaction. Whenever nature interests are high the amount of removal is kept to a minimum, and when it is low the vegetation cover is removed more thoroughly. CSO states that they use the "grey area" of the involved rules towards a give and take approach, adapting the intervention to what fits best with the landowner or manager. CSO notes that whenever certain objections were made, these could often be discussed and taken into account. This sometimes resulted in the preservation of certain vegetation, for example trees that we're of social or historical importance to local inhabitants. Accordingly, CSO's scope for concessions appears to aim for balancing the water safety measures with social-, natural and other values.

The past four section have presented practical examples on the presence of working towards each other. PG11 and GNMF1 note that the 'working towards each other-attitude' can also be seen in the outcomes of the Streamline program. PG11 and GNMF1 state that working towards each other has resulted in a more outcome of Streamline than was initially expected. From PG11's position at the Province of Gelderland, it was noticed that both SBB and many municipalities concluded that the Streamline projects were less harmful than expected beforehand. PG11 notes that SBB stated to have "managed to come to an understanding" with RWS. GNMF1 underlines PG11's statement on the more modest effects of Streamline: "at the operational level I am fairly content". GNMF1 presents the Climate Park IJsselpoort initiative as an example for cooperative approach. Though Rijkswaterstaat officially notes that it is only possible for Streamline to take other plans into account when they were in an

advanced stage of development. Though the administrative aspects of the Climate Park IJsselpoort were not complete at the time, Rijkswaterstaat has been flexible and refrained from intervening if the Climate Park plan would incorporate Streamlines planned removals.

4.1.3 Conclusion

From the comments provided in the interviews it can be concluded that floodplain discussions display a mutual understanding amongst actors from the nature and water safety domain. On the basis of this understanding actors have demonstrated to 'work towards each other', taking other objectives into account and making concessions when possible. Operating in the multifunctional floodplains has been identified as part of a practice in which actors are willing to interact and cooperate when needed. Examples range from the adaptation of the 'foraging conservation goal' to the abstinence from the gedoogplicht, and from the derogation of the forest law to the joint national policy evaluations.

On the basis of the interviewees responses it is concluded that there is an unwritten rule on the need of informing and, possibly, including each other or each other's interests in decision-making when possible and relevant. The responses of the interviewees suggest that there is a rule on doing things together, as one of the principles guiding floodplain practice. It is however important to note that this cooperative principle is based on a give-and-take attitude with limited shared author- and ownership towards the performed activities. This quid pro quo mentality can be contrasted with a more collaborative approach in which mutual gains, win-win solutions and a certain degree of shared authorship and ownership are more prominent. In the next section the role of such collaboration and synergy in floodplain practices is discussed.

4.2 The Synergetic Principle: aiming at win-win solutions

Having pointed out the role of *cooperation*, this section will subsequently present the *synergetic* principle as a second generative principle in floodplain management practice. As the results show below both the water safety and the nature domain reported that in performing floodplain practice there was large scope for win-win solutions to water safety issues. The Streamline program has been reported to be no different, with the Reparcelling plan of the Nature and Safety in Balance Report (NSBR) as the most striking piece of evidence. The synergetic principle is build up from two components: *nature inclusive designing* and *the mitigation method*.

The first part of this chapter presents a general introduction on nature-inclusive designs, followed by interviewees reports on the Reparcelling plan as an embodiment of synergetic values. In the second part of this chapter the mitigation method and its proposed role in the Streamline plan are introduced . In conclusion, a summary of the findings and an analysis on Synergy in floodplain practice are provided.

4.2.1 Nature-inclusive designing

4.2.1.1 An introduction to nature-inclusive designing

Establishing linkages between the nature and water safety domain, and aiming for win-win approaches seems to have been important in the practices of Room for the River projects. As mentioned by the executive-, water safety- and nature actors, at both the policy and operational level, the concept of nature-inclusive designing ('natuurinclusief ontwerpen') played an imperative role in performing this integral approach. According to RWS this nature-inclusive designing concerns the following:

> ***RWS2:*** *"If you want to perform an intervention in a certain area you make sure that the effect on nature is, on balance, zero, legally, then it's allowed. So you can destroy a piece of nature on a certain location, and on another location, you bring that peace of nature back, on balance, that's zero''*

This approach allowed for a certain flexibility in realizing the spatial measures of Room for the River in the presence of locations that possessed protected natural values. Also when dealing with Natura 2000 sites that were protected as Special Protection Areas (SPA's) or Special Areas of Conservation (SAC's) via the European Birds and Habitats Directives, this approach could generally rely on the support of both water safety- and nature managers. As indicated by RWS2, the nature-inclusive designing was used frequently in Room for the River floodplain projects because it was very functional. At Munnikerland, Scheller, the Oldeneler Buitenwaarden, and along the Neder-Rijn forests were removed for digging lateral trenches to improve the rivers drainage capacity. These forests were then replanted at an alternative location.

The flexibility that the nature-inclusive designing approach brought has been important for balancing the nature and water safety functions in the multifunctional floodplains. As demonstrated by the example of NM, this flexibility lies at the base of win-win, or synergetic, approaches to floodplain management. The flexibility of nature-inclusive designs is also applied to support nature goals.

The planned broadening of the A2 motorway between s-Hertogenbosch and Eindhoven was identified to produce significant effects on the conservation targets of N2000's habitat directive areas: 'Vlijmens Ven', 'Moerputten' & 'Bossche Broek'. Already at an early stage the project initiators therefore set up plans to mitigate these effects by developing the affected vegetation types at an alternative location. NM was part of this process and states that the proposed plans were supportive of their nature goals:

> ***NM:*** *Eventually we got to an agreement with RWS, and a lot of actors, not only NM, also the water boards, the municipalities, the provinces, the government so to speak, all of those actors were involved and they all said yes. Why? Because it helped us to realize our goals, it brought us forward. You could see that there was energy on it, that progressive steps were being made.*

NM notes that in developing this nature inclusive design, there was widespread support by a lot of actors. RWS, water boards, NM and all layers of governments were involved in developing these plans, resulting in a 'unanimous' approval of a set of proposed activities. NM notes that there was a certain "energy" and that Natuurmonumenten was also "making big steps" in working towards their nature objectives. Accordingly, it appears that 'relocating' a (part of a) vegetation type towards an alternative location can actually be supportive of nature objectives. A potential explanation could be that the current location is sub-optimal due to the presence of extraneous factors (e.g. nitrogen deposition from neighbouring farm of road) that limit the potential of fully developing the conservation goals. Alternatively, it could also be that the current location is unsuitable from an ecological network perspective.

4.2.1.2 The nature and safety in balance report; a nature inclusive design

In the previous section, the nature-inclusive designing approach has been introduced. The following section presents Streamlines' 'Nature and Safety in Balance Report' (NSBR) as a nature-inclusive design, and demonstrates the important role given to such designs and to synergy in floodplain management practice.

In accordance with Streamlines' need to remove Natura 2000 vegetation, RWS requested Staatsbosbeheer to establish a rapport on where and how the relocation of these vegetation could be realized. This report was published as the "Nature and Safety in Balance report" (see chapter 3.5 for background information). The relocation of Natura 2000 vegetation, a key component of this report, is referred to in the Reparcelling plan (in Dutch: 'Herverkavelingsplan'). The Reparcelling plan is a nature-inclusive design that, by being flexible with the

location of Natura 2000 vegetation, helps to balance nature and safety interests. As recognised by interviewees from both nature and water safety organisations the Reparcelling plan is to be viewed as a synergetic, win-win, approach; both nature and water safety objectives are served. The potential gain of the Reparcelling plan for nature objectives has been reported to be threefold.

The first benefit of the Reparcelling plan involves the positioning of an area relative to other nature areas. The relocations are said to allow for a spatial restructuring of natural values in the floodplains. Though potentially to be applied on all sorts of vegetation, it appears that the involved actors feel that the spatial restructuring is most evident for forests. This could be attributed to the both the high effect of this vegetation type on the hydraulic drainage of the floodplains, and the quick regeneration of this vegetation type (making it easy to redevelop at alternative locations). In the Nature and Safety in Balance report, SBB coined the restructuring of forests in the floodplains as a 'reallotment' or 'Reparcelling'. This Reparcelling could aid in conjoining the currently fragmented forest patches, enhancing their ecological value:

> *SBB2 : "(t)hese are all fragments, and sometimes it hurts because there are still natural values in them, but it would be a win-win when the smoothening of the stroombaan would allow for development on other locations outside of the stroombaan where they are ensured of a long-time stay. And then they will become part of forest core areas, as we call them. Then RWS is happy with a smooth stroombaan, we are happy with the extra core areas and nature is happy. So that is what the rapport Nature and Safety in Balance is about".*

SBB2 and RWS2 note that the Reparcelling plan presents a win-win approach by removing the fragmented forest pieces out of the stroombaan, and into forest core areas. Defragmentation is something that is not only supported by SBB2 and Staatsbosbeheers' objectives. Interviewees EZ1, NM and PG11 also note that their organisations attribute the same value to establishing core areas that is to be understood in a wider attempt at creating a robust network of nature areas. According to SBB2 the N2000 concept management plan, formulated by the Province of Gelderland, is one of the relevant documents in which the fundaments for such a Reparcelling are laid. PG11 recognizes the existence of a shared view and notes that extensive discussions on the Reparcelling have been held with SBB, but also with RWS.

The second benefit of the Reparcelling that has been proposed in the NSBR involves the suitability of N2000 sites' current locations. SBB2 notes that many of the riparian forests (type H91E0) that are now classified as N2000 sites are actually situated at location that are landscape-ecologically unsuitable. When the Dutch government was summoned to complete the appointment of N2000 sites, these patches were selected regardless of this unsuitable location. SBB2 argues that on the basis of this history, it is very well possible to choose for a Reparcelling of the floodplains. The current location of the forest does not match with its 'natural' spatial location in the floodplain landscape (e.g. distance to the water), nor with the optimal natural conditions.

A third benefit of Reparcelling the floodplain forests involves a potential benefit with regards to the quality of the natural values. As noted by PG1, enhancing the quality is an important argument for the province of Gelderland to engage with the Reparcelling:

> ***PG1:*** *One of our targets is improve the quality. The current quality of the riparian forests does not amount to much. The majority consists of young forests of 30 years old in which limited forest development has taken place. Furthermore, they are all little fragments. In the concept management plan (the N2000 concept management plan Rijntakken) we have written that we should aim for locations where forest can remain standing so it can get older (and develop quality).*

PG1 notes that the majority of the riparian forests are young stands of about 30 years old without much development of quality forest values. In response to the quality enhancement objectives that are attached to this N2000 vegetation, PG1 states that the N2000 Rijntakken plan has argued for moving these forests to new locations. Relocating the natural values towards alternative sites noted to be more 'durable' as there is less chance of these having to be removed for water safety projects. In turn, there is a better chance of these forests coming of age and developing the desired natural qualities. SBB2 underlines this vision by noting that the Reparcelling could allow for dealing with these forests in "a more sustainable manner", and "with a long-term vision". NM1 adds that such an integral vision on the role and location of forests in the floodplains is of vital importance for attaining both nature and water safety targets.

4.2.2 The Mitigation Method

4.2.2.1 An introduction to the mitigation method

The legal component of the nature inclusive designing approach is what this research has coined as the 'mitigation-method'. EZ2 has been the Nbw authority with whom project initiators had to discuss the effects of their spatial initiatives (such as water safety projects) on Nature 2000 areas. EZ2 notes that as part of the nature-inclusive designing mentality, significant effects were always dealt with via mitigation:

> ***EZ2:*** *You remove it on one location, and you ensure that it can develop elsewhere y taking management measures. That is what happened and that is what we marked as mitigation. You can view this as a nature-inclusive design. (T)here has to be a goal there, and if the project is completed you check whether nature has drawn the short straw, or that an improvement of nature has been established (…) that was the thought behind it.*

With the Nature-Inclusive Designing approach, the 'significant effects' of interventions on a natural area and its 'preservation goals' were *mitigated for* by allocating a new piece of land for developing the lost natural values at an alternative location. EZ2 notes that the 'relocation of natural values' has been conducted via the legal trajectory of *mitigation*. The relocations could however have been classified as compensation, a viewpoint that would later be institutionalised in Arrest Briels. The preference of floodplain actors for the

mitigation-method becomes evident, when looking at what the permit authority employee of EZ2 has to say about compensation as a part of the three-step derogation tests:

> ***EZ2*** *That is a heavy test, a very heavy test. Opponents can always claim that there is an alternative and that the current planned way of doing is not the necessarily the only or best option. This test is viewed as heavy, if you see what needs to be performed for this test, the amount of efforts that needs to be put into it, to get that on paper. It is seriously hard work. It is just viewed as a heavy test, more specifically the alternative tests.*

Since the RvdR project many of the spatial developments in the floodplains occurred according to this nature-inclusive design. The corresponding mitigation-method offered a more flexible method for working with N2000 sites and dealing with the significant effects on the present nature values. In contrast with compensation, mitigation measures do not require the extensive and strenuous alternative test, or an establishment of the presence of imperative reasons for overriding public interest. Accordingly, they were relatively affordable and flexible. For managing the Dutch multifunctional floodplains through an integral approach, floodplain actors keenly adopted this flexible option and made it cornerstone to their practice on spatial developments (Wolfert *et al.,* 2005).

4.2.2.2 Applying the mitigation method in Streamline

In the previous section, the mitigation method that was developed in Room for the River has been introduced. This section will present Streamline's application of the mitigation method; the legal component of the nature-inclusive designing approach.

The mitigation method had been the onset in dealing with Nbw protected vegetation that had to be removed:

> ***RWS1****: "The natuurbeschermingswet (..) we had to do something with that. In the first two phases we have been able to pull it off fairly well. We removed softwood riparian forest and redeveloped it in hydraulically less important areas together with SBB. There was some room for manoeuver in installing this management, and, yeah, this allowed us to do these type of relocations of nature".*

As RWS1 noted the mitigation method provided them with some "room for manoeuver", which allowed for relocating the protected N2000 vegetation (here -softwood- riparian forests) to areas that were not or less prone to flooding. As noted by RWS1 these relocations have been performed in agreement with SBB. Accordingly, the mitigation-method allowed for an integral approach in which the importance of water safety- and nature values could weighed.

The advisory and engineering agencies that were to plan and perform the N2000 vegetation removals where instructed by RWS to include the N2000 vegetation patches in their working area. Due to the protection regime of this vegetation the planned removals required permits, resulting into the need to inventory potential effects and planning how to deal with these. As reported by CSO, RWS

prescribed the use of the mitigation-method for dealing with the effects on the N2000 vegetation. CSO believes that RWS did this for the following reasons:

> ***CSO:*** *"and compensation would not have fit in the planning of the program. And apparently they had good experiences with this approach, well if you add those up this is what comes out".*

According to CSO, using the compensation-track for dealing with the removal effects would have cost too much time. As CSO would later elaborate upon, finishing the assignment in time was one of RWS's primary concerns. A second argument that CSO believes to have played a role was related to past experiences. In the eyes of CSO the experiences of RWS with mitigation in the Room for the River program were positive, resulting in the desire of RWS to continue this approach in Streamline. Additionally, choosing for the well-known mitigation approach brought a sense of security, also regarding the required time-frame. Accordingly, it could be noted that the statement of CSO supports of practice being a social-historical product. Choosing mitigation over compensation appears to have been a choice that was based partly on past experiences. Though CSO notes that RWS was familiar with the compensation track via other type of projects, its potential application for Streamline was not explored thoroughly due to the preference for the mitigation-method, which had already been successfully applied in recent projects.

4.2.3 Conclusion

As indicated by both nature and water safety actors the nature-inclusive designing approach played an important role in realizing water safety initiatives, such as the recent Room for the River program. This approach and its legal-component: the mitigation-method, seem to have allowed for making integral approaches and working in accordance with the 'multifunctionality' of the Dutch floodplains. The mitigation method herein allowed for a certain flexibility with regards to the Nbw protection regime of N2000 vegetation, something that was supported by water safety- ánd nature actors. Due to the positive successful experiences from the past, and the lack of time for engaging with alternatives, the mitigation-method was again adopted as a tool for engaging with the N2000 values in Streamline. It can be said that nature actors engaged Streamline with the win-win attitude and atmosphere of the Room for the River in the back of their mind. With the need for 'relocation' of protected floodplain forest patches, the Reparcelling plan allowed for linking the development of natural qualities to Streamlines' vegetation removal endeavours.

The interviewees from the nature organizations PG1, EZ, SBB and NM mention that the relocations could help them address: 1) the high degree of N2000 area fragmentation, 2) the unfavourable location of some N2000 areas, and 3) little potential for reaching quality goals due to limited potential for aging. These three problems could be addressed by 'Reparcelling' the floodplains forest; relocating

these forest patches away from the hydraulically important stroombaan and into forest core areas that are to be established at more landscape-ecologically appropriate sites. The acknowledgement of- and support for the Reparcelling idea as a win-win solution demonstrates the importance attributed to linkages with other domains. The demonstrated search for and adoption of win-win solutions underpins the importance of synergy in floodplain practices.

4.3 The task-oriented principle

After having identified the cooperative and synergetic principles, this chapter will present the task-oriented principle as the third and final principle of floodplain practice. The first component of the task-orientated generative principle is related to a results-oriented approach. The second component entails a focus on efficiency. These two components are both related to completing floodplain management tasks, but are different in their onset. Whereas the first is focussed on attaining the set objective, the latter aims to do so in an economical and efficient way. Accordingly, they are dealt with separately as different components of an overarching task-oriented principle. After exploring the role of these two components in floodplains management, conclusions will be drawn on the role of task-orientation as a generative principle in floodplain management practices.

4.3.1 A focus on results

As derived from the interviews, the scope of the Streamline assignment and the results for which it aims appear to have been important determinants for the approach with which Streamline was performed.

RWS1 acknowledges that Rijkswaterstaat and their water safety objectives have had a dominant role in Streamline. Rijkswaterstaats' position of being the one with 'the money' and 'the assignment' is supportive of a prioritisation on the water safety targets in Streamline. The following statement of RWS1 on the balance between water safety and nature values demonstrates Rijkswaterstaats' focus on attaining Streamlines primary objective of attaining water safety targets:

> ***RWS1:*** *Yes I do feel that we have been able to find a balance, but this balance has entered via laws and regulations. (…) we just have to deal with the flora and fauna act and the Nature protection act and that is the reason why some nature is left in the floodplains. That is the basis for us for keeping nature at some locations. And if it is not protected it will be removed. So that is the starting position. That is the trigger for us to do something with nature.*

RWS1 states that the starting point of Streamline has been that "if it is not protected, it will be removed". This seems to demonstrate that, when taking natural values into consideration, RWS will do so to a degree that is compliant

with what the Streamline assignment and its results require. Accordingly, the statement of RWS1 seems to indicate that the assignment and the aimed for results play an important role in determining RWS's approach towards the Streamline removal of vegetation in the floodplains. As an executive body, Rijkswaterstaat received a demarcated task description that prescribed the removal of vegetation as the one and only means for attaining the water safety targets. This limits the scope for alternative types of discharge increasing interventions (as performed in Room for the River) that could more easily support nature objectives. By noting that "This is the way it works, this is the hard reality" RWS1 stresses that, though nature actors might favour it, the prescribed vegetation removals are the only intervention type that will be used to reach Streamlines primary water safety objectives.

