Collaborative governance is one of the most recurrent forms of addressing the main problems of our times. From global efforts to tackle climate change to local projects to reduce gang violence, very different endeavors chase the benefits of the collaborative advantage. However, the same authors which highlighted its virtues warn us now of the dangers of collaborative inertia, the trend of collaborative activities being frustratingly slow to produce output or uncomfortably conflict-ridden.

This dissertation is a theory-building exercise identifying conditions that help us understand different outcomes in policy implementation within collaborative governance efforts. It provides some answers, although preliminary ones, to the challenges of collaborative inertia and the need for the collaborative advantage to make good on its promises. It finds a relevant role for knowledge, through problem compatibility, in overcoming those challenges.

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UNIVERSITY OF TWENTE | PATHWAYS TO COLLABORATIVE IMPLEMENTATION

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Problems, decisions, persistence, progress and consensus in Collaborative implementation, studied through projects for Integrated Water Resources Management in Colombia

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DISSERTATION

to obtain
the degree of doctor at the University of Twente,
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CHAPTER 1

An introduction to collaborative implementation

This dissertation is a theory-building exercise identifying conditions that help us understand different outcomes in policy implementation within collaborative governance efforts, learning from cases in a Latin American country, Colombia, that might also provide valuable insights for other contexts.

Collaborative governance is one of the most recurrent forms of addressing the main problems of our times. Climate change, for example, is addressed at the global level through conferences and negotiations where joint, consensual decisions are sought between governments for mitigation and adaptation measures. At the same time, in several countries national and regional mitigation and adaptation plans are jointly drafted and implemented by governments and representatives from the civil society. Reactions to the Covid-19 pandemic are another example: In 2020 and 2021, in several countries, national and regional governments agreed with business sectors, universities, and social organizations on approaches to quarantines, economic activity, and income support in the wake of successive waves of the pandemic. Not always do decision-makers reach agreements on these important problems, even after long negotiations. Vangen and Huxham (2010), two of the researchers who fostered the early wave of research on collaborative governance, warned about the tension between collaborative advantage - that is, the positive effects of synergy between different actors upon their joint outcomes and collaborative inertia, or the trend of collaborative activities being "frustratingly slow to produce output or uncomfortably conflict-ridden" (p.163). Other researchers have drawn attention to the need for more evidence on collaborative governance's performance in solving the problems it addresses (Gerlak et al., 2013). This time, the slow pace of those global efforts to tackle climate change quickly comes to mind. Collaborative inertia puts collaborative governance efforts in peril.

Conflict is a fundamental characteristic of key arenas of policymaking and implementation. Reproductive rights, labor rights, and energy transitions are examples of

issues where policy has shifted according to the balance of power between competing coalitions (Sabatier & Jenkins-Smith, 1993), keeping policy controversies -and conflict- alive for decades. Since the 1990s, different research approaches have explained why intractable policy controversies persist and have also sought ways to overcome those controversies. People, and groups of people, look at policy problems from different perspectives -different frames, different narratives, different ways of knowing (Roe, 1994; Schneider & Ingram, 2007; Schön & Rein, 1994; Shanahan et al., 2013) and therefore see different problems. That is how intractable controversies, that cannot be solved by research, emerge: every new finding is interpreted differently by those holding different definitions of the problems. We have accepted that we cannot understand Policy Analysis without understanding how differences in knowing and understanding affect decision-making, sometimes driving conflict, and stalling collaborative governance.

We should remark, however, that those who must make joint decisions actually and often do reach agreements: Rival political factions often strike compromises to pass legislation needed to keep governments running or join forces before common threats. Representatives of social sectors with different interests and perspectives reach agreements on COVID-related policies. Countries with very different economies and responsibilities in global warming agree on goals to cut emissions and mitigate climate change. There are also cases where an actor or group of actors simply change their mind and support a decision they had antagonized. A previously discarded explanation for a phenomenon gets traction, a new technological development that was awaiting its opportunity starts to be used massively, and so on. On more than a few occasions, these changes take place with no reframing and no shift in interests leading to them. How can we understand these agreements that do not emerge from shared perspectives? Or, better, how can we understand both the emergence of consensus and the emergence of conflict in joint decision-making about public problems? Finding answers to these questions will surely aid our understanding of how to overcome the collaborative inertia and the likelihood of conflict that endangers collaborative governance.

Two defining research approaches

At least two important trends initiated some thirty years ago shaped the topics of this research. The first is the increasing interest in the Policy Sciences for research approaches studying cognition and their influence upon the policy process. The second, separate trend, is the growing interest in governance as a research approach in Public Administration.

The interest in cognition in the policy sciences increased when policy analysts found that policy problems, like all planning problems, are wicked in the sense that there is no "right" formulation for them, and therefore no *right* solution (Rittel, 1972; Rittel & Webber, 1973). They then found that some policy controversies were intractable because, given the absence of a *right* formulation of the problems, more research could not settle the disputes about the facts involving those problems (Schon & Rein, 1994). A vast body of research emerged about the role of argumentation in policy analysis (Fischer & Forester, 1993; Majone, 1989), the role of discourse in the policy process (Hajer, 1993), as well as on methods to identify and overcame differences in problem definitions (Hisschemöller & Hoppe, 1995; Roe, 1994). It was also accepted that those problem definitions were really problem representations (Chisholm, 1995). The framing and reframing of policies and policy debates using frames and narratives as conceptual tools have become a priority for both researchers and policy actors (Borins, 2011; Hoppe, 2010; Lejano et al., 2013; Shanahan et al., 2013; van Hulst & Yanow, 2016; Veselková, 2017). Ideas have also become more relevant in the analysis of policy change, for example in the Advocacy Coalitions Framework (Sabatier & Jenkins-Smith, 1993; Weible et al., 2009). However, even three decades later, these findings on the influence of frames, narratives, and ways of knowing (Ingram & Endter-Wada, 2009), in general, upon problem definitions have only led to rethinking problem structuring (Ackoff, 1962; Hisschemöller & Hoppe, 1995; Woolley & Pidd, 1981) and the initial formulation and decisions stages of policy. Approaches to implementation research have been largely untouched, despite winks in that direction by interpretive policy analysts (Yanow, 2000). One relevant exception is (Howlett, 2019) in his attempt to extend Kingdon's (1984) multiple streams to the whole policy process.

If we now turn to the growing importance of governance for Public Administration, different authors have highlighted the declining role of jurisdictions (Frederickson et al., 2012), the growing importance of citizens' coproduction (Ostrom, 1996; Pestoff et al., 2006) the need to analyze networks (Akkerman et al., 2012; Klijn, 2008; Koppenjan & Klijn, 2004; O'Toole Jr., 1997) and the "hollowing out" of the State (Rhodes, 1996). Ansell (Ansell, 2002, p. 668) points out that governance suggests a shift from a State-centered model of governing "to a model where authority and power are much more widely distributed". Frederickson et al. (2012, p. 235) also highlight the essential horizontality of Governance as it is understood in Public Administration: it refers "to the lateral and interinstitutional relations in administration" in a context where sovereignty is in decline, jurisdictional borders become less important, and there is general institutional fragmentation.

Frederickson et al. (2012) considered that governance might be becoming the new dominant framework for studying Public Administration. This happened after a long process of realizing that the foundational distinction between decision and administration was not sustainable (Auer, 2007) and that Public Administration is policy-making (Appleby, 1949, cited by Justice & Miller, 2018).

If governing is about decision-making, however, governance has been approached with a focus on process (Ansell, 2002; Kooiman, 2003). Having been turned into a surrogate for Public Administration (Frederickson, 2005; Frederickson et al., 2012), research on governance has largely been about management, rules, and the structures shaping those interinstitutional relations addressed above It has been proposed that the central question for governance research be about organizational regimes: "how can public sector regimes, agencies, programs, and activities be organized and managed to achieve public purposes?" (Lynn Jr et al., 2001, p. 11).

Here, like in argumentative policy analysis, there has been scant research on the role of decision-making and the specific decisions that are made within the governance structures. When reviewing the relevance of multi-level governance analysis, for example, researchers highlight that "the outcome of any large-scale reform depends on decisions made at various levels of administration and the context in which these decisions are carried out" (Frederickson et al., 2012, p. 225). Yet, the research

they propose seeks to understand the formation, adoption, and implementation of public policy at the institutional level. Also, to understand incentives, administrative discretion, performance measures, and the functioning of civil service or nongovernmental organizations at the organizational level, and professionalism, technical competence, motivation, and accountability at the technical level. The decisions that are the actual result of governing are largely absent, perhaps only addressed by considering the formation and adoption of policy at the institutional level. One exception here is Torenvlied and Akkerman (2004) who, studying soft policy implementation, remark how, in multi-level governance systems "collective decisions at one level may entail different substantive issue dimensions, may contain different alternatives, and may have different outcomes than collective decisions at another level" (p. 39).

The same scarce interest in decision-making is present, so far, for research on collaborative governance. Although the two dominant models in the field define it either as joint decision-making (Ansell & Gash, 2008) or as structures and processes for such decision-making (Emerson et al., 2012), how specific decisions are made is not addressed. Again, the focus is on explaining a process, either in phases from initiation to outcomes (Ansell & Gash, 2008) or by analyzing the interaction of conditions in a more abstract form. This observation is less valid for researchers in network theory: Klijn and Koppenjan (Klijn & Koppenjan, 2015; Koppenjan & Klijn, 2004) highlight the contribution of joint decision-making to improve decision quality. They analyze arenas where relevant decisions are made in different rounds, sometimes even changing the actors, the type of interactions, or the content of network games.

Interest in decision-making has been even lower in implementation research, although at least one of the seminal works in the field (Pressman & Wildavsky, 1973) was largely a case study on the challenges of joint decision-making.