At an operational level the engineering firms had to design and execute their removals with the aim to remove 70% of the rough vegetation from the stroombaan. Nature management organisations note that the '70% target' has established a strong focus among the executive organisations on removing the prescribed amount of hectares":

> ***SBB1*** *(I)f forests are standing parallel to the flow of the river the effects of removing them are limited. But no, they need to remove a certain number of hectares so they remove it anyways.*

The statement of SBB1 underlines that in executive organisation's efforts of performing Streamline a focus was present on the removal of a certain surface area of forest. In the eyes of SBB1, the established focus on removing a certain number of hectares, made these organisations lose sight of particular circumstance, such as the orientation of the trees and its corresponding limited effect on improving the drainage of the river. Following the comments of SBB1, the 70%-target appears to be guiding the behaviour of RWS and the project's executive agencies, resulting in their circumvention of discussions on the actual water safety effect of individual removals. Accordingly, it could be said that the aimed for water safety results have been important in determining the practices of RWS and, in turn, the executive organisations.

PG1 also recognises a focus of RWS on the removal of vegetation and links this to the focus of the Streamline assignment. According to PG1, RWS accepts the thoughts of the Reparcelling as proposed in the NSBR, but is not willing to put much effort in it. PG1 believes that this is caused by the focus of Rijkswaterstaats' assignment on vegetation removal, and the limited room it offers to adopt other thoughts and ideas such as a Reparcelling. PG1 suggests that a more integral assignment for Streamline, would result in more attention from Rijkswaterstaat for nature objectives. PG1's remark implies that the set-up of the assignment and the results that had to be aimed for have been determining in the attitude of RWS towards Streamline. In the eyes of EZ1, RWS did not nature values as part of the results that needed to be aimed for. Natural values were viewed as obstacles in achieving the water safety results that were

core to the Streamline program. According to EZ1 nature is often interpreted as a risk that is to be eliminated, and not as an opportunity for establishing integral solutions. Accordingly, the attitude depicted in EZ1's statement seems to support the presence of a focus on the provided assignment and its targets. Accordingly, these finding argues that a results-orientation has played a role in Streamline practices. It could be noted that a win-win solution such as the Reparcelling can only find full support when it fits with the assignments' objectives.

The limited potential for incorporating alternative objectives is acknowledged by the IenM1. Though Rijkswaterstaat tries to have scope for establishing linkages, IenM2 notes that RWS has difficulties in operationalizing this scope:

> ***IenM2:*** *With RWS they do think along the lines: the more you want work with linkages, the more complicated it becomes, and the higher the chance on delays. And that's when you meet the deadlines of projects. Those deadlines can make it impossible to address the need for establishing linkages. That is how it works in practice. And I completely understand how silly this can look to the outside world.*

Though establishing linkages has previously been identified as an important aspect of floodplain practice, it appears that it's feasibility is often limited. Linking other objectives to the assignment is said to result in increased complexity and, correspondingly, an increased chance of delays. Since the timeframe in which the measures are to be completed are viewed as an important part of the assignment, establishing linkages is viewed as a risk in attaining the objectives. IenM2 adds that the assignments of RWS all have a specific dynamic regarding time and scope, which sometimes makes it more difficult or impossible to incorporate other objectives. Furthermore, the statement of IenM2 also underlines a difference between theory and practice. From the role of the ministerial policy makers it is close to self-evident that projects in the multi-functional floodplains require an integration of different values and objectives. Only when these thoughts are to be operationalized by RWS in their water safety programs, it appears that certain practical issues emerge. As distilled in the previous results chapters, RWS, other water management actors and nature actors appear to agree on the importance of cooperation and the role of synergy in managing floodplains. As illustrated by the statement of IenM2, a results-orientation can play an equally important role in determining the outcomes of floodplain management discussions. Accordingly, this results-orientation that is part of a focus on the assignment appears to run parallel to the cooperative and synergetic principles that have previously been identified as part of floodplain practice.

4.3.2 A focus on efficiency

The previous section has engaged with the role of a focus on results in floodplain projects. This section shall explore the importance of efficiency in floodplain practices. As distilled from the interviews the economical use of resources, such as time and money, plays a role in determining how actors behave in the Streamline program. Firstly, the role of time and planning in floodplain projects such as Streamline is explored and analysed on the effects of time-efficiency on the scope for cooperation and synergy. Secondly, the role of finance in determining floodplain decision-making is analysed.

4.3.2.1 Role of time and planning in Streamline decision-making

This section presents the effect of time and planning issues on the decisions made in the Streamline program.

When looking at the principles that appear to drive floodplain practices this research's results indicate a large role for time. Streamline case materials display the role of this principle in various ways. As noted by IenM1, it is viewed as deeply embedded in the assignment "I think that for us the most important thing is to finalise in time". Time is noted to play an important and structuring role in the Streamline assignment. At the base of the Streamline- and other floodplain management approaches lies the a certain norm: norm': water levels should only be able to exceed our dykes once every 1250 years. IenM1 puts extra weight on the fact that flood protection projects are not to linger on by stressing there each year there is a 1/1250 chance of a flood.

RWS1 and RWS2 note that political pressure on finishing in time provided guidance for Rijkswaterstaat in performing the Streamline program. According to RWS1 political pressure kick-started the program, bringing in a rush to finish definitive designs, having them approved by those involved and the application for permits. Since these components require time-consuming cooperation with many actors, the planning schedules were close to impossible, according to RWS1. RWS1 states that there was limited time for the actors to look at the plans and form an opinion on these matters. As a consequence, RWS1 notes, this "tempo tempo tempo" regime has driven participating actors to the maximum of their abilities. RWS1 notes that this has led to some 'sighs' and moaning, also for those involved from RWS. All the "running and running" in order to please a minister, limited the time for reflection and more thorough considerations, states RWS1. Also from the position of RWS1 there were frustrations on this matter. The pressure that is placed on the involved actors, and the corresponding limited time for reflection, are likely to result in a decreased quality of the cooperation. Accordingly, it appears that the focus on finishing in time is also an important driver for Streamline decision-making.

Aside from affecting the degree to which different actors were 'on the same page', RWS2 notes that the role of time in floodplain practice also manifested in

the potential for creating linkages between flood protection- and nature objectives:

> ***RWS2:"*** *Ideally you want to establish integral plans, but the downside of integral plans is that they always cost a lot of time. And if you don't have the time it becomes very complicated. I mean, for an integral plan, we are fighting about every square meter, before you know it you'll spend a few years discussing around the table".*

From this comment we can firstly sense that RWS2 does view the synergetic, win-win approach as an important part of floodplain practices. In the eyes of RWS2, attaining integral plans however involves a whole lot of time, which is not always available since time-consuming negotiation processes often do not fit with the planning of water safety programs. Accordingly, the resource of time is an important determinant of floodplain practice decision-making, parallel to the aim for integral solutions, as part of the synergetic principle. IenM2 states that RWS definitely tries to establish linkages between different projects, but acknowledges that a "timing effect" limits possibilities.

According to EZ1, RWS is simply there to fulfil their task, and to do so straightforwardly within the preconditions of time, money and quality:

> ***EZ1:*** *"It is just an assignment. Within these prerequisites of time, money and quality you are going to perform it. (…) and in that sense RWS is not the most suitable actor to discuss these type of problems with, and how to solve them. Just a very straightforward focus on the assignment, and that is streamlining, and not realizing nature objectives".*

EZ1 and PG1 note that RWS is unlikely to put valuable assets of time and effort in things that have not been included in their assignment. PG1 adds that the deadlines in Streamline are of paramount importance to RWS, they are treated as 'holy'. EZ1 note that Rijkswaterstaat is said to think more in terms of risk.When every hurdle is viewed as a risk for attaining your targets, such as being done in time, it is likely that RWS's attitude towards difficult linkage endeavours is not that supportive. This focus on completing the assignment in time appears to be an important driver in the execution of water safety programs in the floodplains.

In the discussions on the potential of the Reparcelling plan dealing with time again manifests itself as an important component of floodplain practice. SBB1 and PG1 introduce that for realizing the Reparcelling plan did not fit the time planning of Streamline. As PG1 notes, the number of compensation locations to which the forests could be 'relocated' on the short term were limited. In the rapport SBB had identified 1200 Ha of compensations locations. However, as SBB1 notes, RWS did not view these locations as suitable, since ownership by other parties and municipal zoning plans obstructed short term implementation of the 'compensatory measures' on these potential development locations. The fact that removal of a vegetation type can only take place once the

compensatory vegetation has developed (requiring time), hampers the possibilities for realizing the Reparcelling in the available time-frame.

The interviewees of Rijkswaterstaat confirms most of the statements made, and acknowledges the difficulties:

> ***RWS1*** *Yes absolutely, and that was because, that was another time pressure, that was not necessarily working pressure, but that was the time-pressure that we have for realising our assignment. We have to finalize our interventions in 2016 and for developing riparian forest you need about three years, which brings you way over the deadline of 2016. So that is a very practical aspect, that the requisites from permit application do not fit in the time, in our project.*

RWS1 confirms some of the previous statements of PG1 and SBB1 by noting that in the end of 2016, Rijkswaterstaat is obliged to have all the Streamline measures completed. RWS1 and CSO note that it takes some years to develop the new forests that are created (olbigatory Nbw permit) to compensate for the loss of forests because of streamline. The required term for developing these exceeds the 2016 deadline for the Streamline program. The combination of permit requirements and Streamline time planning has thus hindered the 'relocation' of forests in Streamline. RWS2 underpins the statements made by RWS1, by stressing the fact that realizing a (compensatory) forest takes time (5 or 10 years according to RWS2), time that is not available due to clear-cut demands of the House of Representatives. The inability of moulding NSBR ideas into on-the-ground activities is not viewed as a problem by IenM1, since the main priority to the Ministry of IenM lies with completing the Streamline assignment in time. The available amount of time has limited the type of activities RWS can undertake for supporting the Reparcelling.

4.3.2.2 Role of financing

Another important component that appears to have been part of Streamline decision-making processes has been financing. The role of financial resources already manifested itself in the early phases of developing the Streamline program and discussions on responsibility:

> ***EZ1*** *Streamline has been in the picture for a very long time, but it was only picked up in a later stage. And that has to do everything with the policy discussions, and also political discussions to a certain degree, between IenM and EZ on who had to pay for it. Do we need Streamline because water safety targets are not met, or do we need Streamline because nature has developed in the floodplains. Well that demonstrates the tensions. The one who raises their hand will have to pay the most amount of money. EZ didn't have much to spend so they tried to keep their hand down, but the same applied to RWS, so yeah. Perhaps a bit of a caricature, but roughly that was wat was going on.*

EZ1 notes that both parties kept their head down, trying to dodge this responsibility, because neither wanted to carry the financial burdens that accompany this assignment. The fact that neither of the parties could easily cope with the financial weight of Streamline, might be visible in the eventual budgets

available for performing Streamline. A limited budget confines the number of possibilities of adapting the assignment to suit a broader set of needs.

Streamline was set up as a program aimed at, firstly, vegetation removal and, secondly, the management of this novel state of floodplain vegetation. On the basis of this scope it has been granted a budget. The measures allowed for realizing the water safety targets were confined to the relatively cheap removal of vegetation. As noted previously, organisations that aim to accomplish nature objectives would have preferred an extended set of measures that included 'soil removals'. With the digging of trenches or lowering of parts of the floodplains, 'hydraulic space' would be created for reducing the amount of vegetation that needs to be removed. However, as PG1 and EZ1 recognize, this was not workable for RWS due to the involved costs:

> ***PG1*** *But that assignment was not in Streamline. However, creating trenches also creates hydraulic space to allow for rough vegetation elsewhere and realizing the forest core areas. But off course it does cost a lot of money, digging such a trench.*
>
> ***EZ1*** *If it was up to EZ, there would be space for this. However, we do not have the means for it. If you start to dig that is a costly measure. If Streamline would decide that this should be done we will be cheering, but we will not be paying for it.(…) (D)redging and keeping these areas open also requires quite some expenses, and RWS knows this all too well, and so do the nature managers. That exceeds, by far, the management subsidies that are now granted in nature management*

PG1 and EZ1 both acknowledge that realising such removals of soil cost a lot of money, resulting in a very expensive project. Though the benefits of such trenches are strongly endorsed, none of the nature organisation seems to be able to carry the financial burden. Accordingly, there is a financial dimension to the process of balancing of nature and safety.

In the following statement RWS2 notes that efficient use of financial resources is important to Rijkswaterstaats' practice:

> ***RWS2*** *In the end of the day it's about settling things efficiently. We also do this for the safety of the Netherlands but also with tax payers money, and we try to link other things such as nature, and eventually you have to do things as efficiently as possible. For the least amount of euro's the most gains. And gains can be in terms of water safety, but also in terms of nature or in terms of the involvement of people with the area.*

By noting that the least amount of euro's should result in the most amount of gains, this statement stresses the importance of efficiency in RWS practice. Additionally, RWS2 explicitly links this efficiency to some sort of synergy by stating that the most amount of gains can be in both water-, nature- or other values. Accordingly, RWS connects efficiency and synergy to one another. Though RWS2 has noted that there should be scope for establishing linkages to reach the most amount of gains, RWS2 also notes that forest development initiatives should be realistic and to benefit of both. As RWS2 has had to

ascertain, in some cases there is too little grasp of the financial feasibility of certain ideas. Thoughts on the heightening of dikes and removal of abutments for creating 'hydraulic space' for forests are regarded as "*a pie in the sky*". RWS dismisses these ideas on their financial infeasibility by noting that whereas the first costs 10-20 million euro per km, the latter had cost more than the entire Streamline program. RWS2 critically notes that implementing such ideas to be able to maintain hydraulically rough vegetation would result in "a rather expensive forest". RWS2 notes that plans should focus on what is feasible considering the amount of budget available. Moreover, this budget can not only consist of money from water safety institutes. The extra costs made in such plans are to be covered by budgets from the organisation that are to realize nature objectives.

PG1 notes that for funding the type of spatial measures that have occurred in the Room for the River program, linkages should have been made with the European Water Framework Directive:

> ***PG1:*** *"digging a lateral trench makes it into an incredibly expensive project. Well, if you could have combined that with EWFD projects, than it is, than you have an alternative source of financing and another target there. So then you can start to combine things. The EWFD has a lot of money. And that is with I&M, with RWS".*

The EWFD's aim for a good qualitative and quantitative status of water bodies has in the Netherlands been operationalised into a certain set of measures, of which the digging of trenches is one. PG1 therefore notes that, financial gains could have been made by aligning the measures of the two projects. Including these 'to be developed trenches' in calculations of the drainage capacity, would have limited the need for removing vegetation, in turn saving financial resources.

Aside from the more general role that financing has played in the establishment and scope of Streamline, there might subsequently have been concrete effects on the chances for the Reparcelling as suggested in the NSBR. RWS2 notes that the budget that is available for Streamline cannot be used for objectives that lie outside of the scope of the current Streamline assignment:

> ***RWS2:*** *"That has several reasons. Streamline is a project, we have been granted a budget by the House of Representatives, we are part of the Delta program. The Delta program is a fund of approximately 1 billion per year, that is being spend on renewing and improving dikes, to large flood protection programs, also think about coastal defence. That is where all the money is going to. Streamline is also part of that. That money is intended for flood protection. That money is not intended for nature development".*

The comment of RWS2 demonstrates that the budget of Streamline is strictly meant for flood risk protection measures, and can not to be used for nature development objectives. The only financial investments in natural values are related to legal compensation efforts. RWS2 herein notes that the development of forest for Natura 2000 objectives shall not be financed by RWS budgets. Even though RWS2 agrees that there should be scope for forest development in the

floodplains, the financial responsibility for such activities is said to lie with the provinces. As claimed by PG1 earlier, the province of Gelderland however does not feel financially capable of realizing such endeavours. For this reason PG1 hopes to establish linkages with other projects in order to find financial means. It appears that whereas nature organisations attempt to hook up their objectives to floodplain programs, RWS programs do not always bear financial scope for such attempts. Accordingly, the financial aspects of floodplain management programs seem to be a hinder for integral approaches, including the Reparcelling plan.

Conclusion

As exemplified by the statements of the interviewees, the task-oriented principle plays an important role in floodplain management decision-making. The first component of this principle entails a results-orientation. Interviewee reports have demonstrated that the dominance of water safety results in the Streamline assignment have been closely aligned with by RWS, resulting in the limited importance granted to realizing nature values, as attempted in the Reparcelling. Moreover, floodplain practice's importance of reaching results has also been demonstrated by the strong focus of executive organisations on the removal of the prescribed percentage of rough vegetation in Streamline.

The second component of the task-oriented principle is related to a focus on effective use of resources such as time and money. With respect to time, three important effects have been found. Firstly, the pressure put on initiating and completing the Streamline project in time appears to have had its effect on the quality of cooperation. Secondly, the restricted amount of time has also been identified as an important limiting factor on the capacity of establishing linkages with other programs and ideas. Thirdly, the limited amount of available time also made it hard for RWS to include the Reparcelling-idea that was proposed in the NSBR. With regards to finance it appears that whereas nature organisations attempt to hook up their objectives to floodplain programs, RWS programs do not always bear financial scope for such attempts. Furthermore there are limited possibilities for using financial resources on linked objectives. Making integral solutions is herewith said to be difficult. These financial aspects of floodplain management programs seem to be potential obstacles for integral approaches.

Accordingly, it can be said that dealing efficiently with Streamline's preconditions of time, money and quality has played an important role in floodplain practice decision-making. As the Streamline assignment belongs to RWS this influence is most directly found here. A focus on fulfilling the assignment appears to be one of the drivers in the execution of water safety programs in the floodplains. Accordingly, there is an important role for task-orientation running parallel to the cooperative and synergetic principle.

4.4 Three generative principles in floodplain practice

In the previous chapters three main generative principles of floodplain practice have been identified (for a schematic overview, see fig. 4 on page 65). These three principles jointly compose the logic through which floodplain actors engage in floodplain management. From exploring these generative principles, insights have also been gathered on the interrelations between the cooperative, synergetic and task-oriented principles. In this section the main findings on the generative principles and their relations are presented.

The interviewees reported that floodplain operations are always preceded and paralleled by interactions with multiple actors from the nature and water safety domains. The discussions on such floodplain activities are reported to be characterized by a mutual understanding amongst these actors. The acknowledgements on the presence of values other than those related to their own objective is reported to be widespread. On the basis of this understanding actors reportedly work towards each other, taking other objectives into account and making concessions when required. The multifunctional character of the floodplains is identified to be a driver for informing and, possibly, including each other or each other's interests in decision-making when possible and relevant. Interaction between nature and water safety actors is viewed as relevant, since objectives are most easily attained when in adapted to the other interests. Negotiating with water safety actors on the location for developing floodplain forests would for example benefit the durability of the established natural values. On the other hand, interaction with nature actors on which vegetation to remove for improving river drainage, would for example decrease public or judicial critique. On the basis of this required interaction a need for cooperating has been identified. The mutual understanding and working towards each other which the interviewees reported to be part of floodplain practice, is strongly connected to the *synergetic* principle.

Without the presence of interaction between water safety and nature actors and in absence of the importance granted to cooperation there would be no fundament and little scope for developing win-win solutions. Interviewees report that the integral approach that has been part of the Room for the River program has been beneficial to both nature and water safety objectives. The actors from both domains have collaboratively applied the nature inclusive designing method, allowing for a flexible approach to nature in the floodplains. With the need for relocating pieces of N2000 protected forest in Streamline, nature actors identified an opportunity for creating a linkage between the development of natural qualities and Streamline water safety endeavours. Though water safety has RWS's first priority, their acknowledgement of- and support for the Reparcelling idea as a win-win solution demonstrates the importance of synergy in floodplain practice. Interviewees from the water safety domain report that there is a link between synergy and efficiency.

On a national policy level, water safety institutions are requested to have scope for establishing linkages with other domains. On the other hand the water safety tasks are to be fulfilled with the available amount of resources such as time and money. At the executive level RWS links these requests by noting that the least amount of euro's should end up creating the most amount of gains, with these gains to be expressed in water safety, nature or other values. This statement can be linked to the expression of 'killing two birds with one stone', which illustrates an effective use of resources in attaining multiple goals. On the other hand, the interviewees reported that a focus on effective use of resources for reaching the prescribed results of the assignment also diminished the scope for synergy. As noted by the interviewees of the Ministry of Infrastructure and Environment and RWS, the ability to make integral plans is directly linked to the assignment and the available resources. Accordingly, the aim for integral solutions, as part of the synergetic principle, is paralleled by a task-orientation that prescribes specific results and a certain temporal and financial path for achieving these. Though the 'killing two birds with one stone' idea demonstrates a positive relation between the focus on efficiency (that is part of the task-orientation principle) and synergy, this relation could also be detrimental. The cooperative principle is also identified to be closely linked to the other principles. As already mentioned the high rate of interaction and mutual understanding are fundamental for developing synergetic approaches such as the Reparcelling. Additionally, the cooperative attitude and complementary discussions have also been identified to be important for dealing with floodplain problems in an efficient manner. A results-orientation of for example water managers has however also been identified as a potential block of cooperation, when the use of resources for cooperation is viewed to jeopardize the assignments results.

The generative principles are demonstrated to be closely connected to one another. The characterisation of such linkages varies from supportive to detrimental depending on the situation. Each of the three principles is expected to play a role in determining outcomes. It is however the combination of these principles that determines floodplain practice and helps to better explain it. The prominence of each principle in determining an outcome has been identified to be dependent on the situation. In accordance with the consistent presence of the principles and their inconsistent contribution to outcomes, it is incorrect to speak of a balance or harmony. Accordingly, the principles are better characterised as congregated in an assembly that, as a whole, guides practice in various and intricate ways.

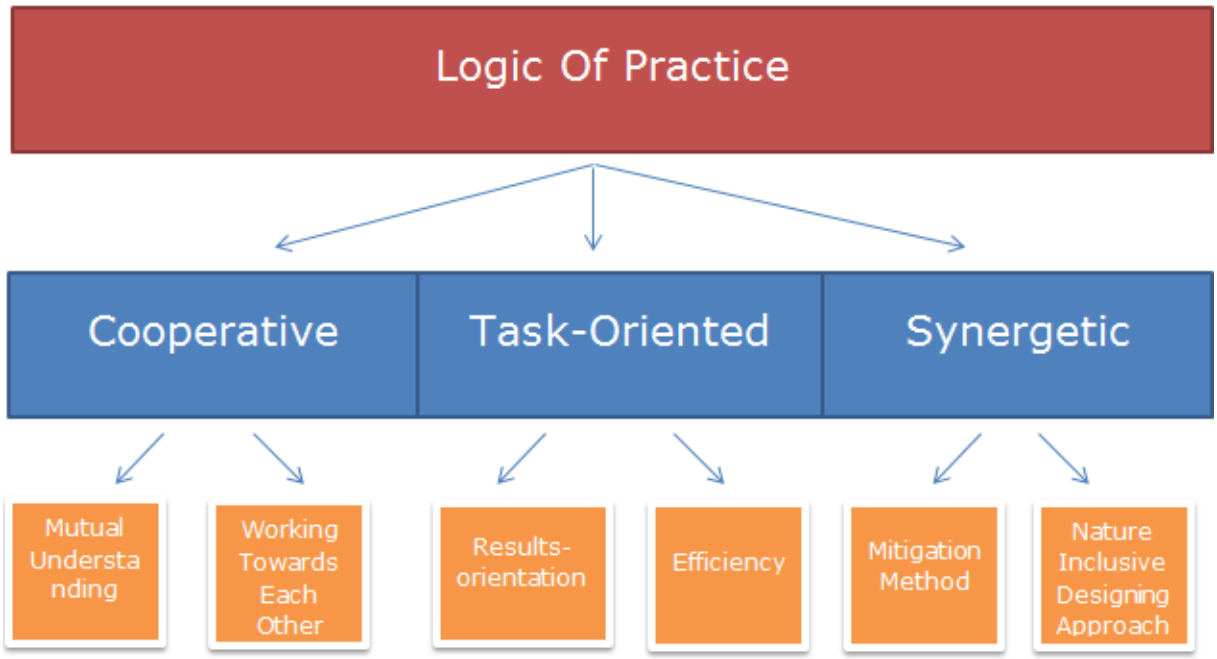

Figure 2 An schematic overview of the logic of floodplain management practice. The blue boxes display the generative principles. The orange boxes display important components of the generative principles.

Chapter 5 Results – The impact of Arrest Briels and the temporary breakdown of practice

In the previous chapters the following three main generative principles have been identified to be part of floodplain management practice: the *cooperative* principle, the *synergetic* principle and the *results-oriented* principle. Additionally, the interrelations between the principles have been discussed. These generative principles are viewed as the main drivers or building blocks of floodplain management practice. As argued in the theoretical framework of this research, identifying these building blocks and scrutinizing their interrelations can help to understand the *logic* through which floodplain actors engage with their surroundings. Understanding this logic is of importance to this research since it allows to understand the effects of Arrest Briels on floodplain logic and help explain the responses of actors to this new institutional setting. In this chapter, attention is given to the effect of Briels on the floodplain management logic. Firstly, the impact of Arrest Briels on each of the generative principles is provided. Secondly, the impact of this new circumstance on the interrelations of the generative principles is presented. In conclusion, the effects of Arrest Briels are identified to have resulted in a break of floodplain practice. In the final results chapter the responses of actors to Arrest Briels and its temporary break in practice are presented and analysed on the role of situated agency.

5.1 Arrest Briels' impact on the generative principles

5.1.1 Impact of Arrest Briels on the synergetic principle

Firstly, this chapter will present the impact of Arrest Briels on the generative principles, starting off with the synergetic principle. The synergetic principle has been identified as one of the main drivers of floodplain practice. The multifunctional nature of the floodplains required an integral approach that took into account both water safety and nature values, ideas and objectives. In applying this integral view on the floodplains the nature inclusive designing approach was developed. This approach allowed for spatial (water safety) projects to significantly affect natural values, on the condition that these effects were compensated for by developing the lost values at alternative locations. The net effect of the projects on natural values would be zero. The nature inclusive designing approach has been widely applied both in- and outside the floodplains for dealing with multiple interests in multifunctional landscapes. An important aspect of the nature inclusive designing approach has been its legal component which has been coined in this research as the 'mitigation-method'. Development projects that are expected to have significant effects on protected natural values, require *mitigation* or *compensation* measures before being granted permits. The nature inclusive designs' redevelopment of lost natural values at alternative locations has been adhering to the use of the more flexible mitigation measures.

The nature inclusive designs and the corresponding mitigation method have been developed as an approach to deal with the effects of development projects on natural values. Both water safety- and nature oriented interviewees report that this tool provided the flexibility that was needed for dealing with nature in a context that is characterised by multiple interests. By bringing actors from different domains together, the nature inclusive designs have also been part of the fundament for thoughts on synergetic approaches. Though the interventions include a negative effect on natural values in short-term, the interviewees report that the nature inclusive designs often allowed for improvements of natural values on the long term. The fact that the nature inclusive designs required coordination, allowed it to perform as a platform for discussion through which nature actors could potentially influence the (water safety) planned developments. Accordingly, the nature inclusive designs have been important in establishing win-win solutions that brought positive effects for both water safety and nature values.

With the introduction of Arrest Briels in May 2014 the scope for proceeding with the nature inclusive designs had changed. Briels judged that the redevelopment of the significantly affected natural values qualify as compensation rather than mitigation. This results in the need for adhering to the compensation-track, which entails a different and more difficult legal trajectory. Interviewees report that the Briels Arrest has been a halt on the nature inclusive designing method:

> ***RWS2:*** *"(f)rom a legal perspective nature-inclusive designing is over, it is dead, it is done. It is no longer possible legally speaking, the Arrest Briels blocks it. Nature inclusive designing works with arranging mitigation in a certain area and that is no longer allowed by the judge. So you cannot do that anymore. You will always have to perform the three-step derogation tests, and those are incredibly complex. Also for nature, those are very complex. This won't work".*

RWS2 notes that nature-inclusive designing is 'dead' due to Arrest Briels. It is reported that the ability of looking at the potential effects on nature on a larger scale has been lost. RWS2 notes that the Arrest forces them to engage with the compensation-track and its three step derogation test that are 'incredibly complex'. RWS2's concludes that "this won't work". Accordingly, the scope for continuing with the nature inclusive designs, which allowed for a synergetic approach, has been completely lost in the view of RWS2. EZ2 acknowledges that the compensation-track is a lot more complex, and identifies that it can be quite a strain for actors to indulge in the processes involved with this compensation-track. Especially when compared with the mitigation method:

> ***EZ2:*** *" (e)asy, because it was more easy, because it helped to reach the same goals (…) (now they are) casting it in another mould, and that is where the risk lies (…) yes the alternative test (…) whether the judge agrees that the alternative you have chosen is the only or the best alternative".*

EZ2 notes that even though the goals of the process will remain the same, applicants will have to comply to a model of compensation model that is new for them. When adhering to compensation one must follow the three step derogation

test. In the application procedure the initiator herein formulates a certain activity and a mode for compensating for the generated effects on natural values. The first step of this procedure entails an alternatives test. Herein, the initiator formulates potential alternatives to the proposed measures, and subsequently challenges these in order to indicate why the proposed measures are the best solution. Even though this process is closely discussed with-, and often guided by the permit authority of EZ, the is a certain amount of uncertainty regarding the outcome of the application trajectory due to the legal scrutiny by the Council of State (Raad van State). EZ2 notes that RWS views the mentioned uncertainty as risk for completing their assignment. Furthermore, EZ2 notes that passing the alternatives test can be viewed as a heavy administrative burden for the applicants. Though the prescribed compensation track is noted to be possible, it is viewed as incompatible with the nature inclusive designing approach by RWS2. IenM2 also characterizes the derogation tests as very complicated, and underlines that RWS preferably stays away from these tests. Accordingly, establishing synergies has become more difficult due to the prescribed compensation-track and its alternatives test.

Nature actors also report that the Briels Arrest has negative impacts on the ability to perform the win-win oriented nature inclusive designs.

> ***NM1:*** *"I think that they (the other nature organisations) also were not happy with it. Finally we had found a way (nature inclusive designing) in which we all can get along. So it is sad to see that the whole thing starts to stagnate again*

NM1 demonstrates that the nature inclusive designs were viewed as a method for integral solutions. NM1 believes that the other nature organisations were also disappointed to see that the nature inclusive designing approach they had established for dealing with multifunctional landscapes was stopped in its tracks by the Arrest. NM1 furthermore notes that even though the differentiation between mitigation and compensation is understood from a regulatory perspective, its effects on establishing nature goals is negative. Accordingly, Briels has a negative effect on the possibility of performing synergetic approaches, and correspondingly on attaining nature objectives.

In order to demonstrate the effects of the Arrest on performing synergetic solutions the origins of the Arrest are again presented. The planned broadening of the A2 motorway between s-Hertogenbosch and Eindhoven was identified to produce significant effects on the conservation targets of N2000's habitat directive areas: 'Vlijmens Ven', 'Moerputten' & 'Bossche Broek'. Already at an early stage the project initiators therefore set up plans to mitigate these effects by developing the affected vegetation types at an alternative location. NM1 notes that the proposed plans were supportive of their nature objectives:

> ***NM1:*** *"eventually we got to an agreement with RWS, and a lot of actors, not only NM1, also the water boards, the municipalities, the provinces, the government so to speak, all of those actors were involved and they all said yes. Why? Because it*

helped us to realize our goals, it brought us forward. You could see that there was energy on it, that progressive steps were being made".

NM1 notes that in developing this nature inclusive design, there was widespread support by a lot of actors. RWS, water boards, NM1 and all layers of governments were involved in developing these plans, resulting in a 'unanimous' approval of a set of proposed activities. NM1 notes that there was a certain "energy" and that Natuurmonumenten was also "making big steps" in working towards their nature objectives. Accordingly, it appears that 'relocating' a (part of a) vegetation type towards an alternative location can actually be supportive of nature objectives. The widening of the A2 motorway was however legally challenged by multiple local action groups for reasons related to noise pollution. The legal dispute moved towards a discussion on the qualification of the proposed measures as mitigation or compensation, finally ending up in a delineation between the two, that was subsequently institutionalized in the Arrest Briels. As reported by NM1, the Briels Arrest led to a halt of the relocation of the N2000 vegetation to alternative locations, since the chosen mitigation-method was no longer valid. Accordingly, the Briels Arrest stopped the win-win approach that was applied to the motorway-project by nature and infrastructural actors.

Since the similar use of the now obstructed mitigation mode was also applied in the floodplain arena, this jurisprudence also has effect on floodplain management. Activities that were aimed at mitigating the effects of flood risk reduction projects, now had to adhere to a new legal context. As presented in earlier chapters, the positive past experiences with the mitigation-method resulted in an adoption of this method in Streamline for dealing with the N2000 vegetation that is present in the stroombaan. Accordingly, the effect of Briels on the synergetic principle is also found in the Streamline program. As acknowledged and supported by both nature- and water safety interviewees, a Reparcelling of the floodplains forests was to benefit both nature and water safety interests. As reported by the interviewees, the relocation of N2000 vegetation (i.e. softwood riparian forests) out of the stroombaan would benefit both nature and water safety objectives. The Briels Arrest is however noted to be an obstacle for realizing the Reparcelling:

RWS2: *" the example of defragmenting forests, I really support that. But also there you will run into the derogation tests. I think it is very exciting to see whether that will work out. (…) I totally agree with the province that if we start defragmenting, and we remove the little parcels away from the stroombaan, creating a forest core area, that would be a win-win situation for both actors. I am really a proponent of this. But even that is not feasible now (…) and that is mainly (caused) by nature legislation".*

RWS2 notes that the relocation of the fragmented forest patches is a win-win situation that is granted full support of RWS2. The main impediment mentioned in this comment are however the derogation tests, that are part of the compensation track. RWS2 additionally notes that nature legislation has led to a situation in which these Reparcelling plans cannot be implemented. This feeling

of being 'locked in legislation' has been seen before in the comments of other interviewees. However, RWS2 herein refers to the inability of short term realisation, i.e. in Streamline, since it is later on stated that he would dare to give the ADC test a try. RWS1 underlines that there was a strong feeling in RWS that if they were to enter the alternative test, they would be able to stand their ground. The basis of this would be the policy documents that underline the purpose and necessity of the assignment:

> ***RWS1:*** *Yes I do thing that we had a good feeling with that. We have a policy document, a normative framework , these are heavy document with which we can demonstrate the utility and necessity of the program. It has also been the base for the national derogation of the Forest law. And I think that we have a pretty good feeling with it, we could manage to arrange somethings with the Nbw (…) that is a discussion that we would have dared to enter, I think".*

RWS1 however later on notes that the derogation tests are viewed as a 'past station'. Accordingly, RWS might have been capable of engaging in the discussion, but was unable to do so within from the context of the Streamline assignment. Accordingly, Arrest Briels narrowed the scope for realising the Reparcelling of fragmented floodplain forests within Streamline. Though RWS was open to the Reparcelling idea, underlining its win-win character, the need for entering the compensation track was reported to diminish the flexibility for its potential implementation in Streamline. With the need for compensation it however has become more 'cumbersome' and more difficult.

Also SBB1 acknowledges that the Arrest and the compensation track make it hard for RWS to realize the Reparcelling:

> ***SBB1****: "if there is a proper compensation location, in accordance with the forest core area concept, then we are okay with removing them. Legally, however, this is not allowed now. Unless they (RWS) adheres to compensation, but they put that idea on hold because it is too difficult now with the derogation tests".*

The comment by SBB1 indicates that SBB is very much willing to collaborate with RWS on the removal of N2000 riparian forest patches. Whenever RWS would encounter fragmented forest plots in the streambed (stroombaan), SBB would support RWS in removing these if they were to be compensated in forest core areas as proposed in the NSBR via the Reparcelling idea. However, as SBB1 notes, legislation now only allows such a construct if it adheres to the derogation tests. SBB1 concludes that for this reason RWS has 'parked' this idea because the derogation tests are 'too difficult'. PG1 notes that RWS would rather steer clear from difficult and complex endeavours such as the Reparcelling. PG1 however also acknowledges that the restrictions posed by the new legal context make it more difficult to realize the creation of new forest core areas in the floodplains.

The past couple of paragraphs have illustrated the difficulty that actors see in fitting the complex compensation track in their synergetic efforts. The perceived strain has contributed to the abortion of implementing the Reparcelling plan in Streamline. Interviewees however report that the scope for synergetic values is

not completely removed. RWS2 has for example noted that they would dare to try to engage with the derogation tests. RWS2 notes that has become more difficult but not impossible:

> **RWS2:** *"And now that is no longer an option. That doesn't mean that it cannot longer be done. Via that report, we have put it on the agenda of policy makers, and I have high hopes that they will manage to figure it out. I am not certain but I think some room is going to be found. Only, yeah, it has become a bit more cumbersome, it has become more difficult".*

RWS2 notes that though the Reparcelling plan cannot be implemented in Streamline, there is scope for implementing it later on. Having put the NSBR on the agenda, RWS2 believes that there shall be space for implementing the Reparcelling idea.