The field was quickly dominated by two different approaches to implementation as a process where the focus was not on decisions. Majone and Wildavsky (1998) noticed this tension long ago, in their well-known chapter on *Implementation as Evolution*, as part of a revision of the foundational contribution of the former. There was a debate that had, on the one hand, the ideal type of a perfectly formed idea of the policy, needing only to be "executed" and with one unique concern: control. This is what we

came to know as the *top-down* approach to implementation research. It was faced, on the other hand, by another ideal type, where policy goals are only statements of aspiration, a matter for philosophical aspiration and political debate -the so-called *bottom-up* approach (Sabatier, 1986). They also presented an alternative: "Implementation is evolution" (p. 280). From this perspective, we are often in the middle of a process, between events that have already occurred and others that are yet to come. Thus, facing new circumstances that (may) help us materialize the different possibilities in each of the policy ideas that we are implementing. There are previous decisions and goals for the process, but there is never an expected final form for the idea that at some point turned into a mandate. The evolution is marked by the specific decisions that are made at every step of that process.

Even after the *top-down* vs. *bottom-up* controversies were left behind, implementation research stayed largely committed to researching processes (Boer & Bressers, 2011; Howlett, 2019) and behaviors (e.g. Winter, 2012), more than those specific decisions. Examples of the minoritarian research of implementation as decision-making include Torenvlied (Torenvlied, 2000; Torenvlied & Akkerman, 2004) Vancoppenolle et al. (2015), as well as, at least in part, Boer and Bressers (2011).

While the literature on frames, narratives, and governance grew substantially over the last decades, implementation research stagnated. This was at least partly a consequence of the complexity of researching too many variables influencing implementation processes (Goggin, 1986; O'Toole Jr., 1986) in what are always context-specific situations. Several calls have been made to move to comparative, larger-N research (Goggin, 1990; Saetren, 2005). Also, attempts have been made at creating simpler implementation models (Hill & Hupe, 2014; Winter, 2012). Yet these simpler, more elegant models do not focus on decisions either, but on the capacity to turn them into realities (Hill & Hupe, 2014) or on the behaviors that are the consequences of those decisions at different stages within the process (Winter, 2012).

Even more recently, new efforts are trying to change the subject of implementation research "from the description of policy-making events to the description of generic factors and mechanisms which underlie such processes", through analyses of actors and their interests in what is seen as long implementation processes (Howlett, 2019).

Although innovative, these new approaches to implementation research might be caught in the same trap that held the field back for decades. That is, choosing between researching implementation as activities to accomplish a first, ever-important, decision, or alternatively as a series of interactions between rather independent actors with no clear expected outcomes.

Scant attention to decision-making in implementation research helps us understand why the impact of different problem representations has been largely neglected, with a few exceptions (Boer & Bressers, 2011; Hill & Hupe, 2014; Torenvlied & Akkerman, 2004; Torfing & Ansell, 2017). This happens despite the idea that different actors may have had different perspectives since the dawn of the Implementation literature (Pressman & Wildavsky, 1973).

The expected contribution: A better understanding of decision-making in collaborative implementation

This dissertation aims to contribute to the research of joint decision-making within the implementation stage of the policy process in contexts of collaborative governance, as well as to the research of the cognitive factors influencing those decisions. To do so, it borrows from and tries to build a bridge between, collaborative governance research, focused as it is on studying governance as a long-term process, and implementation research. Also, to learn from research on cognitive factors in the policy process, namely those on frames and narratives, that have devoted themselves mainly to explaining intractable controversies about decisions in the agenda-setting, policy formulation and decision stages of the policy process (DeLeon, 1997; Lasswell, 1970; Weible et al., 2012).

The types of decisions this dissertation analyzes are not those made in the decision stage of the policy process, where a “purposive course of action” is selected by one or several actors to deal with a problem (Anderson, 1984, cited in Howlett et al., 1995). Decisions at that stage are often very general, about the prioritization of goals. One example is choosing between lower pollution or lower prices as well as the main paths to be tried -e.g., direct Government investments or tax subsidies. They usually

determine only the general direction of the course of action that will follow. They are also the decisions that research on frames, narratives, and problem structure has already addressed.

We focus on decisions made at the implementation stage of the policy process, where policies, which are defined as principles or rules, guide, but do not determine, the exercise of judgment in specific situations (Wittmer & McGowan, 2007, p. 316). Such decisions take place when the grand lines of policy become regulations, programs, and projects. They occur in specific contexts where general guidelines like *moving in the direction of* a given goal must translate into using a specific pollution standard, setting a specific threshold, authorizing specific equipment, building a dam or not, measuring this or that. For this reason, although some findings from this research may be useful for collaborative governance research in general, our specific subject for analysis will be collaborative implementation.

The dissertation proposes an approach to implementation research as investigating a subprocess within a larger policy process. It is not limited to observing the performance of tasks according to the first decisions made during the stages of agenda setting and policy formulation, or to the existence of drifts between those first decisions and the ones made at lower levels in a multi-level system. Neither do we look for signs of the endless reedition of the same political disputes between the same actors, or coalitions of actors, over and over at each different level of the same multi-level system. The focus of this approach is on those specific decisions that are made in specific contexts, addressing each time different problems within those new circumstances that Majone and Wildavsky (1998) wrote about. In this implementation approach, there are no activities, or a long struggle between a series of actors, but instead new rounds of decision-making after “the decision” is made. There may be different “implementation styles” (Howlett, 2004) and one of them, collaborative implementation, is the one that this research will explore in detail.

Research approaches different from collaborative governance or implementation will, of course, contribute to this journey. Research on networks has drawn attention to the importance of incentives to foster cooperation, and the limited use of authority in networked settings (O'Toole Jr., 1997). Moreover, research on governance networks

has highlighted the role of interdependence in sustaining interactions between actors in policy subsystem. Research on policy coordination has explored the challenges of both vertical and horizontal interactions to reach unity of purpose or, at least to avoid conflicts between different organizations. It has also elicited the role of decision-makers' information -which is, we add, influenced by frames- on effective policy implementation (Adam et al., 2019; Peters, 2018). However, the main focus will be on collaborative governance research, addressing the joint-decision making that we need to understand, and the conditions influencing it (Ansell & Gash, 2008; Emerson et al., 2012; Gerlak et al., 2013; Ulibarri et al., 2020).

Two dimensions of collaborative implementation and one new conceptual tool

Trying to understand the challenge of the collaborative inertia presented by Vangen and Huxham (2010), and the broader challenges of performance in collaborative governance we analyze collaborative implementation in two dimensions. First, persistence -i.e., the creation and continuation of the collaborative endeavor. Second, progress -how close it manages to be to the completion of its tasks and goals. Separating collaborative implementation's performance (Ulibarri, 2015) into these two dimensions allows us to conceptualize the conditions which might lead collaborations to continue while they do not deliver the outputs and outcomes expected from them.

The research question that we address is the following: How do different conditions influence the persistence and progress of collaborative implementation?

These two dimensions of collaborative governance are not entirely new to the literature: To start with persistence, Ulibarri et al. (2020), for example, observed the endurance of collaborative governance regimes as part of their analysis of developmental trajectories. In network research, Provan and Milward (2001) proposed membership among the criteria to judge network effectiveness. Needless to say, networks cannot survive without members. Klijn and Koppenjan (2015, p. 4) embed the idea of persistence in their very definition of governance networks as "enduring patterns of social relations between actors involved with a problem, policy, or public service".

If we turn our attention to progress, we also find a concern in the collaborative governance literature for intermediate outcomes -small wins, joint fact-finding (Ansell & Gash, 2008). Ulibarri (2015) studies outputs as indicators for performance in collaborative governance, while Ulibarri et al. (2020) research outcomes related to innovative solutions, efficiency, effectiveness, legitimacy, and conflict resolution. Progress towards completion with consensus and persistence in specific projects and then, in specific decisions within those projects, is a simpler, but also a rather straightforward way to assess how much collaborative governance is delivering. This is the kind of progress that we analyze for specific decisions in this dissertation.

We need, however, a different tool to analyze the relationship between specific decisions, persistence, and progress in collaborative implementation. Up to now, we have conceptual tools explaining consensus or conflict as results of shared understanding in the collaborative governance literature, or of shared frames/narratives/ways of knowing in policy analysis. Network governance theory suggests the analysis of "overlaps in perceptions that allow agreements, collaboration, and coproduction to be realized" (Klijn & Koppenjan, 2015).Those perceptions mainly refer to the description of the problem, preferred solutions, the role actors see for themselves regarding the problem and the roles they see for other actors. What these tools cannot explain is the frequent observation of consensus on decisions by actors with different frames/narratives/perceptions/understandings of the problems, as well as observations of dissensus and conflicts around decisions by actors who seem to share similar understandings of the problems at hand. Contemporary research on a different body of literature, the Advocacy Coalitions Framework, suggests that similar preferences on specific decisions regarding divisive issues are as good at predicting the formation of coalitions as similar beliefs regarding the core themes of the coalitions (Karimo et al., 2022). This research does not help us understand how this could happen, however.

The conceptual tool proposed in this dissertation is the concept of problem compatibility: the decision-specific convergence of different actors' general representations of a problem, context-specific criteria about preferred solutions, and/or judgments on what knowledge is relevant to making decisions. Problem compatibility introduces a more complex explanation of consensus or conflict in decision-making since they can be reached in different ways, and not only because of shared or different general

problem representations This concept is similar to frames, narratives, ways of knowing or perception overlaps. Consensus, or the lack of it, can be driven by other influences, some of them context-specific (decision criteria) and others related to ways to approach knowledge (judgments on knowledge validity).

The incorporation of situation-specific criteria considers the importance of context for decision-making: what else is at stake, and what implications does a specific decision have upon other problems that are being addressed? The analysis of knowledge validity, for its part, acknowledges that organizational decisions on policy, programs, projects, and other tools to implement policy are usually informed by knowledge aimed at supporting the decision-making process. At the same time, there are different types of knowledge, different ways of building models of the world (Spender, 1993), each one expecting a given type of evidence (Majone, 1989) and judging others' knowledge accordingly.

Problem compatibility is not expected to emerge from a perfect alignment of its three components around a decision, but from specific weights that the different actors give to each of the components in specific decisions. In other words, it is possible that agreement on decision criteria, for example, suffices to reach consensus on a joint decision. However, not on a different decision about the same problem where judgments on knowledge validity are more important, for example.