5.1.2 Impact of Arrest Briels on the task-oriented principle

The following paragraphs will present the effects of Arrest Briels on the task-oriented principle. Before proceeding towards these effects, the main characteristics of this principle are recapitulated. The task-orientated principle is made up of two components of which the first is related to a results-orientated approach. The second component of the principle is related to a focus on efficiency and economical use of resources in the road towards the aimed at results. The results-orientation is underpinned by interviewees reports on the strong focus of the executive organisations on the removal of hectares in Streamline as a measure of success. The Streamline assignment has for example been guiding in what type of measures could and could not be done. The prescribed methods and, correspondingly, the aimed for results have been reported as dominant, limiting the scope of alternative measures, ideas or views. On the other hand, interviewee reports also display a results focus by nature actors in their aim of incorporating nature objectives via water safety programs. Proceeding to the second component of the results-oriented principle, interviewees reported a focus on the efficient use of the resources money and time. With respect to the first, the financial budgets of RWS programs have been reported as determining factors in what can and what cannot be done in water safety projects. The amount of money that is available is reported to be closely linked to the core assignment of water safety and the prescribed type of measures. The identified focus on not exceeding the available budget limited the possibility for realizing linkage attempts with nature solutions, since these often require extra, and costly, measures. Interviewees also report an important role in floodplain management for the resource time. The role of time already manifested itself before the actual start of Streamline. Interviewees reported that strong political pressure was put on initiating the Streamline project as fast as possible. Completing the Streamline assignment in time has also been identified as an important determinant of success for RWS. In the briefings of the executive agencies not being able to fulfil the assignment in time was presented by RWS as one of the main risks that the executive agencies were to prevent. Interviewees note that finishing projects in the prescribed amount of time has

become a very important aspect to RWS due to past failures regarding this aspect in other of their infrastructural works.

Accordingly, it can be said that dealing efficiently with Streamline's preconditions of time, money and quality has played an important role in floodplain practice decision-making. As the Streamline assignment belongs to RWS this influence is most directly found here. A focus on fulfilling the assignment appears to be one of the drivers in the execution of water safety programs in the floodplains. With the introduction of Arrest Briels, interviewees report that the role and prominence of the task-oriented principle has changed. The main reason for this change lies with the three step derogation tests as prescribed by the Briels Arrest. As elaborated upon previously, there is a large role for the legal tools in dealing with vegetation in the floodplains. The use of the mitigation-method has been reported by the interviewees to be cornerstone floodplain practice, since it allowed for moving protected vegetation away from location where they hinder water safety objectives. As noted by CSO, the mitigation-method and thoughts on nature-inclusive designing were also given a prominent place in the Streamline assignment. The time- and financial planning of Streamline were installed in accordance with the use of this mitigation-method and the nature-inclusive designing ideas. As noted in the previous paragraph, RWS attributed large importance to reaching the prescribed water safety results, ánd in doing so focussed on remaining within the available resources of time and money.

When the Briels Arrest appeared the practices and plans of RWS had to change. The Briels Arrest delineated the mitigation and compensation in such a way that the activities of RWS would have to comply to the compensation-track. Accordingly, the mitigation-method that had been successfully applied for dealing with the relocation of protected vegetation, was no longer legally valid. In accordance with interviewees reports, this loss of the mitigation-method has impacts on the ability of RWS to attain the aimed for results and on doing so in an efficient manner. With Streamline's financial- and time planning adapted to the mitigation-method, having to engage with the compensation track is reported to be incompatible with the Streamline assignment. As a consequence, RWS chose to refrain from the initial plans on relocating the N2000 protected vegetation in the floodplains. RWS2 notes that this had quite some influence on the plans of Streamline:

> ***RWS2:*** *"Because at the moment you destroy a certain piece of nature, than you have to do a research for that piece of nature, conform the derogation tests, and if there is no other way, than you have to compensate for its loss. That has had a lot of influence on our plans. Because it obstructed us to relocate nature".*

Though the remainder option of compensation was not unknown to RWS, Streamline did not set off with this approach in mind. Since learning to play along new rules is time consuming and brings with it insecurity, engaging with a new legal trajectory was not in line with the task-oriented principle ruling out compensation as an option for Streamline vegetation removals. IenM1 has

noticed that RWS viewed that the issues with compensation were insurmountable:

> ***IenM1:*** *"the legal problems that would arise have been evaded or deemed so insurmountable that it was decided to refrain from it (compensation). Where that is located on a scale, I wouldn't know. But the problem was just evaded".*

Accordingly, the vegetation will remain at its current location despite of its negative effects on the hydraulic drainage capacity of the floodplains. The main cause for refraining from the removal lies with the three step derogation tests that would make the relocation of vegetation into a lengthier process. As RWS1 notes, the alternatives test, that is part of the compensation-track, was something they wanted to stay out of:

> ***RWS1:*** *"We want to stay away from the alternative test (…) because it actually is a passed station. We have a plain and simple assignment, we are going to improve the safety of our rivers through different water safety programs. It is backed by a minister, and we are just going to complete it. And ywah, the choice in alternatives are often close to hilarious. What do we have to do then, repositioning an entire river, or what do they want, us making the river twice as deep. These are all things that people…, these options lay outside of what we view as reality. These are options we shouldn't be thinking or discussing about. It should be a given to everyone, that this (Streamline) is the way it is".*

RWS1 argues that compensation is a 'passed station'. The analogy that CSO made between the mitigation method and a railroad track appears bonafide, since Streamline practice is noted to have passed the station from which compensation would be doable. The 'passed station' insinuated that the project is in such a late phase, that it no longer allows for a full dialectic with the derogation tests. Accordingly, the Briels Arrest and the obligation to enter the compensation track are reported as developments that do not fit the Streamline planning, nor with the aim for efficiency that has been identified as part of the task-oriented principle. Accordingly, the incompatibility between the three step derogation tests and the desire of completing (Streamline) in time demonstrate a Briels-induced mismatch with the task-oriented principle. Additionally, the results-orientation that is part of the generative principle could have become more prominent in Streamline due to the Briels Arrest. With the obstruction of the relocation of protected vegetation, it could be said that pressure is put on realizing water safety goals. In the initial designs of Streamline the N2000 vegetation had been recorded as "to be removed" on the basis of model calculations on the rivers hydraulic drainage capacity. Not being able to remove these has been reported by interviewees to have an effect (be it minor) on attaining the targets of Streamline:

> ***RWS2:*** *"That has had its influence. Without a doubt we have had to leave around 40-50 ha of forests because we couldn't remove it under N2000 legislation. That has also been reported to the House of Representatives, but that is a special point. I know that the House of Representatives will be critical on that, because they also are of the opinion that nature cannot stand in the way of safety. Look, that you try to find a balance between the two, everybody agrees on that. But it cannot be that a large forest has to be left standing at a place on which everyone (including nature actors) agrees that that is not the right location for that forest. That is, however, the situation as it is now".*

RWS2 states that around 40-50 hectares of riparian forests that were to be removed now have to remain in the Stroombaan. The Briels Arrest and the compensation requirements are mentioned as a cause of the inability to remove the forests. RWS notes that the new legal situation is unsupportive of an effective practice. Even in a situation where both nature and water safety objectives would be aided with relocating vegetation, the legislation causes problems notes RWS2. In accordance with RWS2's statement, the Briels Arrest is incompatible with the task-orientation principle that is part of floodplain practice. RWS2 also mentions that also the House of Representatives will agree on the fact that "nature cannot stand in the way of safety". This statement underlines the importance RWS2 grants to completing the water safety objectives, and can be viewed as an articulation of the task-oriented principle.

According to RWS1 the Briels Arrest and the need for leaving the N2000 forests has led to a challenge for executive agencies:

> ***RWS1:*** *"for me it was more of a given. Like, OK, well, how can we deal with this in practice. Those 30 ha, perhaps a bit less I don't know the exact number, we have to maintain those. But we also have to maintain forest for the beaver, also for macro fauna. Let's stack those functions and make sure that a tree is protected for the beaver, for macro fauna for N2000 riparian forest protection. And that is the challenge for the executive agencies, to apply this in order to remove the maximum amount of vegetation. It is just like a puzzle".*

As noted by RWS1 the situation resulted in a puzzle in which the executive agencies were challenged to remove as much as possible. This was done by appointing the N2000 forests that could not be removed as a zone for macro fauna (for the EWFD) and as beaver foraging habitat (for the Flora and Fauna act). Both the EWFD and beaver protection legislation require that certain habitat remains. The more these protection efforts are concentrated in the same area, the more vegetation can be removed. Accordingly, this method allows for limiting the effect of having to leave the Natura 2000 forests. This can be viewed as a continuation of the task-oriented principle in response to the halt on removing N2000 forests.

On the basis of interviewees reports it can be concluded that the Briels Arrest has had mentionable effects on the role of the task-oriented principle in Streamline. Firstly, the need for an alternative legal approach (compensation) has hindered the ability of achieving floodplain objectives. This goes in against the 'results-orientation', which has been identified as an important driver of the *task-oriented* principle. Secondly, the Arrest resulted in the redundancy of the nature-inclusive designing approach, which in consequence hampered the ability of completing both water safety ánd nature objectives in an efficient manner. In accordance with interviewee reports, the subsequently limited ability for implementing win-win designs and increased risk of achieving targeted results have led RWS to focus on the primary water-safety aspects of the Streamline assignment. The focus on water safety goals and the minimizing of risks is demonstrated by the rejection of engaging with the compensation-track for completing the Reparcelling idea. The loss of the Reparcelling plan can be viewed as a step away from an integral- towards a more uni-lateral approach. The latter

is the water safety oriented approach that has been written down in the Streamline assignment, making it a step that is driven by the *task-oriented* principle. Accordingly, the Briels Arrest has promoted the role of the *task-oriented* principle in Streamline's floodplain practice.

5.1.3 Impact of Arrest Briels on the cooperative principle

After having discussed the impact of Briels on synergy and task-orientation, the following paragraphs will present the effects of the Arrest on the cooperative principle. As distilled in previous chapters, the main components of this generative principle are mutual understanding and 'working towards each other'. The mutual understanding entails acknowledgements of actors from the water safety and nature domain on the interests of the other group. On the basis of these acknowledgements and the corresponding understanding, actors have been reported to 'work towards each other'. With this term actors indicated that they take other objectives into account and make concessions whenever this is needed. Operating in the multifunctional floodplains has been identified as part of a practice in which actors are willing to interact and cooperate when needed. Examples ranged from the adaptation of the 'foraging conservation goal' to the abstinence from the gedoogplicht, and from the derogation of the forest law to the joint national policy evaluations. In accordance with the interviewees responses and the examples they provided, there is an unwritten rule on the obligation of informing and, whenever possible, including each other or each other's interests in decision-making when possible and relevant. This rule of cooperation is identified to be cornerstone to operating in the multifunctional floodplain management arena, to such a degree that it is viewed as one of the principles that guides floodplain practice.

As elaborated upon, the introduction of Arrest Briels has had several impacts on floodplain practice in general and on the Streamline assignment. On the basis of the interviewees reports, however, the impact on the cooperative principle can be viewed as limited. RWS2 notes that the Briels Arrest and the cancelling of the Reparcelling plans did not led to any complications in the cooperation with the other floodplain actors:

> ***RWS2**:"I don't think it made much difference in the end, except that everybody was fairly disappointed off course. In the end, but I am guessing with concern to the nature organisations now, I believe that everyone realizes that this wasn't something that we could fix".*

On the basis of the responses of the interviewees of SBB, RWS2 was correct with regards to the effect of Briels on the cooperation between nature organisations and water safety institutions. Even though it has been reported as a disappointment to many, it did not halt the cooperation. As reported by the interviewees both actors still need each other in order to reach their goals. The multifunctional character of the floodplains make it inevitable that the actors will have to cooperate again. On the basis of interviewee reports it can be noted that

the mutual understanding between nature and water safety organisations did not suffer from the Briels Arrest, nor from the cancelling of the Reparcelling plan. Accordingly, the Briels Arrest was perceived as something extraneous, which could not be attributed to any of the floodplain management partners. On the basis of this continued mutual understanding the approach of 'working towards each other' also does not lose ground. Even though the cooperation in Streamline has not reached the results that were originally aimed for, the comments of interviewees (e.g. RWS2, SBB1, I&M1 and EZ1) explicitly suggest that the floodplain actors will continue to cooperate as close as they have been doing, in order to contribute to the multifunctional character of the floodplains. As noted by SBB1, nature actors will continue their attempts at having the ideals of the Reparcelling plan implemented in floodplain management projects. The statements from NM1 also underlines the inevitability of continuing the cooperation with the water safety actors for getting things done. For RWS, SBB and their corresponding ministries it can be added that their role as governmental agencies also facilitates the choice for a continuation of a dialogue, over the abortion of it.

SBB1 however does note that the Briels Arrest might have consequences on the position of nature values in this continued cooperation. The degree of mutual understanding might change due to the nature protection schemes that have complicated the water safety efforts:

> ***SBB1**: those thoughts on how unreasonable it is (…). If the discussion on nature and safety will enter the political arena, and if people start to address the restrictions installed by nature legislation, that could work against you. (I)t creates the image that nature has carried on too far".*

It can be reasoned that the Arrest brought tensions to the act of combining natural and water safety values. According to SBB1 the accompanying image in which natural and water safety values are part of a trade-off would likely undermine the political support for nature. Accordingly, the position of natural values in cooperation, or in the discussions on floodplain management could deteriorate.

5.2 Impact on relations between principles

In the past section the effect of Briels on the individual principles has been discussed. As concluded on the basis of interviewee reports, the Briels Arrest has had citable impact on the generative principles of floodplain practice. In accordance with interviewees reports, the Briels Arrest restricted the role of the *synergetic* principle, and promoted the role of the *task-oriented* principle. The *cooperative* principle has been reported to more or less continue relatively unaffected. Since it is the combination of these principles that eventually determines the *logic* of floodplain practice, this section engages with the ensemble of these principles. Firstly, a brief recollection of the case is presented

to support an analysis of how the identified effects of Briels on the principles are interrelated. Subsequently, it demonstrates the impact of the Arrest on the relations between the principles. In the following, and final, chapter (5.3) of the Logic of Practice it is argued why the novel circumstances are considered as a break in the *practice* of floodplain management.

As a piece of jurisprudence, Arrest Briels entered the floodplain arena from the legislative side of floodplain practice. With the Arrests' delineation between mitigation and compensation, the mitigation-method that was applied in floodplain practice was declared invalid. As a consequence, the mitigation-method that used to allow for the nature-inclusive designing approach became inapplicable. In Streamline this approach allowed for the removal of protected N2000 vegetation (i.e. softwood riparian forests) from areas where its impact on the hydraulic drainage capacity of the river posed a flood risk. With the loss of the mitigation-method, Streamline executive organisations were deprived of their everyday tool for dealing with the protected riparian forests. A potential alternative option for proceeding with the N2000 forest removals is noted to be the compensation-track. However, since the entire Streamline program was adapted to the mitigation-method, it has been reported to be difficult to engage with the 'to be removed' forests in any alternative way. As acknowledged by both the permit-authority and the executive organisation that would apply for permits, the compensation-track is more complex than the mitigation-method that was used before. As noted by interviewees, RWS chose to refrain from the compensation-track for three main reasons. Firstly, inexperience with this track brought uncertainty considering the acceptance of the compensation permit application, (i.e. the alternative test). Secondly, the complex and time-consuming procedures of the compensation-track are viewed as incompatible with the available amount of time and financial resources. Thirdly, the limited amount of N2000 riparian forests in the floodplains reduced the sense of urgency for engaging with the compensation-track. The effects of leaving the N2000 forests standing on the water safety targets were eventually regarded as acceptable. Accordingly, the costs of engaging the floodplains through a new legal pathway did not exceed the benefits of having the (relatively small) amount of N2000 floodplain forests removed. In conclusion, the task-oriented principle and its focus on Streamline tasks with efficient use of resources did not allow for engaging with the compensation-track. As a consequence the N2000 floodplain forests were not removed from the stroombaan.

In accordance with the interviewee reports, there is a certain order in which the effects of Arrest Briels on the generative principles can be understood. With the loss of the mitigation method, floodplain practice firstly lost the fundament of its synergetic principle that aimed to combine water safety and natural values. The loss of the mitigation-method has had its effects on the approach of the Streamline program. The mitigation-method was part of the nature-inclusive designing method that allowed for making the Streamline program into a win-win approach. Streamline's nature inclusive designing approach is embodied in the

Reparcelling plan; a synergetic solution that was to benefit both nature and water safety objectives. As identified by interviewees, nature-inclusive designing has been the fundament to a synergetic approach in Streamline and Room for the River projects. Accordingly, the loss of the mitigation-method and the nature-inclusive designing approach is detrimental to this fundament. Interviewees report that the appearance of the Briels Arrest negatively affected the probability of realizing the Reparcelling plan. By obstructing the mitigation logic that has been part of floodplain practice, the prominence of the synergetic principle decreased. Establishing synergetic solutions by relocating vegetation to ecologically more favourable core areas was no longer an option for Streamline. RWS indicated that they would be willing to change the zoning status of such potential core area's from e.g. agricultural into 'forest'. As this would help realizing the Reparcelling plan in the future it can be regarded as a continuation of floodplain practice in accordance with the synergetic principle. On the whole, however, the synergetic principle was obstructed since the Streamline assignment was continued without the advantages for nature goals as proposed in the Reparcelling plan.

On the basis of interviewee reports the Reparcelling plan was viewed by many nature actors as both a pathway for contributing to long-term nature policy goals, and most of all as a positive counterbalance for the large scale removal of vegetation. Losing the Reparcelling plan as a synergetic counterpart, the task-orientation of water safety institutions was noted to have become more dominant in the Streamline program. This was mainly viewed as such by nature actors who had welcomed the idea of using the obligated replanting (either via the forest law, or via the Nbw's mitigation or compensation) to create forest core areas. With the loss of this contribution to nature policy objectives, the Streamline program was (dis)regarded by some as a water safety project that was without added value for nature objectives, losing the win-win character of the initial approach. The mode of task-orientation found with the nature management actors changed from working on a long-term perspective to nature-safety dilemma's (establishing forest cores at hydraulically unimportant locations), towards contributing to the assignments' narrow vegetation removal targets. Losing the Reparcelling plan that would support nature goals, Streamline was left with an approach that was relatively dominated by the tasks and results-orientation that were related to water safety objectives. Furthermore, the difficulties that arose for relocating N2000 vegetation also put pressure on how to achieve the targeted MHW-decrease that was Streamline's primary objective. Accordingly, the decrease in prominence of the synergetic principle has resulted in a more dominant position for the task-oriented principle. On the other hand, the task-orientation of the water safety actors has also effected the potential for synergy. As noted by CSO, the early reconnaissance of the compensation trajectory was ultimately halted for the risks of not attaining the water safety goals in time were deemed too large. Accordingly, Briels has impacted the results-orientated through the synergetic principle, whilst the results-oriented principle also affected the potential for the synergetic principle.

As demonstrated in an earlier analysis, the effect of Briels on the cooperative principle of floodplain practice was relatively little. The cooperative principle of floodplain practice has been characterised in this thesis by 'mutual understanding' and 'working towards each other'. Regardless of the decrease in prominence of the synergetic principle, and the increased dominance of the safety focussed task-orientation, the cooperative nature of floodplain practice appears to have remained. Also after the Reparcelling plan was cancelled, and the corresponding objectives could not be met in Streamline, the nature actors maintained their dialogue with the water safety actors. The Arrest did not appear to affect the mutual understanding between water safety and nature actors. Even though the loss of the Reparcelling plan was a set-back, the Streamline program was continued and the nature actors were hoping to embody their Reparcelling idea in another project.

In conclusion some remarks can be made with regards to the effects of Briels on the collective of generative principles. The interaction between the synergetic- and the results oriented principles demonstrates how interlinked generative principles can be, and how external influences such as Briels can affect the role and dominance of these principles in their practice. The relatively unaffected continuation of the cooperative principle shows that certain aspects of practice are fairly contumacious, and will not easily be changed. This analysis supports an understanding of practice as a complex and diverse mechanism that is difficult to predict and even harder to steer.

5.3 Why is it a break of practice

The previous chapters have engaged with the effects of Arrest Briels on the generative principles; both at the level of each individual principle, as at the level of the collective of principles. Herein the logic of floodplain practice has been an important theoretical concept. This section will argue that the Briels Arrest has caused break in the logic of floodplain practice.

The logic through which actors interact with their environment can be interrupted whenever practitioners are faced with ideas, dilemma's or disruptive events that are incompatible with the current logic of practice (Bevir & Rhodes, 2006). This thesis presents Arrest Briels as an interruption (be it a disruptive event or a dilemma) in the logic of floodplain management practice. The introduction of Arrest Briels defied the current way in which nature and water safety values were combined. According to the interviewees the Arrest was received by many as a shock event, since it obstructed the lines along which the Streamline program was planned to perform. As demonstrated by the responses of the interviewees of SBB and NM the Arrest was viewed as a block for performing Streamline in accordance with the synergetic principle. The Reparcelling plan and its benefits for both nature and water safety objectives were halted.

As reported by the interviewees, the established delineation between compensation and mitigation was incompatible with the routines and practices of

floodplain actors. The mitigation method (used for combining natural and water safety values in multi-functional landscapes) that was part of the modus operandi of floodplain practice had become illegitimate. Accordingly, the logic of combining natural and water safety values was made more difficult to perform; the practice of which this logic was part had broken down.

As reported by Sandberg & Tsoukas (2011) a practice can suffer different types of breakdowns, which can be classified into two major categories: temporary-, and complete breakdowns. This thesis argues that the Briels Arrest contributed to a temporary break of floodplain practice. When temporary breakdowns occur, practitioners enter in a 'thematic deliberation mode', which allows them to pay deliberate attention to components of their practice (themselves, others and tools) and their relations, whilst still being involved in the practice (Sandberg & Tsoukas, 2011). Contrastingly, a complete breakdown detaches practitioners from their practice, and blurs the relations between the components of a practice. As demonstrated in the Streamline case the practitioners did not distance themselves from their practice. The novel situation did not make Streamline actors disconnect from how they used to behave and how they related to each other. Instead they continued to interact with the new circumstance and attempted to make sense of it, whilst also reflecting on their practice. On a more theoretical note, the actors attempted to accommodate the new interpretation in the existing web of beliefs and ideas that is bound to their practice, without ever being fully detached from this practice and its three generative principles. Accordingly, the break in floodplain management practice is classified as a temporary one.

A temporary breakdown of the logic of practice puts the actors in a position in which they have to exert agency. Since (parts of) the former routines and practices are blocked, the floodplain actors need to start improvising in order to continue their floodplain management projects.. As noted by Bevir *et al.* (2013), this agency enables actors to accommodate new interpretations in a practice and also allows actors to perform actions that lie outside their original practices. Bourdieu's understanding of the 'habitus' (1990), which closely aligns with this thesis' understanding on situated agency, underlines the idea that practitioners have this ability to exert agency. Though the practice has broken down and the logic has appeared to be inadequate, a certain degree of the generative principles will remain closely tied to the actors understanding of their environment. These remnants of the generative principles will function as a basis from which responses to the new situation are formulated. Accordingly, the responses are a socio-historically developed product underlining the situatedness of the agencies that are performed.

The upcoming results chapter will discuss the different improvisations that floodplain actors performed in response to the novel situation. It will analyse the different types of agency that are exerted to deal with the break in practice.

Chapter 6 Results - Situated Agencies

In this second results chapter we shall juxtapose the gathered data with this research's second sensitizing concept: situated agency. This concept allows for a thorough exploration of the floodplain management actors' responses to Arrest Briels. As demonstrated in the previous chapter the Arrest contributed to an breakdown of floodplain practice. The arrival of new conditions and the blocking of certain routines requires the floodplain management actors to improvise. It might be that they start to cooperate with different actors, explore activities that lie outside of their original practice, or begin talking and writing in new ways or at different times. The following question aims to provide insight in what behaviour and ideas actors develop in response to the Arrest, and attempts to determine what the 'new' floodplain practice looks like.

- *How do Streamline actors deal with Arrest Briels in their behaviour and ideas concerning floodplain management?*

Building upon the previous chapter, this section shall develop an understanding on the role of situated agency in a thwarted field of practice. The arisen imbalance between the generative principles of the floodplain practice has created new circumstances in which actors are to operate. Since the *logic* that resides in practice is confronted with a novel environment it might appear inadequate, the actors started to improvise. According to practice theory, the resulting behavioural and ideational responses of Streamline actors are herein not autonomous, but expected to be closely tied to understandings that are core to the *logic* of the practice. Possibly, these improvisations could be (unconsciously) originated at influencing or even restoring the ratio's between the generative principles that have been guiding the practice. In order to develop an understanding on the role of situated agency in behavioural and ideational responses, this chapter shall present and analyse interviews with floodplain actors, (in)formal floodplain documentation and first-hand experiences with Streamline practices.

In this research four main different responses have been found; shock and evaluation, exploring the possibilities, postponement and the engagement with the compensation track. Each of these responses differs in the degree and type of agency that underlies them. This thesis will not attempt to present these responses in a chronological order, since the responses are shaped over a longer period of time by different actors who relate to these general responses in different ways. Each of the chapters of the general responses firstly presents the responses to Arrest Briels as retrieved from interviews and the role for agency in these responses. Subsequently, the agency that underlies the responses is analysed on its situatedness in the generative principles of floodplain practice.

6.1 Shock and Evaluation stage

On the basis of this research's empirical findings this section firstly present the role of agency in the responses formulated in the shock and evaluation stage. Subsequently, the situatedness of these responses will be analysed by juxtaposing them with the generative principles of floodplain practice.

Agency

Many floodplain actors viewed Arrest Briels as something that defied the methods and routines that were part of their practice; it was incompatible with its logic. Being a permit authority officer, EZ2 was in an excellent position for overseeing how project developers and other applicants responded to the newly established obligation to use the compensation trajectory. According to EZ2 the Arrest was unanticipated by most of the floodplain actors and caused quite some consternation. Also EZ1 recognizes that floodplain actors are forced to adapt their practice, having to shift from mitigation to compensation. As noted by EZ1 and EZ2, the main reason for this shock lay in the alternatives test which is noted to be complex, strenuous and inconvenient. It is suggested that engaging with compensation is not part of the methods, ideas or routines of floodplain actors, explaining the disquiet with which the Arrest has been received. The statements of EZ1 and EZ2 support the understanding that the new circumstance lies outside of the current logic of floodplain practice. The floodplain arena does not have a routine or method to deal with the Arrest since it poses a new situation for Streamline with which the actors have no experience yet. The floodplain arena was confronted with a situation that lay outside of their practices and which didn't fit with their logic. The absence of a script forces the floodplain actors to develop improvised responses, requiring agency.

When Rijkswaterstaat and the executive organisations learned on the potential legal repercussions of continuing Streamline's removal or 'relocation' of vegetation via the mitigation principle, their response was to halt all N2000 vegetation removal plans. The following two statements from the RWS interviewees support the notion that Rijkswaterstaat was unpleasantly surprised by the Arrest:

> ***RWS2:*** *"Because at the moment you destroy a certain piece of nature, than you have to do a research for that piece of nature, conform the derogation tests, and if there is no other way, than you have to compensate for its loss. That has had a lot of influence on our plans. Because it obstructed us to relocate nature".*
>
> ***RWS1:*** *"That alternative interpretation of the competent authority has just led to a new situation in which we could no longer make use of the report of SBB, with the selected locations (for forest core areas). For that the program would have needed more time".*

According to RWS2, the Briels arrest has had a lot of influence on Streamline's plans. SBB1 notes that RWS was slightly distressed by Arrest Briels and the potential scenario of no longer being able to remove any N2000 vegetation.

Furthermore, RWS2 notes that Streamline did not have the time for engaging with vegetation removal via a new approach such as compensation. As noted by RWS1 the plans on removing Nbw protected forests were stopped, also halting the Reparcelling ideas from the Nature and Safety in Balance report. The relocation of Streamline N2000 vegetation via mitigation was no longer an option, causing an initial stop in activity of project leader RWS2. IenM1 supports the notion that Rijkswaterstaat has evaded the potential legal discussions and reasons that this was done because the issues with compensation were viewed as insurmountable.

The interviewees note that Arrest Briels has forced the programs executive actors to improvise since there were no methods, ideas or routines on dealing with compensation in Streamline. When grabbing back to the metaphor of a play: the actors had no script for this specific and unexpected scene of the play. In essence, agency was used to evade the potential dilemmas and discussions that were attached to exploring the new legal circumstance that would from then on play a part in floodplain management. The degree of agency in this response is argued to be low since the activities related to this response do not thoroughly engage with the new context. By refraining from engagement with the new compensation requirement actors are not moving beyond current practice, and not developing a new one. Since the response involves a material activity, i.e. not engaging or a stop of activity, the agency is here argued to be *action-based*.

Nature actors also developed responses to the new situation in the face of Arrest Briels. NM1 interpreted the Arrest Briels as a piece of legal nit-picking of the highest order that complicates the attainment of nature goals:

> ***NM1*** *It is legal nit-picking of the highest order. Yes, I can image that one can be incredibly busy with those sorts of things, (…) However, in the daily practice of floodplain management it is nothing more that legal nit-picking without any added value, no value at all. (…) I think that we all should have a rather reflective attitude towards these developments (…) we are up to complete certain objectives, certain developments, and you should really reflect on whether these can be completed with this legal nit-picking. And I think the answer is no.*

On the basis of this statement it can be said that NM1 views the Briels Arrest as a severe hinder to reaching nature goals. Accordingly, the Arrest is incompatible with the way in which NM1 and other floodplain actors have been operating. NM1 and SBB2 note that these type of developments make it difficult to reach the set nature development goals. SBB2 extends this argument to the effect on establishing a shared or greater good by noting that "*even when a development is positive for the bigger picture, the regulations can be restrictive, this can be very inconvenient at times".* The statements underline that there the Arrest created a certain state of shock in which the novel situation very different making it difficult to address. Aside from displaying a degree of incomprehension and uneasiness, NM1 and SBB2 also engage with a need for evaluation. The interviewees note that the current developments are harmful and wishes to evaluate these and their meaning for floodplain practice. This intentional call for

an evaluation is not part of everyday practice. Agency has been used to formulate this new way of acting that is a response to the new situation brought by Arrest Briels. Since the call for evaluation primarily engages with thoughts and ideas, and not with material or action, this response demonstrates a discursive type of agency.

Interviewees PG1 and RWS2 also put forth the need for an evaluation. Their call however does not only entail an evaluation on the effects of the arrest (as NM1 and SBB2, but focusses on rethinking current floodplain practice. In response to the Arrest PG1 notes that it is needed to take a new critical look at the combining of nature and water safety in the floodplains:

> ***PG1:*** *"at first the concept management plan has to be installed and then… (…) Yeah we need to team up and jointly think on where we want to go to with our rivers, and the floodplains. And just acknowledging each other's interests. They are there. Let's see how we can deal with that difficult nature. And let's see how we can deal with those difficult water safety assignments. And perhaps you would come to the conclusion that they cannot be combined. And perhaps then we will have to arrange our European nature obligations somewhere else, and not in the floodplains".*

According to PG1 the current situation is characterized by the presence of 'difficult nature' and 'difficult water safety assignments' and the hardship of combining these in the light of Arrest Briels. PG1 uses this current situation to call for a large scale evaluation on the future of Dutch rivers, the use of the floodplains and the presence of multiple interests. PG1 stresses the importance of acknowledging each other's interests. Interestingly, PG1 also notes as an example that such an evaluation could very well point out that nature and water safety interests are conflicting and that the floodplains should perhaps not be used to meet European nature protection obligations. In this discursive response agency is used to think differently about floodplain practice. Formulating such novel ideas on how the future of practice might look like requires a high degree of agency.

RWS2 and PG1 argue that it might be best to have water safety and nature values balanced by a single organization:

> ***RWS2:*** *"In the current situation the province monitors the nature objectives, and we monitor safety targets. Ideally, I would send one person in the field that knows about flora and fauna ánd on water safety. And who can immediately say, this is satisfactory , or it is not. That would be the ideal situation to me. And that is something I am willing to aim for, but it will take years before that is installed.*
>
> ***PG1:*** *"you can think about it together. And that doesn't happens often enough (…) sometimes I shout that it might be best if floodplain nature policy ended up with RWS. That it is with a single actor (…) so that they (the different objectives) can be weighed internally. And what RWS has to do, they do. They are a really powerful executive organisation, a lot more powerful than we are".*

In the statement displayed above RWS2 envision that, ideally, a single person can be send into the floodplains to balance the water safety and nature values.

PG1 takes such a centralisation move a step further. Aside from having the 'field-level' balancing of values performed by a single person, PG1 also suggests that nature policy, and its responsibility, might better be placed with a single organization (i.e. RWS). In the floodplains current state of shock, RWS2 and PG1 apply agency in thinking up alternatives on how floodplain practice could alternatively be organised. Since the proposed centralization entails a fundamental reconsideration on the arrangement of floodplain management, this response is characterized by a high degree of *discursive* agency.

Situating the agency in the logic of practice

The previous section has engaged with the empirical accounts and the role of agency in the shock and evaluation stage. The following section will present an analysis on the situatedness of the agencies that floodplain actors have exerted in this first phase after Arrest Briels.

When juxtaposing this evasive response with the generative principles of floodplain practice some interesting relations are found. Engaging with Arrest Briels is presented by the interviewees as a risk due to the uncertainty that accompanies *compensation* as a new trajectory or pathway for handling vegetation removal. The risks that accompany this uncertainty are interpreted as a potential danger for attaining the targets of the Streamline assignment. Accordingly, not engaging with the new situation can be understood from the *task-oriented principle*. The main components of this principle are the results-orientation and the focus on efficiency. Whereas the results-orientation urges RWS to complete their MHW-reduction targets, the focus on efficiency steers them to do so in time. Since an engagement with the Briels Arrest defies both of the components of the task-oriented principle, this principle has strongly supported the evasive response of RWS. The synergetic principle appears to have been of little influence on RWS's evasive response in this first post-Briels stage. Not engaging with the new context also halted the synergetic approach to Streamline since without the removal of N2000 vegetation, there is also no scope for relocating this vegetation in forest core areas as drafted in the Reparcelling plan. The task-oriented principle has turned out to be pivotal in determining RWS's response. Accordingly, the agency that RWS displayed is situated in the task-oriented principle of the logic of floodplain practice.

Aside from this general response of the Streamline program team (i.e. RWS), the shock phase also led to responses of other actors. Whereas the response described above is identified to involve material action, the following responses will be more discursive and evaluative in nature. The introduction of the Arrest has been identified as a temporary breakdown of practice. In accordance with Sandberg & Tsoukas (2011) the shock that is caused in such a situation allows for actors to view their practice 'from a distance', seeing the interrelatedness of the components of practice, without ever being fully detached from the it. In this break of floodplain practice actors have also been found to evaluate on how floodplain practice works, to explore how components of this practice could relate

differently and to suggest how practice could potentially be altered. These reflective responses and the generative principles will be set side by side to see how these relate.

As demonstrated in the empirical accounts, NM1 strongly criticized the nit-picking of judicial developments such as Arrest Briels and called for an evaluation. Agency has been used to formulate this new call for evaluation that is a response to the new situation brought by Arrest Briels. The focus of NM1's response on the detrimental effect of Arrest Briels on achieving nature objectives can be understood from the *task-oriented principle*. SBB1 also states that Arrest Briels might potentially have adverse effects on the political support for nature conservation frameworks, and ultimately nature objectives. This response can also be understood from the *task-oriented principle*. The strong focus on achieving objectives aligns closely with the results-oriented component that is part of this principle. Accordingly, the exerted agency is situated in the logic that has been part of floodplain practice. To a large degree SBB1 displayed the same type of response as NM1, criticizing the detrimental effects of the Arrest on achieving nature objectives. SBB1, however, extends this argument to the effect on establishing a shared or greater good. Just like response of NM1, the critique of SBB1 on the obstructing effects of the Arrest on nature and water safety objectives can be linked to the *task-oriented principle*. Following the same line of reasoning, this response is also fuelled by agency that is situated in the *task-oriented principle*. On the other hand, the critique on the incapacitation of 'reaching a shared or greater good' originates from the *cooperative principle*. More specifically, it can be linked to the 'working towards each other' component of this principle, which entails that actors take each other's values and objectives into account in order contribute to multifunctional floodplains. Accordingly, the responses of NM1 and SBB1 can be understood by looking at the logic of floodplain practice.

In PG1's first statement contains two interesting responses: a call for an evaluation and a reflection on a potential outcome of such an evaluation. PG1's call for an evaluation is caused by the perceived difficulties posed by the Arrest for combining water safety and nature values. Accordingly, the response of PG1 can be traced back to the *cooperative principle* that has been part of the logic of floodplain management practice. The general call for an evaluation on how to combine water safety and nature values originates from the 'working towards each other' component of the *cooperative principle*. PG1's note on the importance of recognizing other interests in such an evaluation is unmistakably connected to the other component of this principle; the acknowledgement of each other's interest, or mutual understanding. Whereas this first response strongly continues to build upon the logic of practice, the following response thoroughly deviates from the logic of practice. Interestingly, PG1 noted that a potential outcome of such an evaluation might be that the floodplains should not be used to meet European nature protection obligations. In this response PG1 applies agency to develop ideas that defect from both the *cooperative*- and the

synergetic principle. In essence, stopping attempts at combining nature and safety values in the floodplains is giving up on trying to work with and towards each other as fundamental to the cooperative principle. Giving up on this fundament also defies the base from which the synergetic principle attempts to create win-win solutions. Though PG1's thoughts do not present a creative solution to combining water safety and nature, the response can still be characterized by a high degree of agency since it displays reasoning that lies outside of the *logic* of floodplain practice.

Another example of such detached thinking on floodplain management is found in PG1 and RWS2 thoughts on centralizing nature and water safety interests towards a single actor. Accordingly, these interviewees see a problem in the current situation where water safety and nature objectives are realized by different organizations. In their response the interviewees reconsider the current way in which floodplain management is arranged. The novel situation established by Arrest Briels made the interviewees theorize a model that centralizes the power for balancing nature and water safety values, requiring less interaction and discussion. Accordingly, agency is used to defect from the *cooperative principle* of floodplain practice. On the other hand, this response can also be formulated to present a better model for gaining results efficiently, or to improve the scope for synergy. Accordingly, the interviewees might have developed this centralization response on the basis of the *task-oriented* and *synergetic principles*.

6.2 Explorative stage

In the previous chapter the initial shock and evaluation stage has been presented and analysed. The following chapter engages with the 'explorative stage' as the second response of the floodplain arena to Arrest Briels. Streamline's executive organizations RWS and the advisory agencies have played an important role in developing this action-oriented response of the program. This section will start off by describing the responses of floodplain actors and the role of agency. Afterwards, the agencies are juxtaposed with the logic of practice, showing a prominent role of the task-oriented principle.