More than predicting what specific joint decision will be reached in each case, problem compatibility gives us a more complete panorama of which possibilities exist. Thus, it helps us understand different decisions that were previously difficult to account for. We can find a few examples in the analysis of some foundational works of the argumentative turn in policy analysis.

Schon and Rein (Rein & Schön, 1993; Schon & Rein, 1994) for instance, affirmed in the early days of frame research that a frame can be consistent with different courses of action, while different frames can, in turn, can be consistent with a single course of action. They do not explain why this is possible, however, and problem compatibility provides a good explanation. Other factors, some of them context-specific (criteria) and others related to ways to approach knowledge (judgments on knowledge validity) explain the long-range of possibilities.

In Hajer's explanation of discourse coalitions regarding acid rain in the United Kingdom (Hajer, 1993), there is a complicated explanation for the fact that a dominant discourse coalition adopted a decision consistent with the goals of its rival coalition. It did not lose coherence or influence in the process: The science-based approach was "a complicated policy practice that structured the argumentative process through which power was exercised and interest was mediated" (p.60). A perhaps simpler explanation, using the concept of problem compatibility, is that the dominant coalition decided on the installation of flue gas desulfurization [FGD] scrubbers based on evidence that, as Hajer himself explains, it considered valid. It had conditioned the decision on the obtention of some findings through methods that it considered adequate, i.e., the positivist methods of the Royal Society of London and the Swedish Royal Academy of Sciences. The obtention of those results did not change the balance of power between the coalitions, but it did lead to consensus on the specific decision about installing FGD scrubbers to remove sulfur dioxide in coal-fueled power plants.

Finally, problem compatibility could also help us explain that three different belief systems, each one prevailing at a different level of decision-making, can co-stir a policy (Hoppe, 1993). What defines the belief systems is their dominant frames. However, actors immersed in different frames can still collaborate if they agree on the criteria that are relevant for making specific decisions or on what knowledge should be considered valid for other decisions.

Problem compatibility is also a good explanation for the existence of metanarratives that provide higher-level common ground (Rein & Schön, 1993; Roe, 1994) from which to start the search for new, shared problem definitions between parties in policy controversies. Even if their general understanding of the problem is divergent, different actors may agree on some observations that they consider important. This can include what knowledge is valid, or which criteria are more relevant, which they can build upon to formulate a different, common problem.

Problem compatibility is only partly new as a conceptual development. It is largely an application of the reasoning typical to conventional policy analysis (Bardach, 2005; Dunn, 2015; Weimer & Vining, 2017) where decisions are only expected after a problem is formulated in a way that allows for the identification of alternatives. In turn, they

are evaluated according to a set of criteria, depending on judgments upon the validity of claims on the problem, the alternatives, and the results of the evaluation of those alternatives. Also, when policy analysts highlighted that valid causal inference was only a part of a successful policy argument (Dunn, 1993; Majone, 1989), they acknowledged that no specific type of knowledge would be enough to solve policy debates where different frames were present. At least, some interpretive policy analysts warned that those different frames were also relevant to implementation (Yanow, 2000, p. 18). What problem compatibility adds is a description of how problem representations, criteria and judgements on knowledge validity influence the decisions together.

Structure of the dissertation

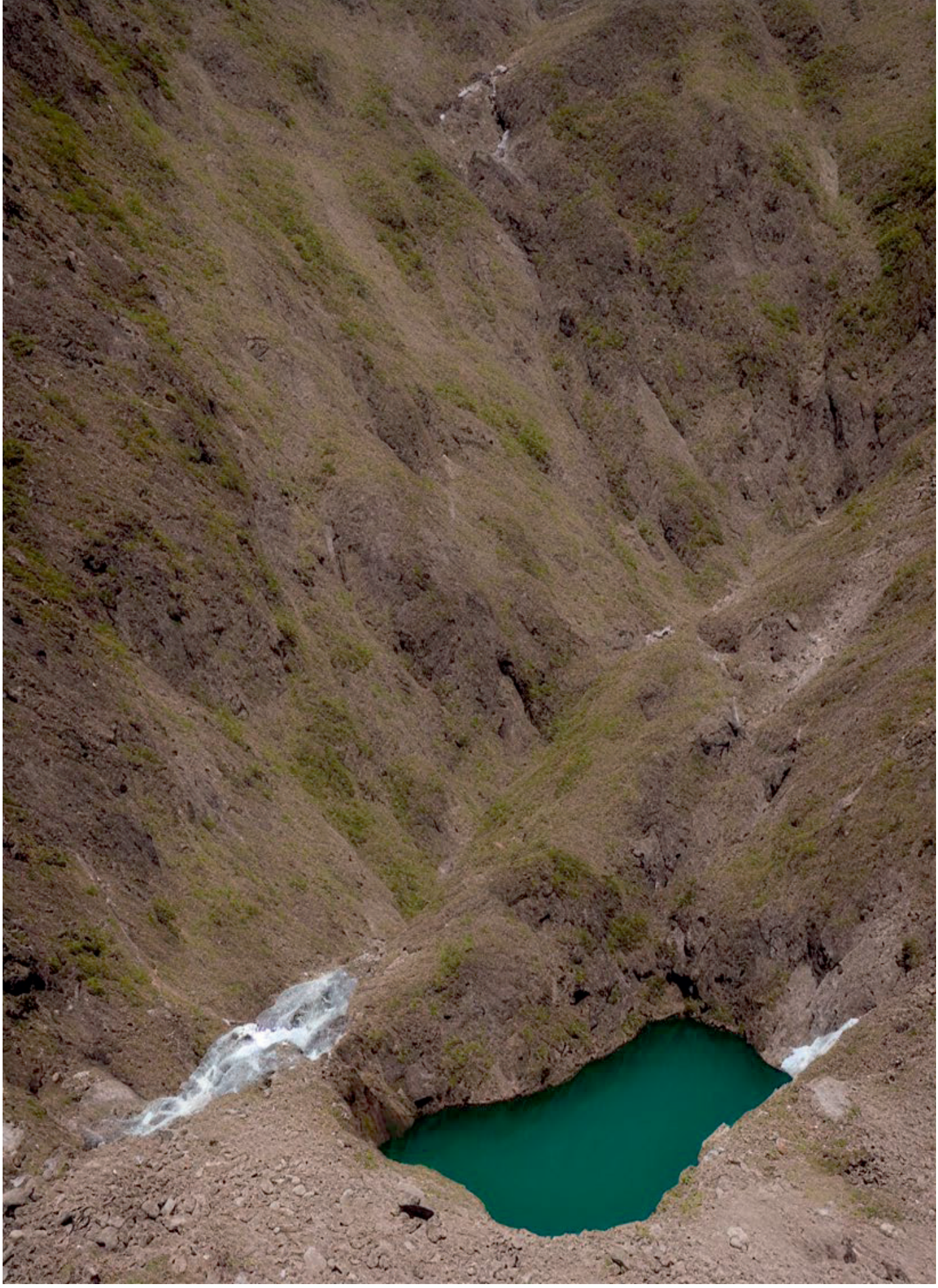
After this introduction, the structure of the dissertation is as follows:

Chapter 2 is devoted to building a heuristic of collaborative implementation that incorporates not only problem compatibility but also other conditions that may be relevant to understanding the intermediate outcomes of collaborative implementation and their final consequences (Miles et al., 2013). The literature on Policy Implementation and collaborative governance are reviewed to build the heuristic, and conditions more associated with each of the two dimensions of collaborative implementation -persistence and progress. The chapter ends with a presentation of the propositions whose empirical justification will be explored in Chapter 4, as well as with the proposed heuristic of collaborative implementation.

Chapter 3 presents the methods that will be used for the empirical exploration of the propositions presented in chapter 2. The research design will be justified, followed by the explanation of techniques used for case selection, data collection, and data analysis at both project level and decision level. The use of sufficiency analysis, necessity analysis, and the original Boolean Analysis that has later evolved into Qualitative Comparative Analysis (QCA) will be explained. In addition, the reasons for exploring the empirical justification of our propositions through the analysis of projects implementing Integrated Water Resources Management (IWRM). In Colombia, it is a highly collaborative policy in itself, through joint decision-making between different actors.

Chapter 4, in turn, starts with a description of Colombia's water challenges and the way the Colombian context, including its politico-administrative tradition, is demanding collaborative implementation. Then, the analytic strategy presented in Chapter 3 (explanation-building) is applied to the analysis of three cases and five subcases whose very different outcomes of *smooth, troubled, or failed collaborative implementation* should indicate differences in the conditions present.

Finally, Chapter 5 is the place for the dissertation's general conclusions. After reviewing once again the research questions and their answers, a revised version of the heuristic is presented. This is followed by reflections on the advantages and limitations of the methodological choices made, the discussion of a new agenda for research, and suggestions for the application of the dissertation's findings in the practice of collaborative implementation.



CHAPTER 2

Toward a heuristic of collaborative implementation

In this chapter, research on collaborative governance and implementation is reviewed to identify the conditions most likely relevant for persistence and progress in collaborative implementation. Those conditions are incorporated in the propositions and the heuristic of collaborative implementation whose empirical justification will later be explored in Chapter 4.

To answer our research question – how do different conditions influence the persistence and progress of collaborative implementation? - we will first review how current research informs this question. We know already that the two more relevant research approaches to answer our question -those on collaborative governance and Policy Implementation- have not yet answered it. We know, on the other hand, that research in those approaches has identified concepts and developed models that offer us insights. In the following sections, we will first review the contributions from the literature on collaborative governance. Then, those of the literature on Policy Implementation, to later propose how different conditions identified by those research approaches might influence persistence and progress. Finally, we will present a heuristic reflecting our understanding of how those conditions affecting each dimension drive different outcomes in collaborative implementation.