Agency

As described in the previous chapter the arrival of the Arrest installed a certain degree of shock. Since the new circumstances were hard to incorporate in current practice, actors had the feeling as if they were 'stuck'. The Arrest resulted in the inability to continue the plans as they were proposed. For the time being the new way of dealing with vegetation in the floodplains was leaving the Nbw forests standing and letting go of the nature-inclusive designing approach. As indicated by this subsequent explorative stage, RWS gradually developed the idea that they might be able to handle the compensation track that would from now on be obligated for the type of (removal) activities that

Streamline proposed. Even though the Arrest was initially viewed as an insurmountable obstacle, RWS1 and RWS2 eventually admitted that they would dare to enter this new trajectory. Accordingly, it could be expected that the shock response would eventually be followed by a new stage that engaged with the new situation. As suggested by EZ1, the Arrest might have hindered but did not stop the discussions on vegetation removal:

> ***EZ1*** *such an Arrest did throw a spanner in the works, but I do not believe that it brought everything to a halt. It did make things more difficult though.*

Though the remainder option of compensation was not new to RWS (applied in other type of projects), Streamline did not set off with this approach in mind. CSO notes that though the initial shock stage had stopped the need to look for alternative vegetation development locations, RWS soon contacted them again on this matter. CSO notes that RWS requested them to perform a quick scan for potential compensation locations. Parallel to this quick scan RWS attempted to gear the local situation and those involved towards completing the vegetation removals via compensation.

In this stage agency is used to examine the new legal context Arrest Briels installed for floodplain management. The object of examination, the compensation track, lies outside current floodplain practice and has been regarded as incompatible with the logic of this practice. Accordingly, this exploration of the possibilities of the compensation track can be interpreted as an act of improvisation which requires agency. Since this explorative response entails an exploration of a new situation that lies outside of current floodplain management understandings, and outside of its logic, these actions are characterised by a high degree of agency.

With the looming deadlines for permit application, CSO has had to force RWS to make a decision on whether to apply for a vegetation removal permit (via compensation) or not. These permits were applied for in clusters, resulting in the fact that any flaw in the application would result in the disapproval of an entire batch of permits (i.e. also effecting the removal of non-N2000 vegetation). Since the local discussions on the possibility of using the proposed compensation locations were ongoing (e.g. zoning plan status or ownership), CSO and RWS jointly decided to continue the overall application procedure without the compensation application:

> ***CSO:*** *"the risk is that if the riparian forest discussion doesn't work out, we will also not get a permit for the other activities we planned. (…). (T)hey, together with us, decided that the risk was too big and that we shouldn't do it (applying for removal N2000 vegetation via the compensation track). So we've put everything on hold and continued , we would think on a solution to the riparian forests later on".*

This meant that the permit applications for removing Nbw protected vegetation were withdrawn, whilst the other (non-N2000) vegetation removal applications would remain. CSO steered towards this solution as part of what they called

'damage control', since their assignment didn't allow for a delay in the removal of vegetation. Learning to play along new rules has proven to bring insecurity and to require time for adaptation, resulting in this defection of the compensation track for Streamline. The final abortion of the explorative stage and its halt on engaging with the compensation track both require agency since they are performed in the absence of a clear script. The halt of the exploration displays an *action-based agency* that is of a low degree since it demonstrates little creativity and does not work towards developing a new practice.

The story on the explorative stage provides a 'behind the scenes' view into the physical responses of RWS on the Briels Arrest. The court ruling established a novel environment that did not seem to fit the pre-determined approach of dealing with vegetation in Streamline. As depicted by CSO, RWS engaged with these new circumstances attempting to make sense of them in the view of their practice as embedded in the Streamline assignment. For CSO, a conclusion of this exploration has been that entering these processes was too big of a risk for fulfilling the Streamline assignment in the designated timeframe. Accordingly, the compensation track was viewed as a risk for completing the Streamline assignment.

Situating the Agency in the Logic of Practice

The previous section has engaged with the empirical accounts of interviewees and the role for agency. The interviewee reports were used to illustrate the exploration that was initiated by RWS and CSO. The following section will engage more thoroughly with the situatedness of the agencies that underlay these responses.

The intention to remove the N2000 vegetation from the stroombaan was part of a larger Streamline design that was to achieve a certain reduction in MHW. As noted by RWS1, not being able to remove these patches of rough vegetation had an effect on the potential of reaching these set goals. The exploration of possibilities for removing the vegetation via compensation works towards achieving Streamline goals. Accordingly, the RWS-led exploration strongly builds on the *task-oriented principle*. The results-orientation component that is part of this principle emphasizes the importance for actors to achieve their goals in floodplain practice. The response of RWS to explore the previously coined 'insurmountable hurdle', referring to the compensation track, reflects a strong desire to remove this vegetation, preferably in Streamline but later on if needed.

Interestingly, the agencies that underlie the Arrest's initial rejection (the shock and evaluation stage) and the exploration are both situated in the task-oriented principle. Whereas the principle firstly stressed the incompatibility of the Arrest with the logic of practice, it subsequently argued for exploring the Arrest for being able to achieve Streamline goals. Accordingly, a single generative principle can provide a base for two very different responses or agencies. Additionally, the *synergetic principle* could also have played a part in initiating this exploration. The logic of floodplain practice prescribes that floodplain actors keep scope for

synergetic solutions. The exploration gains knowledge on how to work with the new legal context that has become part of the floodplain arena. By accumulating knowledge and experience with the novel context this exploration increases the potential for future synergetic solutions (e.g. the Reparcelling plan).

The agency that underlies the exploration of possibilities is strongly based on what has been left of the logic of practice, even after the breakdown of this practice. Since this explorative response entails an exploration of a new situation that lies outside of current floodplain management understandings, and outside of its logic, these actions are characterised by a *high degree of agency*. Agency is here used to adopt a new understanding in the 'web of beliefs and ideas' that Van der Arend & Behagel (2011) posed as an analogy to a certain part of floodplain practice. Accordingly, practice can be viewed as something that is flexible and robust. This is underlined by the response of EZ1, who noted that even though the Arrest might have slowed things down it didn't bring it to a halt.

At the end of the exploration, as noted by CSO, it was decided to refrain from engaging with the compensation trajectory for N2000 vegetation removals. The permit application method that made use of batches created the risk that a negative response on the compensation applications would also affect the other non-N2000 removals that were also part of the batch. This interpretation of the compensation trajectory as a risk for the Streamline assignment aligns with RWS's history of giving substance to the *task-oriented principle* that has been part of floodplain practice. As noted by CSO, it was decided to continue the application procedure without the compensation applications due to this risk. Accordingly, floodplain practice was eventually continued without incorporating the new circumstance. Since the reason for this response has been the avoidance of risk this agency is situated in the task-oriented principle of floodplain practice.

6.3 Postponement

After the initial shock and evaluation stage floodplain actors have started to explore the Briels Arrest. The preliminary exploration on the possibilities of applying the compensation track in the Streamline program concluded that any further engagement with Arrest Briels would have to be postponed. Accordingly, the Reparcelling plan, which was built on the premise of relocating N2000 vegetation, could not be completed in the Streamline assignment. This chapter presents the findings of this thesis on the postponement stage. After describing this response stage and the role of agency this chapter will close by analysing the situatedness of the agencies that underlie the responses.

Agency

The early exploration on the potential for completing Streamline's vegetation removals via compensation did not deliver a positive outcome for streamline. RWS and CSO concluded that adhering to the compensation track was a risk to completing the Streamline assignment. It was uncertain if the vegetation removal application would be accepted, bringing risk to the targeted MHW

reduction. Furthermore, arranging these applications and performing the subsequent vegetation removals were expected to cost an amount of time that was incompatible with the deadlines of the Streamline assignment. This meant that the permit applications for removing Nbw protected vegetation were withdrawn, whilst the other (non-N2000) vegetation removal applications would remain. Accordingly, the Reparcelling plan (proposed in SBB's Nature and Safety in Balance report) that embodied the synergetic aspects of the Streamline assignment could no longer be performed:

> ***RWS2:*** *"we have changed, and that purely has to do with time. We now say: we are quickly approaching the finish line, next year it has to be completed, we don't have the time to put that much energy in it".*

It was however emphasised that this did not entail a complete cancellation of efforts in working towards a Reparcelling of N2000 forest patches in the floodplains. Even though the realization of the Reparcelling plan in Streamline is no longer an option, RWS 2 notes that this does not mean that the plan has no future:

> ***RWS2:*** *"And now that is no longer an option. That doesn't mean that it cannot longer be done. Via that report, we have put it on the agenda of policy makers, and I have high hopes that they will manage to figure it out.*

RWS2 identifies that there is potential for performing the Reparcelling plan in a later stage. Having put the NSBR on the policy agenda, RWS has high hopes that the current problems surrounding the Reparcelling plan will be sorted out. In this response RWS2 postpones the Reparcelling measures beyond Streamline, and towards a time that is viewed as more appropriate. RWS2 notes that it is probable that the years to come will offer space and scope for the Reparcelling plan. Also CSO notes that RWS argued that a solution to the riparian forests would have to be developed in the future. Removing N2000 vegetation is an important and recurrent component of floodplain practice and has become paramount in combining nature and safety values in the floodplains. Since RWS knows that it will need to remove N2000 vegetation in the future, the avoidance of the Briels Arrest simply pushes the problem forward. The risks involved have led RWS to postpone any engagement with N2000 vegetation removals and the Reparcelling plan. RWS here operates in untried settings that require improvisations. Making the decision to postpone a dialectic with the new conditions that are brought about by Arrest Briels qualifies as a form of agency.

Postponing the engagement with the compensation track obstructed the Reparcelling plan. Accordingly, the cancellation of the Reparcelling plan also evoked certain responses with nature actors. As also recognised by RWS, the whole Reparcelling concept was an important motivator for SBB's cooperation in Streamline processes. Accordingly, the postponement of the Reparcelling plan can be viewed as a setback for SBB and PG1 who both aimed to link nature objectives to the water-safety oriented Streamline program. SBB1 however

remains positive in response to the cancellation of the Reparcelling efforts in Streamline, setting scope on the horizon:

> ***SBB1:*** *And we are still working on all sorts of projects, so we are still hoping to get it on the agenda, and if we have projects of our own. Just trying to find space for the Reparcelling ideas. If you can appoint a forest core area that is bigger than one little project, than the next compensation assignment does not have to go through the whole circus again and can go to the same location".*

Firstly, SBB1 and SBB2 note that, in response to the cancelling of the Reparcelling plan, the State Forestry Service will aim at putting the defragmentation efforts higher 'on the agenda'. SBB2 notes that the importance of they will attempt to widely convey the importance of defragmentation of N2000 forests message at all organisational levels, In the multiplicity of projects it is attempted to help think and scout for potential compensation locations that would be suitable for forest core areas. However, in their traditional role as a management organisation, SBB2 claims that SBB has limited decisive control. This limited power and the search for partners in projects implies that for establishing an impact collaboration is again of grand importance. SBB2 notes that the search is continued and that they 'try to make the best of it'.

Though Streamline has shown to be unable to realise the defragmentation efforts, SBB1 notes that they are more fish in the sea. Being involved in multiple projects, SBB1 attempts to see whether the developed ideas and ideals can find room elsewhere. As one of the concrete projects in which SBB is involved, SBB2 notes that the European Water Framework Directive (EWFD) might have potential for contributing to a Reparcelling of N2000 floodplain forests. Another large governmental program in which SBB hopes to find scope for the Reparcelling plan is the new Delta Program. By introducing the Smart-Rivers project into the discussions of the Delta Program, SBB1 aims to retrieve a scope for spatial planning solutions to water-safety measures. This example demonstrates how SBB1 performs efforts in establishing a scope for nature objectives in river management projects, with the aim of returning to a win-win situation. With Rijkswaterstaats' postponement of realizing the Reparcelling efforts, SBB1 is taking initiative in scanning for potential projects in which their intellectual legacy can take shape.

Situating the Agency in the Logic of Practice

The diminished potential for the synergetic, win-win principle is argued to have led to new ratios. In the face of the new circumstances, RWS prioritized the completion of Streamline targets over compensation attempts for a win-win outcome. The decision to postpone the dialectic with the new situation installed by Arrest Briels required agency. Aside from simply completing their tasks, extra weight was found in the need for doing so in time. It could thus be said that the postponement is a decision that is situated firmly in both the results-oriented and efficiency components of the *task-oriented principle*. Additionally, adjourning the idea does not work against the grain of the other principles of cooperation and

synergy. The act of postponing the N2000 vegetation removals is notes to be fulfilled at a later time. Since the decision has been a sensible and intentional act, influenced by the socio-historic background of floodplain practice (i.e. the generative principles) this act qualifies as form of situated agency.

RWS1 notes that the delineation between compensation and mitigation has led to a situation that no longer allows for the Reparcelling venture drafted by SBB. Since the halt on the Reparcelling efforts in Streamline, SBB has attempted to reconnaissance for alternative platforms via which to implement their ideas. The (partial) break in the *logic* of floodplain practice, induced by Arrest Briels and the obligation for compensation, seems to also have had its effect on nature organisations such as SBB. With Arrest Briels the generative principle aimed at win-win situations has been obstructed. As noted in the previous paragraph this has led RWS to postpone their efforts on the Reparcelling plan, which can be viewed as an act in accord with the task-oriented principle. The search of SBB for alternative platforms and their lobby for implementing the intellectual legacy of the NSBR, can be viewed as counter initiatives. Though not intentionally established as such, the efforts display a contra-move that could re-establish the balance between the generative principles. Pressing on the importance of defragmentation for natural values and attempting to incorporate these via different projects are activities that align with the *cooperative* and *synergetic principle*. The embeddedness of these new acts in the history of their practice argues for the situated-ness of these agencies.

6.4 Engagements with the compensation track

In this chapter the fourth and final response of the Streamline program will be presented. After the initial stage of shock, an early exploration and the official postponement of engaging with the Arrest and the Reparcelling plan, this final response stage entails an engagement with the compensation track for the Streamline assignment. The first section will present a room for the river project that successfully completed the derogation tests, and empirical data on Streamline's engagement with the compensation track. After introducing these examples and analysing the role of agency, these agencies will be situated in the logic of practice.

Agency

The compensation track and its derogation tests have been characterised as complex and difficult constructs by both nature and water safety actors. The preference for the more flexible mitigation method became part of the logic of floodplain practice. With the appearance of the Briels court ruling, these discourses have been reiterated. After an initial evasion of the Briels Arrest, an exploration, and a postponement, floodplain actors have started to engage with the compensation track for N2000 vegetation removals. Now that the Arrest has

been around for some time actors appear to have been able to gain experience with the restrictions and possibilities posed by the new context.

EZ2 notes that both in the Room for the River, and the Streamline program examples have been found in which projects have applied for the removal of N2000 vegetation (i.e. riparian forests) via the compensation trajectory.

The following example from the permit application of a Room for the River project will be introduced first. Unlike the Streamline applications, this application has already been completed as it was initiated earlier. In the alternative test, consistently flagged as the most tricky part of the derogation process, the policy note that backed a Room for the River project (IJssel riverdelta South: Reevendiep) appeared strong enough to gain acceptance by the Council of State ('Raad van State'):

> ***EZ2*** *you have to complete the derogation tests. We have done that there, and two months ago the Council of State noted that they concurred it. So the project (Reevendiep) can be performed.(…) Here (alternative tests) you have to be very specific: why is there no practical alternative for this specific project. Well and that was done successfully. (…) Here they have told the story on the Spatial Planning Key Decision Room for the River and its move away from dike strengthening towards double targets, safety and nature development. You can't do nature development is you heighten dikes. You can when you relocate dikes, giving more space and creating a dynamic landscape and water works. That is why it has been done*

However, additional circumstance for this acceptation have been that this project was the last in a series of projects. Without the latter one the previous projects would have been of little use. As EZ2 notes, arguing that the heightening of dikes is not in line with RWS and IenM policy is not enough for underpinning the lack of alternatives for soft, spatial solutions (i.e. vegetation removal) to water safety issues. As comments from both nature and water safety actors underline, Arrest Briels has attracted extensive comment, often addressing the insurmountable hurdle it posed. Looking at the example of the Room for the River project, it appears that through the engagement with the new situation certain unforeseen opportunities can arise. Though the derogation tests are viewed as a hindrance, something to be avoided from a procedural point of view, the urgency of completing water safety projects appears to be a strong enough force to have actors reconsider these views.

The second example from EZ2 is, to most interest of this research, on the application for vegetation removals in the Streamline program. EZ2 notes that floodplain actors have also started to engage with the derogation test for completing Streamline's measures. After a certain time of silence due to the rise of Arrest Briels, EZ2 notes that he (i.e. the 'Rijksdienst voor Ondernemend Nederland', part of ministry of Economic Affairs) is now starting to receive applications again. These new applications follow the compensation trajectory and engage with the derogation tests. Since these applications are submitted fairly recent, it is not yet known whether these will be accepted. However, the

fact that applications are now being send is already highly interesting in the light of this research. In accordance with the order of the response stages: from shock and refraining from action towards exploration, postponement and finally engagement with the compensation track, there appears to be a learning curve. Actors have had to gain experience with the new situation and perspective on how it related to past practices.

Practitioners seem to operate in accordance with a certain modus operandi filled with routines that have been socio-historically developed to fulfil certain objectives. When the methods for attaining these goals are obstructed, actors shall eventually attempt to find other ways through which to achieve their targets. Exploring new situations and developing new routines requires agency since actors have to perform in the absence of a script operating outside of their practice. EZ2 stresses that there is room for situational interpretations and improvisations. EZ2 notes that an Arrest is only an interpretation of the law that is *'nothing more than a collection of words'*, containing hardliners (things that are relatively fixed) and moderates (aspects that are open to interpretation and more flexible). When studying the Briels Arrest people will come up with different views on what is and is not possible. EZ2 notes that project initiators, such as RWS, that indirectly engage with these institutions via permit procedures, will look for solutions that lie as close as possible to the original plan. By characterising the permit application as an explorative process, the role of contingency and creativity are highlighted. As also noted by Arts *et al.* (2012), this suggests that the agility and quality of 'fit to practice' solutions partially depends on the creativity of practitioners. The capacity of floodplain actors to engage with the novel circumstances, through situated agency, could therefore have an effect on the nimbleness with which Arrest Briels could be incorporated into floodplain practices. Regardless of the nimbleness with which this could occur, it has become evident that the actors have started to engage with the compensation trajectory. Accordingly, the actors have started to use agency for conforming to the external change that Arrest Briels posed.

Situating the Agency in the Logic of Practice

By juxtaposing the responses with the generative principles of floodplain practice, the following section engages with situatedness of the agencies exerted in this final stage.