2.1 Two encompassing approaches to collaborative governance

Two main references stand apart within the copious literature on collaborative governance as efforts to understand the phenomenon as a whole: the works by Ansell and Gash (2008) and by Emerson, Nabatchi, and Balogh (Emerson et al., 2012). Ansell and Gash's model can be interpreted as a type of "stages approach" to collaborative governance, where a series of conditions interact at specific moments to

lead to results involving the initiation and consolidation of collaborative governance. Emerson et al.'s framework is more of a systems approach where a number of conditions explain the outcomes, with less elaboration on the intermediate steps. We will start this chapter by reviewing how these models approach collaborative governance, putting them in dialogue with other works in the field, to find out how they can be useful to answer our research question.

2.1.1 A Stages Approach to collaborative governance

One often-cited model on collaborative governance is the one developed by Ansell and Gash (2008). Some relevant works building upon it are, for example, (Head, 2008), (Fung, 2015), and (Douglas et al., 2020b). Ansell and Gash's (2008) model explicitly addresses the positive consequences of collaborative governance, and the search for consensus in it, as positive for implementation, since "once stakeholders achieve a working consensus, the literature suggests that implementation can occur quite rapidly". Although persistence and progress are not discussed in the model, it discusses starting conditions that we will later find relevant for persistence, and conditions that influence the progress of collaborative governance in subsequent phases. We will now review the model, as well as other work that relates to it.

These authors define collaborative governance clearly as governing and as decision-making. Collaborative governance is:

> A governing arrangement where one or more public agencies directly engage non-state stakeholders in a collective decision-making process that is formal, consensus-oriented and deliberative and that aims to make or implement public policy or manage public programs or assets" (Ansell & Gash, 2008, p. 544)

The authors describe joint decision-making as taking place in different phases, and thus we call it a stages approach to collaborative governance. The first phase of collaborative governance they describe, is where starting conditions of initial trust and asymmetries in resources like power and knowledge meet, creating both incentives and restrictions for participation. In a second phase, a collaborative process takes place where good-faith negotiation between partners leads to more trust being

built, which in turn creates commitment to the process. At this point partners already acknowledge their interdependencies, develop shared ownership of the process, and are open to exploring mutual gains.

The third phase is concerned with building a shared understanding, where partners identify a clear mission, develop a common understanding of the problem, and identify common values, finally leading to intermediate outcomes. At this point, small wins create a situation where strategic planning and joint fact-finding between partners are possible. Positive outcomes are achieved. Finally, feedback from this process facilitates new good-faith negotiations and the collaboration reinforces itself. This virtuous cycle of collaborative governance is fostered by facilitative leadership, and inclusive institutional designs create clear rules and transparency for all. In this model, collective decision-making occurs in the first phase as a negotiation between partners with different understandings of problems. In the following phases, it occurs as an output of joint fact-finding and planning, both supported by a newly developed common understanding that leads to small wins and, in turn, to a new round of good faith negotiations.

What are the conditions for collaborative governance in this model? They include trust, and perceived interdependence – both in two different forms and at two different moments. The configuration also includes facilitative leadership, plus an institutional design prioritizing inclusiveness, clear rules, and transparency. Problem compatibility is not present, but a similar notion -shared understanding- is. Below, we briefly discuss each of the conditions in the model.

Trust

Trust is an important subject for the literature on Public Administration, beyond collaborative governance. It is often defined as the expectation that other actor(s) will refrain from opportunistic behavior (Klijn et al., 2016) or that those trusted have motives to behave in ways that are favorable to those who trust (Hardin, 2002).

Trust might be important not only for starting collaborations but also for allowing them to progress since it facilitates the exchange of resources and information (Akkerman et al., 2012; Uzzi, 1996). There is abundant scholarly research on the effects of trust in

facilitating coordination and, thus, the solution to problems of collective action, as well as on the effects of trust erosion in making those solutions harder (Putnam, 2000). Klijn et al. (2016) remark that “an important argument in the literature about trust is that it stimulates the exchange of information and knowledge”. Oomsels et al. (2016) argue that, when trust is present, suspension of risk in inter-organizational collaborations leads to increased cooperation, flexibility, innovation, learning, and performance. Naturally then, mistrust “becomes a barrier to good-faith negotiation” (Ansell & Gash, 2008, p. 561). Joint decisions can be delayed or avoided by partners if trust is not present, and partners act to protect themselves from risk. In Keast and Mandell (2014), partners had to move away from distrust and competition to create relationships of a new type. The downside of this lowering of defenses is, of course, that when there is opportunistic behavior by other actors the trusting ones will be vulnerable.

Some authors share approaches to trust as either a condition for collaboration or a consequence of it (Hermans et al., 2015; Rigg & O'Mahony, 2013). In Ansell and Gash’s model (Ansell & Gash, 2008, p. 550) it is both: there is an initial level of trust that emerges from previous interaction between partners and allows the collaboration to start. Then, after the first phase of negotiation takes place, more trust is built, and this new trust creates commitment to the process, because “why would you share responsibility with people you don’t trust?” (p. 560). Other authors share this understanding of trust as both condition and output of collaborations: Imperial (2005) calls trust a (by)product of the collaboration as well as a cause of it. Trust is one of the benefits of creating collaborative organizations. In Keast and Mandell (2014) bonds of trust are needed to start the collaboration, but they can also be strengthened and deepened in the process.

If we ask about the relevance of trust for persistence or progress, the emphasis in this model is on persistence: trust is necessary for collaboration to exist. There is not so much emphasis on its effects on progress, although it is said to influence the honesty of communication, which certainly has an impact on progress.

Perceived Interdependence

Ansell and Gash (2008) explain interdependence as the perception by one actor that achieving their own goals will be dependent on cooperation from other actors, an approach consistent with the widely accepted resource dependence theory (Pfeffer & Salancik, 2003, orig. 1978), This posits that organizations' behavior is constrained by their dependence on others' resources and interdependencies with them in terms of resources (see also Hillman et al., 2009; Kholmuminov et al., 2019). This interpretation is replicated in later work on collaborative governance (Douglas et al., 2020a; Douglas et al., 2020b). Furthermore, it is supported by previous research on how potential partners in collaborative governance experiences must expect to achieve benefits offsetting the costs that are anticipated in the collaboration (Huxham, 1993; Huxham et al., 2000). Those benefits come from resources such as force, money, authority, and knowledge that other potential partners have. Therefore, they are better-off collaborating (Huxham & Vangen, 2004; Imperial, 2005; Scharpf, 1994). Mattesich et al. (2001) include the availability of resources as one of the conditions for collaboration.

In Ansell and Gash (2008), perceived interdependence is presented in a mixture with a similar concept, incentives to collaborate, i.e., the expectation of meaningful results exceeding the costs in time and energy devoted to collaboration. Interdependence is expected to exist at initial levels in those incentives, then to grow out of a mutual realization of their links by partners after trust is built.

The resources-based understanding of interdependence is common to other research on collaboration. Imperial (2005) for instance, addresses peer pressure and the likelihood of sanctions as incentives for collaboration, something only possible when actors perceive their interdependencies as high. And just like interdependence can be understood as the presence of incentives to participate, its absence can be found as disincentives to collaborate. This is the case in Hermans et al. (2015), who find shrinking research budgets, institutional logic, and market structures lead to reduced collaboration in agricultural innovation systems. These factors play as disincentives for collaboration since they create a focus on competition for resources.

Analyses of collaboration focused on access to resources often build on the assumption that those resources are objectively identifiable. However, as Ansell and Gash (2008, pp. 552-553) emphasize, interdependence is largely perceived. For example, several of the "themes" identified by Rigg and O'Mahony (2013) to explain collaborative frustration -individual organizational agendas, lack of commitment to collaboration, and competition- can be labeled as manifestations of low perceived interdependence between the actors in the collaboration.

These different approaches to understanding interdependence -as objective and as perceived- lead to different approaches to researching collaboration. First, through the direct analysis of how resources can be accessed through collaboration and how reduced access to those resources leads in turn to reduced collaboration. Second, through the analysis of collaboration membership, they indicate which actors perceive themselves as interdependent with the others. Ambiguity in membership includes both uncertainty about who the relevant parts of the collaboration are at a given moment and the changes in that membership that are due to organizations' decisions (Huxham, 1993). Those who are not considered relevant partners cannot expect significant levels of collaboration with them -this point is also made by research on embeddedness in networks and network exclusion (Riedl & Ule, 2002; Uzzi, 1996).

Regarding our two dimensions of collaborative implementation -persistence and progress- the diverse research just reviewed presents it as a condition relevant for the initiation and continuation of collaborations -i.e., their persistence- rather than for their progress.

Leadership

In their model of collaborative governance, Ansell and Gash (2008, p. 554) address leadership as facilitative leadership: providing mediation and facilitation between partners that need to negotiate to reach agreements during the collaborative process. Facilitative leadership becomes even more important in the absence of trust when facilitative leaders should play the role of honest brokers. Nonetheless, leadership is a very contested concept in the social sciences (Steyvers et al., 2008), interpreted in many different ways by many different authors. There are two,

interlinked, dimensions of the concept that are relevant for this research: First, the nature of leadership; second, its locus.

Until recently, leadership was usually approached as the influence of some individuals -the leaders over the followers. Leadership was action and its locus was in the leaders. Leaders were defined by their vision and their ability to bring others to believe in, and work for, that vision (Bennis, 1982). Indeed, a significant part of research on leadership was devoted to the traits of "great men" (´t Hart, 2014, p. 73). Research on collaborative leadership includes works on specific traits of the leader that could contribute to taking collaborative roles, like being mentally agile, resolute (Linden, 2002), or neutral and diplomatic (Bardach, 1998). Sometimes, these traits are found simultaneously in a group of leaders (e.g. Faerman et al., 2001). Attention to leaders' tasks is also abundant in collaborative governance research: Behrens (2014) explored the effects of a trust-building leadership style upon the performance of collaborative processes. Kapucu (2015) drew attention to the role of leaders in mobilizing other partners -and their resources- in collaborative governance.

Even more recently, some authors have differentiated between leadership and the tasks fulfilled by the leaders, or leadership work (´t Hart, 2014). Leadership work is found in the strategies employed to lead by those in positions of civic, political, or administrative authority -see also the differentiation between leadership and leadership activities in Vangen and Huxham (2010). It focuses on finding and using tools to make things happen -or help others make things happen, as we will see shortly, and it can have many forms (see for example Crosby & Bryson, 2010). Now, if leadership is not in leaders' traits, or the tasks performed by them, how can it be defined? Three of the more common answers are: (a) leadership is a relationship between leaders and followers (Cullen-Lester & Yammarino, 2016; Quick, 2014; Uhl-Bien & Ospina, 2012) (b) leadership is a distributed resource (Brown & Gioia, 2002; Ospina, 2017; Spillane, 2005); (c) leadership is a system of relationships (Drath, 2001; Ospina, 2017; Shilbury et al., 2020; Yunker & Yunker, 2002).

In the first line -relational leadership- ´t Hart (2014) describes leadership as a "bond", a "psychological contract" between leaders and their followers, relational and resting largely on the eyes of the beholder (p. 51). Leadership in any setting is not about what an actor does, but about how their (non)actions, voices (or silence),

(non)decisions are interpreted by other actors that are attuned to them and see them as somehow worthy of their attention/respect, perhaps even compliance ('T Hart, 2021). In the second line -distributed leadership- authors see leadership as not sustained upon hierarchies but rather upon the presumed expertise of group members leading one another (Brown & Gioia, 2002; Ospina, 2017). This is also the approach in the works by Heres on ethical leadership (Akker et al., 2009; Heres, 2014). In Brown and Gioia (2002), leadership teams are found more fit than individual leaders to respond to the challenges of setting a vision, fostering commitment, and promoting learning. Collaborative governance research often emphasizes the possibility of fluid, rotating leadership roles (Ospina, 2017, p. 280). However, according to Spillane (2005) being rooted in interdependence means that distributed leadership is not necessarily shared or collaborative. Finally, in the third line -collective leadership- leadership emerges from the properties of a system of interdependent actors. The focus is on the work that those actors do, but the actors that will lead and the roles that they will take will be contingent on the context (Ospina, 2017, p. 281).

If we address now the two dimensions of collaborative implementation in our research, it is easy to identify the more traditional conceptualization of leadership as the influence of the leaders upon others with the dimension of progress. On the other hand, research on leadership through the lens of leadership work is more abundant in collaborative governance research, which is largely process-oriented. The emphasis is often on leadership to convene, facilitate and sustain the collaboration (Chrislip & Larson, 1994). Researching collaborative governance, which is often inter-organizational, Torfing et al. (2020), reconceptualize leadership as “the adaptive activities to bring actors together, create trust, enhance information sharing, facilitate collaboration, spur mutual learning, manage risks, and track results” (Torfing et al., 2020, p. 66). This is although there have long been calls for caution from other authors, drawing attention to the limited effects of leadership and trust in inter-organizational contexts (Connelly, 2007). All of this is made, however, through the facilitation addressed above to the point that the terms collaborative leadership and facilitative leadership are often used interchangeably.

Since the main goals are promoting and safeguarding the process, rather than taking specific actions (´t Hart, 2021; Ansell & Gash, 2012; Torfing et al., 2020), the understanding of leadership as “making things happen” (Bennis, 1982; Huxham & Vangen,

2000), changes to "helping others to make things happen" (Ansell & Gash, 2012, p. 66). If we ask about its effects on the two dimensions of collaborative implementations, it would seem to be more related to persistence, given its emphasis on process rather than direction. This would be an incomplete description, however, since researchers have identified different roles for actors in collaborative governance. Ansell and Gash (2012) identify those stewards -convening the process and establishing rules-, as mediators – helping negotiate conflict and move the process forward- and as catalysts -identifying opportunities and mobilizing others to pursue them. Paul ´t Hart (2021) adds the roles of the owner -providing legitimacy to the process- and the convenor -separating this function from the role of the steward. Although most of these roles could make perfect sense if collaborative implementation was limited to persistence, the role of the catalyst is easily identified with the dimension of progress.

We could expect, then, leadership to be relevant for both persistence and progress in collaborative implementation. Bond-supported leadership should influence progress. Facilitative leadership, that we could analyze with only the three roles of stewards, mediators, and catalysts in Ansell and Gash (2012), should be relevant both for persistence and progress.

Institutional design

Ansell and Gash's model also assigns considerable importance to institutional design, which they conceptualize as including protocols and rules for access to the process, transparency, and decision rules. It includes the demand of consensus or not, and the use of timetables to reach decisions. "Institutional design sets the basic ground rules under which collaboration takes place (Ansell & Gash, 2008, p. 550). These statements are consistent with a larger literature on institutional transformation (Alexander, 2005), community collaboration (Lasker & Weiss, 2003), and collective problem-solving (Ostrom, 1990).

In their model for effective community collaborations, for instance, Lasker and Weiss (2003) advocate for collaboration designs with a broad scope to reach the three expected outcomes of empowering, building bridges between actors, and achieving synergies. They also suggest diversity in participation so that participants with non-

financial resources like knowledge, skills, information, connections, and legitimacy can contribute them. Participants must have real influence, co-running the collaboration while putting hierarchies aside, and with group dynamics where dialog is frequent. Listening is as important as speaking and different types of knowledge are valued. Alexander (2016) suggests an awareness of the type of networks and the boundaries within them -actors more interested in regulation, conservation, resource use, etc. - that find more cohesion between them than with others.

In the field of planning theory, institutional design has been defined as rules, procedures, and organizational structures that "enable and constrain behavior and action" in accordance with values, objectives, and tasks (Alexander, 2005, p. 213). When it comes to designing collaborations, Seid et al. (2020) and Fjeldstad et al. (2012) show the advantages of actor-oriented organizational schemes. They include actors with capabilities and values leading to self-organization, pools of shared resources -like awareness and knowledge- and protocols for actors to advertise problems, solutions, and their own capabilities for collaboration. Actors given more freedom to self-organize are less constrained by the hierarchy in their choices (Fjeldstad et al., 2012, p. 746)

Finally, Elinor Ostrom's Institutional Analysis and Development (IAD) Framework (Ostrom, 1990, 2010; Ostrom et al., 1999; Poteete et al., 2010) is among the most systematical attempts to explain the influence of rules on actors' behavior, even if its rigor comes at the expense of assuming unbounded rationality (Sabatier, 1992). Developed initially to analyze collaborative community systems for managing common pool resources such as forests and seas (Amsler, 2016), it addresses both what Ostrom understands as problems of collective action -those of participation- and coordination -those of performance (Ostrom, 2010, p. 811). Importantly, it distinguishes between three different sets of rules at three different decision levels: constitutional, collective, and operational, emphasizing the linkages between those different levels (Kiser & Ostrom, 1982; Ostrom, 1990; Polski & Ostrom, 1999). Using the IAD, Moynihan (2005) explains how trust generated in what Ansell and Gash (2008) would call the "prehistory of the collaboration", together with adequate authority rules -a clear chain of command- reduced the need for additional trust- building in the response to emergencies. Siddiki et al. (2015) find effects of rules on participation in the outputs of food policy councils in the United States.

If we go back to our research question on the influence of different conditions upon the two dimensions of collaborative implementation -persistence and progress- institutional design, in general, might be relevant for both of them. Yet, different types of rules might be more relevant for different dimensions of collaboration. While boundary rules may be particularly influential upon membership in the collaboration -therefore affecting the dimension of persistence- rules governing information and authority may have a larger influence on decision-making and the progress dimension of collaborative implementation.

2.1.2 A Systems Approach to collaborative governance

Emerson et al. (2012) developed a well-known framework of collaborative governance, where they present a series of conditions with roles in collaborative governance, emphasizing the relationships between those conditions. However, they refrained from making predictions on outcomes of different interactions between those conditions like Ansell and Gash did in their model (for an elaboration on the differences between frameworks and models see Ostrom, 2007). The framework has been widely used (Douglas et al., 2020b; Heikkila & Gerlak, 2016; Mosley & Wong, 2020; Scott, 2015; Ulibarri et al., 2020; Vangen et al., 2015) and gives us different perspectives for understanding collaborative governance to those in Ansell and Gash's (2008), even if some of the conditions studied are similar. It puts a bigger emphasis on the intervening mechanisms than on the sequence of the collaborative process. Exploring this framework gives us additional clues about conditions potentially influential upon the persistence and progress of collaborative implementation.

First, Emerson et al. (2012) define collaborative governance in a more encompassing way, including both processes and structures, as well as both within-government, government-business, and government-civil society collaborations. Also, their model includes formal and informal collaborations alike. This definition should apply to a wider range of situations. For them, collaborative governance is:

> The processes and structures of public policy decision-making and management that engage people constructively across the boundaries of public agencies, levels

> of government, and/or the public, private and civic spheres to carry out a public purpose that could not otherwise be accomplished (Emerson et al., 2012, p. 22)

Second, the framework conceptualizes a system context in which collaborative governance regimes operate. Within regimes, cross-boundary collaboration represents the dominant mode of conduct, decision-making, and activity. It includes a series of drivers (the starting conditions), three factors influencing the collaborative dynamics, and a series of results. The drivers are starting conditions. The three factors influencing collaborative dynamics are principled engagement, shared motivation, and capacity for action. Finally, the results are collaborative actions, collaborative outcomes, and the possibility of adaptation, that is, changes in the system.

Partnerships between the different sectors, as well as joined-up government arrangements and private-social partnerships, intergovernmental collaborative structures, are explicitly included in the definition. It also applies to collaborative governance regimes with broad aims like strategic development and rather narrow ones like projects.

A different set of drivers for collaborative governance

Four drivers could start a collaborative governance regime: leadership, consequential incentives, interdependence, or uncertainty. If two or more of them are present, the possibility for a collaborative governance regime to start is higher.

The first difference with Ansell and Gash (2008) is finding a role for leadership in starting the collaborative process. Like in Ansell and Gash, however, this leadership is not about conducting others in one direction or another, but rather about helping others to achieve their goals (´t Hart, 2014; Ansell & Gash, 2012).