Just as in the second response (the exploration of the possibilities), the final engagement with the compensation track is strongly based on the *task-oriented principle*. If the engagement with the derogation tests would succeed, the removal of N2000 vegetation could be realised and water safety targets could more easily be met. The fact that the Streamline executive organisations engaged with the compensation track indicates that achieving targets is an important determining floodplain actors' behaviour. Accordingly, the agency that underlies this response is situated in the results-orientation component of the task-oriented principle. Though the task-oriented principle has been most

important in founding and guiding this response, both the synergetic and cooperative principle have also been supportive. Engaging with the derogation tests requires compensation locations. Accordingly, engaging with the compensation track for achieving goals is paralleled by an increased potential for realizing the relocation of N2000 vegetation to 'more durable locations' (as proposed in the Reparcelling plan). The attempts made at proceeding via the compensation track are therefore also in accordance with the *synergetic principle* of floodplain practice. The engagement with the compensation track also offers scope for continuing the *cooperative principle* that has been part of floodplain practice. The activities that surround the removal and replanting of vegetation offer possibilities for 'working towards each other', which has been identified as an important component of this generative principle. With an acceptation of the permit applications a new platform would be established on which actors can continue to discuss on how to arrange water safety and nature values in the floodplains and on how to 'work towards each other'. In conclusion it can be stated that the response of engaging with the compensation track aligns with the generative principles and, accordingly, the logic of floodplain practice. The analysis demonstrates that the agency that underlies the response is situated in all three principles.

The interaction with the derogation tests can be seen as a large explorative step in the process of dealing with N2000 riparian forests for water safety programs in the new institutional context installed by Arrest Briels. When actors study Arrest Briels, EZ2 notes, actors will come up with different views on what is and is not possible. These situated interpretations are part of a reconnaissance of something that lies outside of their logic of practice. As demonstrated by the different responses analysed in this chapter, the interpretations can gradually develop with the amount of practical experience that has been gained. This demonstrates that practices can evolve via the embedding of new thoughts and ideas in existing practices through acts of situated agency. Regardless of the nimbleness with which the incorporation of Briels in the logic of practice could occur, it has become evident that the actors have started to engage with the compensation trajectory. Accordingly, the actors have started to use agency for conforming to the external change that Briels posed. Since the engagement with the compensation track requires actors to operate outside of their regular practice, the response is characterised by a high degree of agency. The current development of a new role for the compensation trajectory in floodplain management practices indicates that the breakdown of floodplain practice has been of a temporary nature.

6.5 Conclusions on Situated agency

This chapter has presented four different responses to Arrest Briels. Each of these responses are improvisations, since they are performed in a situation for which there is no script. These improvisations therefore require agency. As demonstrated through the analysis of the different responses, each response

shows a different degree of agency. Whereas the shock and evaluation took relatively little effort, exploring the possibilities of the compensation track requested actors to act beyond their normal practice. For identifying the four general responses interviewee reports have been used. These four general responses engage with the presence (or absence) of 'action'. Each of these action responses were broad and counted for the Streamline project as a whole. Within each of these action responses attention has also been given to the 'ideational' or discursive responses of individual interviewees. These engaged with 'meaning', and provided an insight in the thoughts of the actors on what the development meant for them. Also in these thoughts and ideas of actors we found that agency was used at most creative ways. PG1 for example used agency to undermine the synergetic principle by noting that (in the light of Arrest Briels) it might not be a good idea to have N2000 nature in the floodplains at all. On the contrary statements have also been made that stress that the water safety and nature actors should simply continue to cooperate for realizing a situation in which nature and safety can be in balance. EZ2 demonstrated that dealing with jurisprudence, such as Arrest Briels, always entails a diverse set of situational interpretations and improvisations.

In accordance with the order of the action responses, there appears to be a learning curve. The new situation is firstly received with shock due to its incompatibility with the logic of practice. Accordingly, the Briels Arrest was condemned. In time, the feeling of urgency for engaging with the new situation is developed. Through the gradual exploration and experiences gained actors got more grips on the new situation. When the actors felt like they had developed the competence for fully engaging with the derogation tests (and the urgency is there) the obstacle, that formerly was viewed as insurmountable, is faced. When looking at the individual responses of the actors it becomes clear that a breakdown of practice allows for all sorts of agency. Whereas some appear to build on the remnants of the logic of the broken down practice, others completely defy the generative principles that have been guiding their practice until the breakdown.

Chapter 7 Conclusion and Discussion

This concluding chapter presents and discusses the findings of the data analysis that has been performed for this thesis. The chapter starts with a reintroduction of the general objectives of this research and motivations for this research. Subsequently, the answer to the research questions of this thesis is addressed. The chapter proceeds with a reflection on the theoretical and methodological implications of the adopted heuristic, and relates these to a wider scientific debate about the practice based approach. This chapter concludes with some suggestions for further research.

7.1 Conclusions

The problem statement that informed this thesis has been centred on a very practical issue. A recent judicial interpretation (Arrest Briels) of the Habitats directive was considered by many actors as a hindrance to the implementation of the Streamline project, as it changed the rules of the game. The routines that floodplain actors had developed for combining water safety and nature values in the floodplains were thought to be no longer valid. Therefore, the objective of this thesis was to *investigate how actors react to such a change in situation, and to see whether or how the socio-historically developed logic of practice can explain the improvised responses to this new script*. By adopting the practice based approach this thesis installed a sensitivity to: 'what was done, by whom, how, where and with what (un)intended consequences', at various levels of the process (Arts *et al.,* 2014: p 4). The sensitizing concepts; 'logic of practice' and 'situated agency', have functioned as interpretive devices that guided this empirical research and assisted this thesis 'to discover, understand, and interpret what is happening in the research context' (Bowen, 2006; p. 14). The practice based approach allowed for 'thick descriptions' on the workings of floodplain management practice and how this was impacted by the Arrest Briels. It also allowed for an exploration of the space that is taken for the improvisation of actors, and enabled an analysis on the role of practice in guiding or steering these improvised responses.

In chapter 7.3 the conclusions of this chapter will be discussed. The discussion starts off by addressing the value of the PBA for policy analysis and engages with the role of practice in the academic debate on the workings of behavioural and social change, and the (im)possibility of steering these. Afterwards, the added value of a PBA in analysing the 'nature safety dilemma' is discussed. Furthermore, this research will reflects on the heuristic strategy applied in this thesis.

7.2 Research questions

By adopting the practice based approach for analysing the Streamline case, this thesis has been able to answer the following research questions:

1. *What did the logic of floodplain practice look like before the instalment of Arrest Briels?*

2. *Did the Arrest break up the logic of floodplain practice?*

3. *What kind of improvisations and responses are articulated by floodplain management actors in response to Arrest Briels?*

4. *What impact does the new situation have on the practice of floodplain management?*

7.2.1 The logic of floodplain practice

To answer the first research question of this thesis this section presents the three generative principles of the logic of floodplain practice. The first principle that is identified to be guiding in floodplain management is *cooperation*. The results show that floodplain interactions and discussions display a type of 'mutual understanding' amongst actors from the nature and water safety domains. On the basis of this mutual understanding, actors have demonstrated to be 'working towards each other'; taking each other's objectives into account and making concessions when possible. The *mutual understanding* and *working towards each other* jointly build the cooperative principle and put forth an unwritten rule on informing and involving other actors and their interests, whenever possible and relevant. An example of such a cooperative approach can be found in the local adaptation of a Natura 2000 conservation goal for geese in order to allow for an important water safety intervention (for a more elaborate description and other examples see chapter 4.1).

The second principle that guides floodplain practice is one of *synergy*. The degree of interaction that results from the cooperative principle provides fundament and scope for developing win-win solutions. The Synergetic principle demonstrates a collaborative approach in which mutual gains, win-win solutions and a certain degree of shared authorship and ownership are prominent. The *nature-inclusive designing approach* and the *mitigation-method* have been two pivotal components in synergetic approaches to floodplain practice, due to the flexibility they offer for combining water safety and nature values. The routinely use of these components in the Room for the River program was set forth in the design of Streamline and the ideas on the Reparcelling plan (using the mandatory redevelopment of affected N2000 vegetation for spatially rearranging floodplain forests to benefit both water safety and nature interests). The floodplain actors'

acknowledgement of- and support for the Reparcelling plan as a win-win solution demonstrates the importance attributed to synergy in floodplain practices.

The thirds and final principle of floodplain practice is *task-orientation*. The first component of the task-oriented generative principle is related to a *results-orientation*. As demonstrated in the Streamline case it was very important for the involved actors to achieve the results that were set in the assignment. The aimed for results play an important role in determining RWS's approach towards the Streamline removal of vegetation in the floodplains. The second component of the task-oriented principle is *efficiency*, with regards to resources, such as time and money. The efficient use of time has been demonstrated to influence decision-making in the extensiveness of cooperation, the ability of for creating linkages and the eventual scope for the Reparcelling idea. With regards to finance efficiency has demonstrated to play an important role in determining the scope for synergetic solutions. Dealing efficiently with Streamline's preconditions of time, money and quality has played an important role in floodplain practice decision-making.

The three generative principles jointly compose a logic that helps to better explain outcomes of decision-making processes in floodplain practice. The prominence of each principle in determining an outcome has been identified to be dependent on the situation. The principles can perform in different ways and the linkages between the principles herein can vary. For example, the synergetic principle and the task-orientated principle (i.e. the 'focus on efficiency' component) can relate positively as demonstrated with the 'killing two birds with one stone' mindset (effective use of resources for attaining multiple goals), but also negatively when a focus on efficiently realising specific goals stands in the way of realising a broader set of goals in synergetic approaches. The logic of floodplain practice is regarded as a logic because the principles are in essence mutually supportive. Practice has shown that it can tolerate the fact that the principles are not always mutually supportive. Actors, and practice for that matter, would however not be able to function when acting in accordance with one principle would always be defying another principle. The more numerous these principles are, the more likely that they will interfere with each other, making a practice messy and 'impractical'.

7.2.2 A Temporary Break in the Logic of Floodplain Practice

Following the typology of Sandberg and Tsoukas (2011) this thesis has found Arrest Briels to have caused a *temporary* breakdown of floodplain practice. The logic through which the floodplain actors interacted with their environment is interrupted by Arrest Briels, as a disruptive event (Sandberg & Tsoukas, 2011; Bevir & Rhodes, 2006), that is found to be incompatible with the current logic of practice. When temporary breakdowns occur, practitioners enter in a 'thematic deliberation mode', which allows actors to pay deliberate attention to components of their practice (themselves, others, methods and materials) and

their relations, whilst still being involved in the practice (Sandberg & Tsoukas, 2011). Floodplain management was performed in a mode of absorbed coping through which there is no explicit attention payed to how the floodplain arena is operating and how its components are related. With the Briels Arrest the floodplain arena shifted from 'absorbed coping' (a habitual mode of engagement) into a thematic deliberation mode to look at what the new situation does for their practice and how they could deal with it. Actors started to evaluate the new situation created by the Arrest and started to reflect on their practice. The nature-inclusive designing approach and the mitigation method were singled out and thematised, manifesting their utility in performing floodplain practice. The 'thematic deliberation mode' allowed floodplain practitioners to pay deliberate attention to components of their practice (e.g. aiming for synergy, the mitigation method, combining nature and water safety interests) and their relations, whilst still being involved in the practice and its three generative principles. A *complete breakdown* would have detached practitioners from their practice, blurring the relations between the components of practice. Instead the actors interacted with Arrest Briels, tried to make sense of it, and reflected on their practice. The new requirement to use compensation was eventually accommodated into the existing web of beliefs and ideas that is part of floodplain practice.

To elaborate on the understanding of how floodplain practice is effected by Arrest Briels it is interesting to look at the order of how principles are affected. The Arrests delineation between compensation and mitigation firstly effected the synergetic component of floodplain practice by obstructing the *mitigation method* and the *nature inclusive designing approach*. For Streamline this resulted in the loss of the Reparcelling plan, which left Streamline with an approach that was relatively dominated by a water safety oriented set of tasks and targets. The pressure put on water safety objectives also diminished the scope for synergetic solutions. The cooperative nature of floodplain practice appears to have continued unaffected. Even after the Reparcelling plan was cancelled, and the corresponding nature objectives could not be met in Streamline, the nature actors maintained their dialogue with the water safety actors. The actors continued to work towards each other and aimed for embodying the Reparcelling idea in a future project. The interaction between the synergetic- and results oriented principles demonstrate how interrelated generative principles can be, and how external influences such as Arrest Briels can affect the role and dominance of these principles in their practice. The relatively unaffected continuation of the cooperative principle shows that certain aspects of practice are fairly resilient, and will not easily be changed.

7.2.3 Situated responses to Arrest briels

This section answers the third research question. Firstly, it presents the improvisations and responses that have been articulated by floodplain management actors in response to Arrest Briels. Secondly, the responses are juxtaposed with the logic of practice allowing for conclusions to be drawn on the situatedness of the agency that underlies these responses.

This thesis found that the responses of floodplain actors to the Arrest are distributed amongst four different stages: the 'shock and evaluation stage', the 'explorative stage', the 'postponement stage' and the 'engagement with the compensation track'. Each of these stages demonstrates a corresponding response of the Streamline program and a diverse set of reactions of individual floodplain actors.

(1) The Arrest firstly induces a shock due to its general incompatibility with the logic of practice and the hurdles the Arrest poses for the Streamline program. The floodplain arena did not have a routine or method to deal with the Arrest since it poses a new circumstance with which the actors have no experience yet. Agency was used to evade the potential dilemmas and discussions that were attached to exploring the new legal circumstance that would from then on play a part in floodplain management. The rejection of the new floodplain management context demonstrates a form of action-based agency that is situated in the task-oriented principle. This evaluative thoughts of actors on their practice (see Sandberg & Tsoukas, 2011, on temporary breaks of practice) interestingly also displayed agency (e.g. PG1's thoughts on not having EU nature targets in floodplains) that was not situated in the generative principles of practice, but actually defied it.

(2) With the gradual development of a feeling of urgency to engage with the new situation the explorative stage was entered. The agency used for exploring the potential for removing vegetation via the compensation trajectory is situated in the task-oriented principle; by working towards achieving Streamline goals, and the synergetic principle; by accumulating knowledge and experience the exploration increases the potential for future win-win solutions.

(3) By halting the engagement with the derogation tests the removal of N2000 vegetation for Streamline was cancelled. The water safety actors chose to postpone the further exploration of- and adaptation to Arrest Briels. Since this response was formulated in order to complete the Streamline assignment in time the agency that underlay this response was situated in the task-oriented principle. The task-oriented response of the water safety actors outweighed the aim for win-win solutions which was strongly advocated by nature actors in line with the synergetic principle. In response to the abortion of the Reparcelling plan nature actors noted that they would attempt to embed the defragmentation ideas of this plan in future water safety programs. The agency that underlies this response is clearly situated in the cooperative principle of floodplain practice.

(4) The explorative stage and a from thereon continued learning process resulted in an accumulation of knowledge on the compensation track and perspective for how to deal with it for Streamline's vegetation removal. This resulted in the fourth and final stage in which the Streamline executive organization started to engage with the compensation track. The final engagement with the compensation track is strongly based on the task-oriented principle, since a successful permit application via the compensation track would allow for the removal of N2000 vegetation, supporting water safety targets. Though the task-oriented principle has been most important in founding and guiding this response, the response also aligns with the synergetic and cooperative principle.

Due to the absence of a script for working with Arrest Briels most of the responses articulated in these four phases are improvisations. It requires agency to develop and perform these improvisations to deal with the novel circumstance that lies outside of current practice. The agencies that were found could be bound to the generative principles, displaying a continuation of the logic, or relatively free from them when actors theorized over how a new practice and logic could be different. The agencies that actors apply in response to the breakdown of practice can be situated in a principles of floodplain practice, but can do so in different ways. As demonstrated by the role of the task-oriented principle in both the initial rejection and exploration of the Arrest, a single generative principle can provide a base for two very different responses or agencies. Interviewee EZ's characterisation of permit application as an explorative process, highlights the role of contingency and creativity. As also noted by Arts *et al.* (2012), this suggests that the agility and quality of 'fit to practice' solutions partially depends on the creativity of practitioners.

7.2.4 The resilience of practice

This section presents the impact of Arrest Briels on the current practice of floodplain management. For determining the impact of the Arrest this analysis builds on acquired insights on the logic of floodplain practice ánd the actor responses, which have been addressed, respectively, in the first and third research question.

This thesis argues that floodplain practice has remained relatively stable in confrontation with the new situation that was posed by Arrest Briels. As demonstrated by the interviewee reports the obligation to compensate (illegitimating the mitigation-method) did have an effect on the capacity of performing the Streamline program and floodplain management in general. The 'shock and evaluation stage' demonstrates a situation that can be labelled as a crisis. The new conditions for floodplain management deviated from those present at past practices and were incompatible with the logic that had been driving practice so far. The eventual engagement with the compensation track for completing streamline measures however shows that this crisis was short-lived. The degree to which each of the generative principles was affected by the Arrest

played a role in the eventual impact of the Arrest on the practice of floodplain management. The Arrest most severely affected the scope for the synergetic principle. The cooperative principle has shown to be the most contumacious in facing the situation induced by Arrest. Since completing tasks and enabling synergy in the multifunctional floodplains requires cooperation, the cooperative principle provides the fundament on which the other principles build. Also in the face of Arrest Briels the floodplain actors (such as RWS, SBB, I&M, EZ) continued to demonstrate the importance of cooperation in floodplain management. Even when SBB's Reparcelling initiative was cancelled they continued to play their part in the cooperation and aimed to incorporate their Reparcelling ideas in future programs. The task-oriented principle became more prominent due to the Arrest, since the potential problems with vegetation removal could jeopardize the completion of the water safety oriented Streamline task. The cooperative and task-oriented principle, respectively, provided a fundament and urgency for engaging with the new institutional context set by Arrest Briels. This engagement resulted in the adoption of the compensation track for Streamline vegetation removals. The adaptation had developed floodplain practice and ensured that the breakdown of practice was of a temporary nature. It is probable that practice might have demonstrated a more complete breakdown if not one, but multiple generative principles would have been obstructed. Since the generative principles have demonstrated to be of great importance for developing practice, the principles are performative. The generative principles play an important role in shaping floodplain actors' thoughts, ideas and understandings, and can have effects on the social construction of reality. In the performance of these principles a social floodplain practice is created that lies close to the norms embedded in the previous practice.

The performative generative principles install a certain resilience that contributes to the continuity of practice and to the temporary nature of the breakdown of practice. On the one hand this resilience is established by the capacity of practice to adapt; floodplain actors adopted the compensation track in the web of beliefs and ideas that is part of the logic of floodplain practice. On the other hand this resilience is shaped by the stability of practice: the crisis of which floodplain actors spoke was short-lived, its effects were quickly downplayed and practice was continued without having to undergo any radical adaptations or major change of course. The resilience of practice resulted in a situation in which floodplain practice was changed, whilst at the same time it actually didn't. There is an on-the-ground influence of the Arrest since floodplain actors had to interpret, improvise and generally adapt to the new institutional setting. At the level of the actors, which enact floodplain practice, this influence is found in the mandatory inclusion of the compensation track for Streamline-type of N2000 vegetation removals. When juxtaposing these on-the-ground effects with the overarching logic of floodplain practice, the influence of the Arrest on practice as a whole appears to be limited. Streamline's final engagement with the compensation track illustrates that the influence of the Arrest appears to have

been miscalculated or exaggerated. Practice is performed in a complex and dynamic world in which it is often confronted with new developments that are viewed as alternative or incompatible with current routines. Adapting to the crises that are induced by these novel circumstances is a continuous and important part of practice. Conforming to- or rejecting these extraneous developments, such as Arrest Briels, not only develops a practice, it also plays a role in sustaining its future by ensuring the 'fitness' of practice.