Apart from leadership, three of the four drivers for starting collaborative governance are indeed different manifestations of interdependence, another condition common with Ansell and Gash's model (2008). The second driver, consequential incentives, refers to either internal or external pressing issues, be they challenges or opportunities, where action by the participants would have important effects. The third driver, interdependence, is defined in absolute terms as "when individuals or organizations

are unable to achieve something on their own" (Emerson et al., 2012, p. 9). It is also regarded as "the ultimate consequential incentive". Finally, the fourth driver, uncertainty, refers to the challenge of facing a "wicked" societal problem. The assumption is that perfect information should enable actors to act independently to pursue their interests or respond to risk. Knowledge, then, would be a relevant factor for starting collaborative governance. And again, uncertainty is "also related to the driver of interdependence" (p. 10).

Interestingly, trust is not a relevant starting condition for collaboration in this model. After the collaboration starts, the characteristics of the process -the collaborative dynamics- are defined by the action of three gears: principled engagement, shared motivation, and capacity for joint action.

Four components of principled engagement

Principled engagement is the very work of different stakeholders "across their respective institutional, sectoral or jurisdictional boundaries to solve problems, resolve conflicts, or create value" (Emerson et al., 2012, p. 10). Good-faith negotiation is not assumed to always be needed here, since in some cases conflict may be low and shared values and goals easy to identify.

According to the authors, principled engagement occurs through the iteration of four elements: discovery, definition, deliberation, and determination. In discovery, individual and shared values, concerns, and interests are revealed. It also includes the identification and analysis of relevant information. Then should come deliberation, where effective communication through hard conversations, asking difficult questions, and frank expressions of disagreement pave the way for procedural decisions and substantive determinations. Procedural decisions are about setting agendas and assigning workgroups, while substantial determinations are about reaching agreements on action to be taken. Here the authors note that, although substantive determination is considered to be one of the outputs of collaboration, "in an ongoing CGR, however, many substantive determinations are made over time; these are integrated into the framework as a repeating element within principled engagement" (Emerson et al., 2012, p. 12).

A need for shared motivation

The collaborative process of principled engagement depends on the conditions of shared motivation and capacity for joint action. Shared motivation is itself a reinforcing cycle including four elements: mutual trust, understanding, internal legitimacy, and commitment.

In this framework, unlike in the model by Ansell and Gash (2008), trust is developed over time, and the pre-history of collaboration is not that important. What does trust do, then? Trust generates mutual understanding, which in turn generates legitimacy and finally commitment. “Trust enables people to go beyond their own personal, institutional, and jurisdictional frames of reference and perspectives towards understanding other people’s interests, needs, values, and constraints”. This understanding, however, is not related to knowledge, but is really “the ability to understand and respect others’ positions even when one might not agree” (Emerson et al., 2012, p. 13). It is, therefore, different from Ansell and Gash’s (2008) shared understanding.

In any case, this relationship between trust, mutual understanding, and commitment is not as firmly sustained in the literature as others in the model. Thomson and Perry (2006),who are cited by Emerson et al. (2012) explain the ability of trust to reinforce commitment through restraint from opportunistic behavior (the more traditional approach). They do not relate trust to having an understanding of the others’ values and interests.

Capacity for joint action

Finally, collaborative dynamics needs capacity for joint action. The collaborative governance regime should build “a new capacity for joint action that did not exist before and sustain or grow that capacity for the duration of the shared purpose” (Emerson et al., 2012, p. 14). This capacity for joint action is a combination of four elements: procedural and institutional arrangements, leadership, knowledge, and resources.

First, the procedural and institutional arrangements include the protocols and organizational structures needed to manage the repeated interactions that the

collaboration demands, both within each collaborating organization or group and between them. Here we can think of committees, meetings and their rules, decision-making rules, and similar tools. Those arrangements can be formal or informal. They may be likened to Ansell and Gash's (2008) institutional design.

Second, leadership is conceptualized concerning the capacity for joint action as a set of different roles that leaders need to perform in different moments. As the authors put it, "certain leadership roles are essential at the outset, others more critical during moments of deliberation or conflict, and still others in championing the collaborative determinations through to implementation" (Emerson et al., 2012, p. 15). This understanding of leadership is more related to facilitative leadership (Ansell & Gash, 2012) than to bond-supported leadership based upon a psychological contract between leaders and followers or expectations (Heres, 2014).

The third component of this capacity for joint action is knowledge. The authors build upon Ansell and Gash (2008) to affirm that knowledge specialization and distribution have had a role in increasing the demand for collaboration. In this framework, more specifically, knowledge is analyzed as necessary in helping the collaboration to be fruitful. It is not only about sharing pre-existing knowledge but about generating new knowledge. Collaboration "requires the aggregation, separation, and reassembly of data and information, as well as the generation of new, shared knowledge" (Emerson et al., 2012, p. 16). Understood this way, knowledge should be particularly relevant for the progress of collaborative implementation.

The shared knowledge expected in this framework is integrated into the values and judgments of all participants. We can think of it as complementary to the ability to understand and respect others that the framework expects as an effect of trust. It goes beyond what Ansell and Gash (2008) label shared understanding since, besides shared problem definitions, it also includes shared data on those problems. In this regard, Emerson et al. have a common interest with the work of Tanya Heikkila and Andrea Gerlak (Gerlak & Heikkila, 2011; Heikkila & Gerlak, 2016) who claim that knowledge generation can enhance the groups' understanding of the size and nature of the issue it is addressing, along with the scope and scale of the collaborative's potential actions to address the issue.

Emerson (Emerson, 2018; Emerson et al., 2012) does not devote much attention to problem definitions, yet the expectation in the framework is that they be shared to aid learning. When there is uncertainty in the functional domain, "it can hinder (the) ability of actors to agree on the nature of problems and solutions, or even the relevance of new information, and thus collectively learn" (Gerlak & Heikkila, 2011, p. 625).

2.1.3 The contributions of collaborative governance research to the study of collaborative implementation

We reviewed the collaborative governance literature, organizing the discussion around the influential works by Ansell and Gash (2008) and Emerson et al. (2012), looking for indications to answer our research question: How do different conditions influence the persistence and progress of collaborative implementation?

We paid attention to those conditions more closely related to outcomes in the dimensions of persistence and progress. We found some conditions in Ansell and Gash's model described in a way perhaps more relevant to persistence -perceived interdependence, bond-supported leadership, trust- while facilitative leadership and institutional design seem to influence the outcomes in both dimensions. In Emerson et al.'s framework (2012), one of the gears of the collaborative dynamics -shared motivation- includes four components that are all relevant for persistence: mutual trust, understanding, internal legitimacy, and commitment. If we observe a second gear, capacity for joint action, two of the conditions included in it -procedural and institutional arrangements, and resources- are described in a way that suggests they are particularly relevant for persistence. At the same time, different roles for leadership should be relevant for persistence and progress, respectively, and knowledge should be especially relevant for progress. As for the third gear, principled engagement, it refers mainly to the different phases of interaction, resembling the stages of the collaborative process in Ansell and Gash (2008).

Only recently has attention been paid to conditions driving collaborative performance: why some of them do not reach maturity, and why and when some of them decline (Imperial et al., 2016; Ulibarri et al., 2020). Singling out the dimensions of persistence and progress in collaborative implementation should shed light on the specific

conditions contributing the most to outcomes in each dimension, drawing us a little closer to addressing the problems of collaborative inertia highlighted by Vangen and Huxham (2010). Our review of the model by Ansell and Gash (2008) and the framework by Emerson et al. (2012) helped us identify a number of conditions expected to be relevant in each case: trust and perceived interdependence are highlighted as relevant for persistence, together with institutional design and bond-supported leadership. Knowledge is found to be especially relevant for progress, while facilitative leadership includes different roles, ones more directly related to persistence -the steward, the mediator- others more related to progress, like the catalyst.

Besides, this review highlighted the importance of another intermediate outcome: consensus. Not only is collaborative governance defined as "consensus-oriented" (Ansell & Gash, 2008), but institutional design is considered relevant as a result of the contribution that it can make to consensus. Ansell and Gash (2008), Emerson et al. (2012), and other authors accept the possibility of non-consensual decision-making in collaborative governance. Nevertheless, it is still considered the ideal form of decision-making by partners that are contributing their own resources to reach goals. Also, it is considered positive for implementation.

Starting the analysis of individual conditions, it is worth paying attention to the way Emerson et al. (2012) detail different forms of interdependence, not only related to resources but also derived from pressing issues as well as from gaps in knowledge (uncertainty). This is, of course, the substantive uncertainty that Klijn and Koppenjan address in their own work about governance networks (Klijn & Koppenjan, 2015; Koppenjan & Klijn, 2004). Understanding knowledge as a resource in relationships of interdependence should lead us to expect that actors with particular strengths in knowledge -knowledge partners- must be very relevant in collaborations.

This importance of knowledge also connects well with that of joint fact-finding in both models, and with the role of shared knowledge/shared understanding in both these works and other relevant contributions in this literature like those of Heikkila and Gerlak (Gerlak & Heikkila, 2011; Heikkila & Gerlak, 2016). Understanding which conditions facilitate the generation of shared knowledge is an important task.

Having reviewed the main conditions identified in these research approaches that could be relevant for the dimensions of persistence and progress of collaborative implementation, we can take a moment to review how they understand decision-making and the role of problem compatibility in it.

These works conceptualize joint decision-making as reached (a) through negotiation between partners with different problem definitions or (b) through an agreement between partners with common problem definitions. Also, three of these approaches (Ansell & Gash, 2008; Emerson et al., 2012; Gerlak & Heikkila, 2011) are open to the possibility that the decisions in collaborative governance are not joint, but (c) simply made by partners with authority, through a legitimate process with fair rules and procedures not needing consensus. It seems that, under some unspecified circumstances, the perceived interdependencies that are so relevant for starting the collaborative process (Ansell & Gash, 2008) or to motivate it to continue (Emerson et al., 2012) become less relevant for some partners that, having authority, can then skip joint decisions and move forward without consensus.

The first path to joint decision-making in this literature is through negotiations. In Ansell and Gash (2008), state and non-state actors start the collaborative process with different understandings of the problems. Good-faith negotiations build additional trust which, in turn, leads to common problem definitions, facilitating decisions and small wins. In time, those small wins create a favorable environment for further good-faith negotiations. In the initial phase of the collaboration, however, problem definitions are not relevant since they are assumed to be different and, therefore, it is not expected that a mechanism other than negotiations will lead to decisions.

The second, and more frequent path to joint decisions in collaborative governance in these works is through shared problem definitions. This occurs in Ansell and Gash (2008) after initial good-faith negotiations lead to an increase in trust between partners. After that, shared problem definitions help achieve intermediate outcomes. It also happens in Emerson et al. (2012) through shared knowledge which includes both shared problem definitions and shared data on those problems. In Huxham (1993), partners are not expected to share problem definitions, but at least a common assessment of the importance of the problem convoking the collaboration. In Gerlak

and Heikkila (2011) shared problem definitions are necessary for learning to occur. Shared problem definitions are the explanation in these works for situations in which successful joint decision-making takes place.

The third possibility for decision-making, rule-guided but not consensual decision-making, is present in most of these works. It is only absent in Huxham (1993) who includes shared "power among those involved" and shared "decisions about how to manage the collaboration" as necessary conditions for their collaborations to be successful (p.605).

In the model by Ansell and Gash (2008), although collaborative governance is conceptualized as consensus-oriented, consensus is not found to be necessary for the collaboration to proceed, given the concern of decision-making stalemates in the search for consensus. Unlike in Huxham (1993), partners in Ansell and Gash's model are not expected to share equal influence since there are asymmetries between them and some of them are state agencies while others represent society. The goal of institutional design is to grant procedural legitimacy and build trust, while effective authority can remain in the hands of state actors. This is also the approach in the framework by Emerson et al. (2012): principled engagement does not demand consensus in decision-making. The vision is shared by Gerlak and Heikkila (2011): at least when it comes to implementation, consensus is not expected, even if other partners can still influence the decision-making process of the one that is deciding.

Now, we should expect repeated appeals to authority by State actors to erode the perceptions of procedural legitimacy and trust in collaborative implementation. It is also hard to expect that partners in collaborative governance/collaborative implementation processes will always have shared definitions of the problems. Besides, we have to ask ourselves what allows for negotiations to lead to an agreement between partners with non-shared problem definitions. This is the gap that the concept of problem compatibility is aimed at addressing.

We have identified some conditions in the collaborative governance research approach that should be particularly relevant for the dimensions of persistence and progress in collaborative implementation. Further, we have considered different understandings of how decision-making takes place in collaboratives. We can now turn

our attention to implementation research and the clues it provides us on conditions for persistence and progress, and on decision-making.

2.2 The contribution of implementation research

Research on collaborative governance has generally not been interested in implementation (see Butler et al., 2015, p. for an exception). This leads us to explore the field of implementation research in our quest to find conditions relevant to the dimensions of persistence and progress in collaborative implementation. Established long before collaborative governance, it is also more diverse, making it harder to explore through a few models. A rather recent approach to subprocesses in implementation (Winter, 2012) facilitates studying decisions on it. We will explore that in dialogue with other contributions, but first, we will review how implementation research understands the very subject of implementation.

2.2.1 Implementation research, implementation, and collaboration

Implementation research has largely been about analyzing actions following policy decisions. The fathers of the field famously stated that “a verb like “implement” must have an object like policy” (Pressman & Wildavsky, 1973). Built upon the stages heuristic that was so fundamental at the beginning of policy analysis (Weible et al., 2012), the implementation literature has generally ignored Simon’s (1957, p. 1) claim that administration -and therefore, implementation- belongs in the world of deciding. Rather, it has been assumed that implementation is a process that starts after policy decisions are made (Hill & Hupe, 2014; Hupe & Hill, 2016; Pressman & Wildavsky, 1973; Rein & Rabinovitz, 1978).

As Winter (2012, p. 255) recalls, the field started with the search for alternatives to bad policy formulation -wrong causal theory- as the explanation for policy disappointments. Policy decisions translate into mandates that have to be implemented. Could it be that implementation is the problem? Implementation has mostly been

understood as a process where some actors intervene (act) influencing the transformation of decisions into outputs and outcomes. Since the beginning of the field, however, it has been evident that the implementation process involved new decisions. The famous chapter on the Complexities of Joint Action in Pressman and Wildavsky's book (1973) was really a chapter on the complexities of joint decision-making. It was the difficulties in reaching agreement between multiple partners implementing public policy that led to their prediction of the almost impossibility of success in these ventures. The introduction of the concept of street-level bureaucrats (Chang & Brewer, 2022; Lipsky, 2010; Maynard-Moody et al., 1990) and several works on the so-called bottom-up approach reaffirmed that fact. That was not, however, the understanding of the concept that became dominant. Few implementation authors have adopted the perspective of implementation as continual decision-making (Hupe & Hill, 2016), Yet, at least one recent model (Winter, 2012) decomposes the implementation into stages of behavior that are easily identifiable as stages of decision-making.

Hill and Hupe define implementation as "that part of governance that involves activities about public tasks implied by the directional decisions on those tasks" (Hill & Hupe, 2014, p. 193). Concurrently, they acknowledge the work of other scholars who highlight why decisions cannot be dissociated from implementation analysis (Lindblom & Woodhouse, 1993; Simon, 1973). While addressing the observation that there are often multiple rounds of new decisions during the implementation process, the authors classify those new decisions as new events of policy formation.

As Torenvlied and Thomson (2003) show, approaches to implementation expect either that debates that took place during previous phases of the policy process will reemerge and that actors from those phases will continue to shape decision-making. In contrast, they expect that implementing agencies will make their decision autonomously, yet still limited to some discretion on how to implement what was already decided in previous debates. The possibility that decision-making in implementation could be about new, different problems emerging from the specific challenges of specific decisions has remained unaddressed.

This reluctance to research decisions on implementation may be tied to the top-down vs. bottom-up disputes that emerged between implementation researchers in the

early days of the field. The initial assumption was that the decisions to be implemented -the mandate- were always presented in the form of norms or directions from a higher authority (Sabatier & Mazmanian, 1980). As Lester and Goggin (1998) put it: “The essential characteristic of the implementation process, then, is the timely and satisfactory performance of certain necessary tasks related to carrying out the intent of the law” (p.5). It would not take long, however, for policy scholars to realize that implementation organizations were continuously making new decisions, often independently from new norms or guidelines coming from the top, because of negotiations with their partners or as a response to multiple policies and policy goals at the same time. This observation originated the well-known debates between top-down and bottom-up approaches (Hanf & O'Toole Jr., 1992; Sabatier, 1986).

Also, including decision-making in implementation led to debates about the viability of assuming a clear-cut difference between implementation and formulation or between implementation and agenda-setting (Nakamura et al., 1991; Nakamura & Smallwood, 1980). Some authors considered implementation to be just another component of the political process (e.g. Palumbo & Calista, 1987), and, perhaps, this led other researchers to over-emphasize the differences between implementation and decision-making (e.g. Torenvlied & Thomson, 2003). The fact is, however, that many of the most illuminating analyses on implementation are those highlighting the decisions that take place within it – for example Torenvlied and Akkerman (2004) and Vancoppenolle et al. (2015), besides the founding fathers themselves (Pressman & Wildavsky, 1973).

Once overpopulated by 300 variables trying to explain the many organizational and political factors explaining the variation in results under multiple circumstances (Nakamura et al., 1991; O'Toole Jr., 1986), the implementation literature has long been looking for synthesis (Bressers et al., 2016; Hill & Hupe, 2014; Matland, 1995; Sabatier, 1986). Among the latest proposals for such a synthesis is the approach to implementation as a relationship between the ambition of the goals and the independence -capacities, and administrative competencies- of the governing actors (Hill & Hupe, 2014, pp. 185-186). Different combinations of these two key features make different governance styles advisable: authority, transaction, or persuasion according to the case. Also, there is an approach to implementation as a multi-actor interaction process where three types of factors have the bulk of the explanatory power:

those actors' motivations, cognitions, and resources. Nonetheless, they are heavily affected by several layers of context -one specific, including previous decisions; one structural, incorporating the governance regime; and several wider contexts including the technological one (Bressers et al., 2016, pp. 46-48; Bressers & Kuks, 2003). In both cases, the emphasis is once again on the tools available to turn decisions into realities, not on implementation as new decisions on goals and means. Thus, addressing new problems that keep emerging from previous decisions on planning problems that are never exhaustively formulated (Rittel, 1972; Rittel & Webber, 1973). Even today, the implementation literature keeps trying to avoid addressing implementation as decision-making. From our perspective, while differentiating the primary decisions about a course of action in a policy process from the ones that follow them allows researchers to have a focus for their analysis. Hence, preserving implementation as a separate phase in the policy process may be a sensible decision. Acknowledging that implementation is mainly a series of new decisions, and researching it as such, should facilitate an enhanced understanding of the challenges that policy implementers face at different decision levels.

A second point for analysis is how the implementation literature addresses collaboration and collaborative implementation.

The few works on collaborative implementation do not contribute much to our understanding of collaboration. Butler et al. (2015), for example, is mostly a study of how different participants collaborating in the implementation of a program see the program itself, with interesting and very specific notes on how different legal mandates hinder collaboration, as well as evidence supporting the claim that decision-making continues during implementation.

This is not to say that collaboration is not addressed in implementation research. The foundational work in the field (Pressman & Wildavsky, 1973) deals largely with what happens when multiple organizations need to jointly decide on how to proceed with implementing public policy. Also, there is a long tradition of work on inter-organizational implementation where coordination and cooperation -if not collaboration- are frequently referenced (e.g. Busetti & Dente, 2018; O'Toole Jr. & Montjoy, 1984). There is also relevant work on implementation networks (Blair, 2002; Brinkerhoff, 1996; Hanf & O'Toole Jr.,

1992; O'Toole Jr., 1997). Here, again, one of the main insights is that implementing through networks requires resorting less to hierarchy, and more to "compromise and negotiation" (Blair, 2002, p. 170).