The impact of the new interpretation of the Habitats directive on floodplain practice has been limited. Even though the Arrest caused quite a stir at the beginning, the final engagement with the derogation tests for Streamline demonstrates that floodplain practice could cope with Arrest Briels. The generative principles aided in minimizing the impact since these help to develop a practice that is not only fit to deal with the new context, but also close to the norms embedded in the previous practice. The generative principles are performative and perpetuating, tending to develop practice in their own reflection. With the attempts made at removing N2000 vegetation via compensation oriented Nbw permits steps are made at incorporating the new institutional context set by Arrest Briels in floodplain practice. Though the block on the mitigation method had impacted the ability of performing water safety and nature management, floodplain practice starts to adapt by installing a new routine. Even though this adaptation process involves apparently intense stages of shock and reorientation, the adaptation went relatively easy demonstrating the resilience of practice.

7.3 Discussion

This thesis set out to investigate how floodplain actors reacted to a change in the rules of the game, and to see whether or how the logic of practice can explain the improvised responses to the new script for floodplain management. Furthermore, it is aimed to answer how floodplain practice was impacted by Arrest Briels. This thesis argued that the responses of actors could be explained by means of the generative principles that make up the logic of floodplain practice. These situated agencies that underlay the responses were dominantly in agreement with, and reproductive of, the logic of practice ('bound'), but could also be defecting from it ('free'). Practice has been demonstrated to be complex, resilient and self-perpetuating. In the following discussion the value of the chosen research approach will be presented (7.3.1). Subsequently, the findings of this thesis on practice are confronted with the wider literature discussion on policy change (7.3.2). Thereafter, this thesis will present the epistemological position of practice as a new and valuable perspective on the nature-safety dilemma (7.3.3). In conclusion, there will be a reflection on the heuristic strategy that has been applied in this research (7.3.4).

7.3.1 Value of the PBA

As demonstrated by Arts *et al.* (2012) forest and nature governance studies most commonly rely on rational and institutional policy analysis. At the onset of this thesis it was also planned to address the impact of Arrest Briels via discursive institutionalism by means of the 'policy arrangement approach', or PAA (Arts *et al.,* 2006). This thesis applied a practice approach for analysing the impact of Arrest Briels on the floodplain arena. By adopting the 'practice based approach', or PBA, (by Arts *et al.,* 2012) this research is situated in what is called 'the practice turn' (see Schatzki, 2001). The epistemological positions of institutional and practice theories differ substantially. Whereas the first centralizes a universal role for incentives, norms and rules as a basis of social action, the latter argues that action is based on socio-historically developed routines and patterns that are situational. By adopting the PBA this research has been able to generate certain insights that demonstrate the added value of this approach in respect to other (e.g. institutional) approaches.

An institutionalist analysis, such as the PAA, would for example look at the power and resources of actors for explaining the response to the new 'rules of the game'. Accordingly, the power position of the actor and their capacity to exert agency could be identified as explanatory for the displayed adaptation to Arrest Briels. This thesis' application of the PBA has however demonstrated that the explanation for this displayed adaptation ranges beyond the capacity of actors to exert agency. The ability to exert agency and respond to changing conditions is related to the generative principles that drive the socio-historically developed practice. If practice would have been different (e.g. other interaction rules), the resource and power of the actor would not have allowed for exerting the same agency, demonstrating the important role of practice. As noted by Arts et al. (2012) the logic of practice guides the actors deployment of agency and informs their interpretation of structures. Moreover, the generative principles also helped to explain why Arrest Briels was interpreted as a challenge to the current rules of the game (i.e. the aim for synergy) in the first place.

Interestingly, Wiering and Van De Bilt's application of the PAA on Dutch floodplain management (2011) found a set of informal floodplain management rules that to a certain degree displays similarities to the generative principles distinguished in this research. 'Aiming for cooperation', 'Project must succeed' and 'Synergy earth removal and nature development' are three of the seven informal rules that Wiering and Van de Bilt (2011) encountered in their analysis of four floodplain management cases. The PAA has however led them to view these informal rules as a set of norms that are described discursively. These norms are regarded as societal structures that are relatively stable and not easily effected by actor behaviour. Conversely, this research's application of the PBA works with generative principles, instead of norms, in which a stronger emphasis is placed on action via the performance of these principles. The identified

potential of actors to influence practice (and the generative principles) through action emphasises that practice is not fixed and can be changed by actor behaviour. Actor behaviour is found to be informed by the generative principles in diverse, complex and contingent ways. The action-oriented understanding developed in this research implies that it is difficult to use policies to steer towards certain social outcomes.

The *cooperative*, *task-oriented* and *synergetic* principles jointly compose the logic of floodplain practice and have allowed for a better understanding on of when agency can be applied and how the exerted agencies are 'logical' to floodplain actors. By laying bare the generative principles of floodplain practice the PBA also pays attention to the operational principles that inform the decision-making of actors. Whilst few other methods display a sensitivity to these operational principles, the application of the PBA has been able to highlight the importance of time and resources in floodplain management decision-making. Instead of merely looking at how actors responded to Arrest Briels, the practice based approach has illuminated what actually happened when the Briels Arrest 'hit the ground'. The approach is more empirically grounded since it demonstrates a sensitivity to the specificities and complexities of the local situation. It was able to stress the contingent and situational nature of responses and depict the social consequences of the Arrest that lie underneath the final outcome of floodplain actors engaging with the compensation track.

7.3.2 The PBA and Change

A much debated topic in the literature on governance is that of policy change. The historically dominant leading strands in forest and nature governance studies, institutionalism and rationalism, are struggling in their attempts to understand policy change. For understanding how actors behave institutionalism builds on a logic of appropriateness. Actors are said to behave or act on the basis of what is expected of them, which is set in formal or informal rules. On the other hand, rationalism relies on the logic of consequentialism; actors determine their behaviour on the basis of the consequences that they expect to receive from this behaviour. Both the logic of appropriateness and the logic of consequentialism often come short in understanding and explaining (policy)change. Institutionalist approaches, such as the PAA, often claim that the emergence of a change in discourse, appearing as a *deus ex machina*, has resulted in policy change. A rationalist approach would on the other hand argue that change is caused by the autonomous decisions of actors to act differently, based on a changed view on expected consequences. The practice based approach that is applied in this thesis has demonstrated a more critical understanding of change which builds on a logic of practice, instead of those of appropriateness and consequentialism. Actor behaviour is determined by the logic that is embedded in a practice. Whereas the other logics attempt to explain a change with universally broad, vague and abstract explanations, the logic of

practice is shaped very concretely and locally in practices. As demonstrated in this thesis this logic of practice contains a set of generative principles (in this thesis there were three) that inform actor behaviour, and consequently change. The logic is hard to grasp since there are a multitude of ways in which the generative principles could provide guidance to action, giving meaning and change. The application of the PBA in this thesis has demonstrated how change occurs (see e.g. the four different response stages) and how the reorientation of the generative principles (induced by Arrest Briels) has been able to provide an explanation for the responses that were formulated and the subsequent changes that occurred.

In order to demonstrate the added value of the PBA's 'alternative' view on change, it is interesting to also apply a rationalist and institutionalist analysis of the case of this thesis. Rationalisms' logic of consequentialism would argue that actors would quickly and rationally decide on how to respond to the new situation posed by Arrest Briels. Conversely, in researching the response to Arrest Briels, this thesis has identified a shock and evaluation responses amongst actors. The gradual learning curve that was found in the set of responses is found to be based on a lack of practical experience and not a lack of information, defying the rationalists' understanding of actor behaviour and change. The shock and evaluation responses demonstrate that it had cost effort to interpret- and accustom to the new situation, since it required an adaptation of floodplain managements' current routines, or 'ways of doing', and understandings. The time and effort it took to do so underlines the presence of habitual inclinations and the prominent role of practice. Institutionalists' logic of appropriateness would argue that floodplain actors simply started to make use of the compensation track because they were expected to. Such an approach sees only a starting point: a new situation that requires a response, and a final outcome: adaptation or rejection. The PBA has however been able to demonstrate that there is a whole process between the appearance of Arrest Briels and the attempts made at complying to the compensation track. In this process, the generative principles of floodplain practice informed a new interpretation of compensation (from: 'complex, time-consuming, to be evaded', towards 'part of practice'), which led to a change in what is appropriate. As demonstrated in this thesis this process of adapting to the Briels Arrest was based on its appropriateness to practice, and not on the appropriateness of the behaviour with regards to the institution. What is appropriate is only found in the process of adaptation, and is based on the logic of practice and its generative principles.

This thesis demonstrates that the generative principles of floodplain practice operate in such a way that floodplain management is performed habitually and routinely. The presence of routines and dispositions limit the amount of options that are weighed in the process of decision-making. Since action is guided by habits there often is no conscious decision-making process in which alternatives are weighed. The presence of habits, not having to weigh each potential option for each of their activities, makes it easier for actors to perform. The fact that

this thesis has found only three generative principles for floodplain practice is in accordance with this understanding. The more numerous these principles are, the messier and 'impractical' a practice becomes. In a practice with a large number of principles it is more probable that acting in accordance with a certain principle will defy another, making it impossible to perform a practice.

7.3.3 Nature safety dilemma

This thesis has come across (perceived) trade-offs between nature and water safety values. The literature on Dutch floodplain management engages with the debate on the combination of both values in the 'nature-safety dilemma'. As noted by Fliervoet *et al.* (2013) this dilemma embodies a concern that self-regulating nature objectives, and the complementary increase in forested floodplain area (Geerling *et al.,* 2008), eventually jeopardizes flood protection goals by reducing the water discharge capacity of the river systems. The articles of Fliervoet et al. (2013) and Wiering and Van de Bilt (2006) deliver two important contributions on the combination of nature and water safety in the floodplains. Just like most research on the nature-safety dilemma the analytical focus of these articles is on the role of power, institutions and discourse.

Wiering and Van De Bilt (2006) applied a policy arrangement approach, or PAA, (based on Van Tatenhove *et al.,* 2000) on the policy processes in four floodplains for analysing tensions and the power balance between nature and water safety interests. Applying the PAA characterises the floodplain policy domain on its policy arrangements, which are 'snapshots' of interaction patterns, rules of the game, visions etc. The PAA-analysis of Wiering and Van de Bilt (2006) indicated that institutions and discourse played an important role in determining the power relations between water safety and nature interests. As reported by the authors, floodplain management was viewed as an *institutional whole*. Another article that engages with the nature-safety dilemma comes from Fliervoet *et al.* (2013) who provided a multi-stakeholder perspective on integrated floodplain management. Fliervoet *et al.* argue that a 'dynamic vision on nature' could help solve the nature-safety dilemma. For developing conservation goals for 'dynamic nature areas', Fliervoet *et al.* aligns with Yaffee's (1996) emphasis on the importance of human institutions; e.g., mobilizing institutional change and innovation. As also displayed in the research of Wiering and Van De Bilt (2006) the role of institutions is made paramount.

This research's application of a practice based approach allows for a new angle to the nature-safety dilemma. The application of the practice based approach (PBA) made this thesis position floodplain management, not as an institutional whole, but as a *practice*. Whereas Wiering and Van de Bilt (2006) conclude that institutions and discourse play a major role in determining floodplain power-ratio's, the PBA highlights the role of socio-historically developed routines and habitual inclinations that make up floodplain practice. Practice and its generative principles are argued to inform the interpretation of these institutions and the

uttering of discourse. In turn, these interpretations, utterings and other activities also build a practice (Arts *et al.,* 2014). The PBA's centralisation of practice does not mean that looking at discourse and institutions is unimportant, but it does so in an alternative way with a greater role for action and the performance of the principles that are part of practice. The PBA operates from an understanding where the institutions are situated in a practical setting, and where a logic of practice determines the importance and role of institutions. The PBA delivers a critical analysis on the ability of these human institutions to develop these conservation goals by demonstrating the pivotal role of practice and its generative principles. In accordance with this role of practice, developing or changing conservation institutions for adapting to 'dynamic nature areas' (as suggested by Fliervoet *et al.,* 2013) will not necessarily result in overcoming the nature-safety dilemma. The logic of practice informs the floodplain actor responses that determine whether the institution will establish an effect. As demonstrated in this thesis, floodplain practice has shown to be resilient and only needed time to adapt to the new situation. Accordingly, the PBA has shown that institutional intervention might not always be needed. By centralizing the role of the generative principles and improvisation in floodplain management, the PBA offers a valuable new perspective in the discussion on how nature and safety interests are (to be) combined.

7.3.4 Reflections on the Heuristic strategy

For analysing the impact of Arrest Briels on the floodplain arena this research has been situated in what is called 'the practice turn' (Schatzki, 2001). The practice based approach that is adopted in this thesis is a form of interpretivist policy analysis. In accordance with Wagenaars (2011) approach to interpretivist research, this thesis has developed and applied a heuristic strategy in which theoretical and methodological research components are presented as interlinked. Unlike the definitive notion that is embedded in 'method', this strategy of discovery ensures that the scope of this research is determined by what is important in practice. The heuristic strategy was used to establish 'a dialogue between theory and the world' (Wagenaar, 2014), in which this practice based approach can display the required sensitivity (as noted by Arts *et al.,* 2014) to: what was done, by whom, how, where and with what (un)intended consequences, at various levels of the process. Since it was not possible to be present at key events, as prescribed in the traditional 'being there' approach to ethnographic data collection (Hammersly & Atkinson, 2007), this policy-oriented research made use of interviews conform the approach of Van der Arend en Behagel (2011). The interviews in this thesis were not pre-developed on the basis of theoretical concepts, but co-constructed with the interviewees on the basis of what was important to them and, accordingly, to practice. The scope of the semi-structured interviews has thus been determined by practice. For

example, this approach allowed this thesis to distil four different response stages. Furthermore, the approach allowed for gathering empirical data on how the generative principles were explanatory for certain actions.

In this thesis understanding has been developed gradually by letting data collection, analysis and theory building shape each other. Whereas a normal linear research process would describe a uni-directional path from question to data collection and theory building, the research design of the practice based approach is characterized as overlapping and continual as is the case in many interpretive approaches (Van der Arend & Behagel, 2011: Arts *et al.,* 2012). This thesis also adopted an iterative and overlapping research design which was not a trial and error affair, but builds on assumptions or 'early hunches' and the gradual development of these through the accumulation of knowledge and expertise. Through reading, field work, analysis and other research steps the conceptual understanding of the topic was gradually developed, influencing the organization of the research stages, and so on, in a continuous spiral.

Analysis of the collected data has been performed in close alignment with Wagenaar's application of grounded theory in his book 'Meaning in Action' (2014). The analysis of the interviewees was performed along two lines of coding. The first 'upward' line of coding embodied scope for encountering unanticipated details or 'surprise' by developing the codes from the empirical material. The second 'downward' coding made use of predesigned and theory-informed codes, ensuring that the theoretically laden parts of the empirics were retrieved and organized. This approach to data analysis allowed for laying bare the particularity and specificity of floodplain practice, benefitting the quality of the analysis. Aside from enabling an interesting analysis, the heuristic also brought some difficulties. Aside from Wagenaars' (2014) book 'meaning in action' there is little literature that provides guidance on how to apply a practice based approach. Even though the value and strength of the sensitizing concepts lies in the fact that they are not clearly demarcated, this characteristic also made it challenging to apply them. At the coding stage of this research it proved to be difficult to combine the top-down coding (based on the sensitizing concepts) with the bottom-up, empirical, coding. Because the sensitizing concepts could be interpreted broadly they could connect to many empirical themes, making it challenging to construct a structured narrative.

The application of the heuristic also allows for a reflection on how the sensitizing concepts relate. The concept of performativity appeared to be an integral part of how the other sensitizing concepts work, as empirically recognised in this thesis' analysis on floodplain practice. The sensitizing concept of logic of practice has demonstrated features of performativity in the self-perpetuating nature of floodplain managements' generative principles. The concept of situated agency highlighted that there is space for floodplain actors to be creative and deviate from practice (engaging with the compensation track), which in turn resulted in a new set of norms. This potential for actors' improvised responses to change a practice is also an important characteristic of performativity. The logic of practice and situated agency were the first two concepts that were applied for analysis.

These two concepts were already able to collect enough data for developing an understanding on the performative aspects of floodplain practice. Due to the performative features of these first two concepts, the heuristic cycle already saturated before the last concept of performativity was officially applied. It could be argued that the performativity concept is too much interwoven with the other concepts for it to be studied separately. If this research would have started by applying the sensitizing concept of performativity the outcomes with regards to this concept would have most probably been different. This discussion on the role of performativity has been highlighted by the application of a heuristic, underlining the added value viewing method and theory as interrelated.

Much research displays a tendency to focus on a single issue or event, partly because this facilitates setting up a narrative analysis. Though this research also started this way by focussing on Arrest Briels, the methods of the PBA have allowed for an analysis that ranged beyond the Arrest. The methods illuminated the problematic role of the Arrest by demonstrating its incompatibility with the generative principles of floodplain practice. Furthermore, finding the four response stages demonstrated the presence of a temporal dimension to practical responses to new circumstances.

7.3.5 Final conclusions

As noted by Arts *et al.* (2012), practice based research starts from case studies on local problems and relates these to broader theoretical discussions. Accordingly, the in-depth case study on Arrest Briels is not employed to make empirical or theoretical generalizations. This thesis provides a detailed understanding on the role of the logic of practice in determining the responses of Dutch floodplain actors to Arrest Briels and the related impact of this Arrest on floodplain practice. In being confronted with the change in interpretation of the Habitats Directive (a formal conservation institution), floodplain practice has demonstrated to be resilient and self-perpetuating. This thesis does not argue that practice will behave equally in other situations, nor that a reinterpretation of a legal institution will evoke the same reaction or that it will impact practice in the same way.

In conclusion, it should be stressed that practice is *local*. The logic that informed the meanings and actions of floodplain actors was not a universal, but a practical logic that was specific and situational to floodplain practice. Furthermore, this thesis has demonstrated that practice is *socio-historically developed*. The routines that have been developed in past floodplain operations are more or less found to have continued, also guiding the interpretations and actions of floodplain actors in program Streamline. The process of incorporating Arrest Briels (i.e. the need to comply to the compensation track when relocating N2000 vegetation) in the routines of floodplain management demonstrates that practice develops, it is not fixed. Since this thesis has shown that there is room for agency in the acts of interpreting and responding, therewith developing practice, practice is also contingent, it could have been otherwise. By illustrating the local,

contingent and socio-historical character of practice this thesis delivers a critical account vis-a-vis the proclaimed universality of institutional or rational institutional approaches. By analysing floodplain practice, this thesis has drawn attention to the importance of a practice based approach for analysing change in forest and nature governance, and emphasised the imperative role of a practical logic in what people do and say in the local context of their daily lives.

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