Unlike collaborative governance, implementation research has always focused on specific programs, or projects, looking to translate policy decisions -their mandate- into realities. It is by studying those specific projects, programs, and their decisions that it has identified a series of conditions relevant for success. They are, however, mostly in situations where authority is present in the hands of State decision-makers, be them agencies, judges, or local authorities (Matland, 1995; Sabatier & Mazmanian, 1980; Vancoppenolle et al., 2015). It has not been theorized yet about collaborative implementation -the gap that this research addresses- or about implementing when neither the use of authority nor the exchange of resources is available.

In the next section, we will explore a rather recent conceptualization of the implementation process (Winter, 2012) and the guidance it provides for the analysis of collaborative implementation.

2.2.2 An Integrated Model Identifying Moments of Policy Implementation, and its clues for the study of collaborative implementation

Soren Winter (2012) presents an integrated model -although Ostrom (2007) would have called it a framework- for policy implementation. Winter divides the implementation process into five moments, according to the more relevant influence in each one: (1) policy formulation and design (2) organizational and inter-organizational behaviors (3) management (4) street-level bureaucrats (5) target populations. The results (6), mediated by a socio-economic context (7), are behaviors (by organizations, managers, street-level bureaucrats, and target populations) and outcomes resulting from the specific behaviors of target populations.

We will briefly examine Winter's proposal and find out how it can aid us in answering our research question: How do different conditions influence the persistence and progress of collaborative implementation?

Mandate

The first condition highlighted by Winter is the mandate. In this work, unambiguous goals set during the stage of policy formulation and design are found to be very important to avoid problems during implementation. Winter (2012, p. 258) highlights that the roots of implementation problems can be found in the formulation phase, for instance, because "conflicts in this process often create a policy that is marked by ambiguous goals as well as invalid causal theory". Further, he notes that different mixes of policy instruments are not equally effective. Policy design "is important in affecting the incentives of intermediaries to carry out their requisite tasks, particularly through affecting their commitment and capacity and by signaling desired actions" (p. 259). A good design of the mandate is important to avoid conflicts that will usually continue during implementation.

Here, Winter's model reaffirms implementation research's traditional guidance about the mandate: that statutory objectives that are precise and clearly ranked are needed as guides for the implementers and those supporting the programs (Sabatier & Mazmanian, 1980, p. 545). They influence implementation outcomes (May, 1993) and narrow mandates, sometimes including coercive measures. They can be used as a framework for implementers to negotiate specific agreements (May, 1994). Moreover, those objectives -or core ideas when discussed in the context of collaborative regimes- are a glue that keeps collaborations together (May & Jochim, 2013). If we relate this reasoning to our interest in collaborative implementation, we will easily find a relationship between a good mandate -that is, an unambiguous, narrow one- and the prevention of conflicts that would affect persistence. A narrow, specific mandate should help the persistence of collaborative implementation.

Commitment

Within Winter's model, these are very important conditions during the phase of organizational and inter-organizational behavior, which take place after the mandate is firm but before each organization's managers and street-level bureaucrats start to intervene. Here he brings to the discussion Pressman and Wildavsky (1973) warning

of the complexity of joint action related to the number of actors. Also, he presents commitment and coordination as the main factors influencing the implementation process at this stage. He introduces research pointing out how inter-organizational coordination problems "can be reduced by using policy design to increase commitment, build and use a common interest, and facilitate cooperation via exchange" (Winter, 2012, p. 260).

The emphasis on commitment, and how it can be strengthened by building common interests between actors, points in the same direction as research on (perceived) interdependence and its contributions to collaborative governance research (e.g. Ansell & Gash, 2008). The same goes for the proposals on exchange, that suggest spaces for dialogue. Here, we find a rather optimistic reading of the challenges of collaborative decision-making that builds partly on extant work on implementation research (Bowen, 1982; O'Toole Jr. & Montjoy, 1984). Winter expects the most problematic situations to be those of sequential operational interdependence, counting on perceived interdependence to create enough incentives for collaboration to offset the dangers of veto (Winter, 2012, p. 260). The founding work in the implementation field, however (Pressman & Wildavsky, 1973) tells us a story in which reciprocal operational interdependence did not lead to effective collaboration.

Winter's model, in short, expects interdependence to lead to commitment in a way that should contribute to an effective decision-making process in joint action. In other words, it would expect progress in collaborative implementation to benefit from perceived interdependence. Opinions in the implementation research field, however, are not unanimous, with more concern about the challenges of joint decision-making than Winter shows (O'Toole Jr. & Montjoy, 1984, pp. 495, 499-500).

Leadership and street-level bureaucracy

Phases three and four of Winter's (2012) implementation model are intertwined since management behavior is analyzed through the lenses of its impact on the actions of street-level bureaucrats. Winter draws on Lipsky (2010 orig. 1980) to point out how street-level bureaucrats make important discretionary decisions in their direct contact

with citizens. He warns that Lipsky's theory needs more specification of the causal mechanism explaining variation in street-level bureaucrats' coping behavior. However, that the model highlights how the coping mechanisms of rationing services, prioritizing some cases and clients, controlling clients, and modifying policy goals effectively reshape the mandate.

Literature on street-level bureaucrats is particularly relevant for implementation research, where it helped highlight that decision-making does not stop after "the decision". It does not even stop after managers have formulated concrete plans for implementing it – see Hill and Hupe (Hill & Hupe, 2014; Hupe & Hill, 2016) on policy formation and when implementation ends.

Management's task, according to the model, is to influence street-level bureaucrats' behavior. Winter affirms that management is relational. Therefore, the impact of managerial behavior on the behavior of street-level bureaucrats is contingent on their characteristics, including their expertise, motivation, and perception of management tools.

Managers have some tools and practices to affect the behavior of street-level bureaucrats, who are the ones really shaping the form of public policy under the influence of always inadequate resources and always scant supervision. We can affirm, then, that leadership -which Winter calls management- is a very important condition in his model. In this case, leadership is not facilitative leadership, but the bond-supported leadership that, according to ´t Hart (2014), is largely in the eyes of the beholder. Despite the abundant literature on management, its influence in implementation has been researched mainly with regard to the role of directives in the context of the problems of federalism (Stoker, 1989) or inter-organizational relations (O'Toole Jr, 2003).This makes Winter's observations on the influence of middle managers an interesting exception to the rule.

In Winter's model, leadership is likely to contribute mainly to the progress dimension of implementation, influencing the behavior of street-level bureaucrats so that they remain focused on implementing the mandate. It is not very relevant, however, to the progress of collaborative implementation, since it exerts its influence after the collaborative phase of the implementation process takes place.

Target groups

Winter's model acknowledges the importance of the co-production of public services by citizens and firms (Osborne, 2006; Osborne, 2018; Valdivieso-Cervera & Sandoval, 2021). However, the emphasis is once more on the way these groups' behavior, through their positive or negative reactions, affects the behavior of street-level bureaucrats. Target groups are important in this model because of their reactions.

To assume that citizens and firms always react to behavior by street-level bureaucrats is not the most frequent way that research on co-production understands the role of these groups. It is more common to use the concept to discuss the voluntary or involuntary involvement of service users "in any of the design, management, delivery and/or evaluation of public services" (Osborne et al., 2016, p. 640) through voluntary forms of participation via deliberative or consultative bodies, or negotiations. This is also the way Hill and Hupe (2014), from an implementation perspective, address it.

Target group behavior, in any case, is presented in this model as a condition relevant for the progress of implementation. Despite this, just like leadership, it has no evident relevance for collaborative implementation in the model since it influences street-level bureaucrats after joint decision-making has ceased.

2.2.3 Assessing the contributions of the implementation literature to the study of collaborative implementation

If we go back to our research question - how do different conditions influence the persistence and progress of collaborative implementation? - we find that two conditions in Winter's model have a real, if not obvious, influence on our two dimensions of collaborative implementation. Another two conditions do not seem to be so influential since their effects are expected to take place after the phase where joint decisions occur in the model.

The first condition relevant for collaborative implementation is the mandate, perhaps the most idiosyncratic condition in the implementation literature. It could be associated with the persistence of collaborative implementation, with most of the

contributions within this research approach pointing to the virtues of very detailed (narrow) mandates. The second relevant condition is perceived interdependence. It is expected by Winter (2012) to contribute to commitment in a way that should reinforce progress in collaborative implementation. This is, as we noted above, a position not so widespread between authors on implementation research. As for leadership and the role of target groups, they are not expected to be relevant for collaborative implementation. This is because the model conceptualizes them as influencing implementation only after joint decision-making has stopped.

These influences of conditions studied in implementation research upon the persistence and progress of collaborative implementation are found. This is despite the traditional scant interest of the field in decision-making.

Winter, like the broader implementation literature, does his best not to discuss decisions. While the different behaviors examined in his model are decisions -by collaborating organizations, managers, and citizens- the only mention of decisions is reserved, interestingly, for street-level bureaucrats. Also, as highlighted when discussing specifically phase two's references to joint action, it means a joint decision, but it is not discussed as such. Nevertheless, the model makes two important contributions to the research of decisions in collaborative implementation. First, the five phases of behavior in Winter's model (2012) make it very easy to observe different decision moments in it since every phase of behavior is, in fact, one of decision. Among them, the need for joint decisions is readily observable in the organizational and inter-organizational behavior phases. This is the phase in the model where collaborative implementation can be researched most straightforwardly. Second, the inclusion of policy formulation and design in the model led to the identification of the mandate as a relevant factor influencing the collaboration between partners, even if the specific mechanisms connecting the mandate to behaviors/decisions are not explored in depth.

Finally, a quick note on problem definitions in implementation research and the contribution that problem compatibility could make:

At the dawn of implementation research, Pressman and Wildavsky (1973) discussed the importance of different perspectives on problems, besides different interests, upon joint decision-making, which they called joint action. Most of the later works, on

the other hand, simply assume that those perspectives will be different, and negotiation will be the natural path to reach decisions. Moreover, most implementation researchers seem to consider (dis) agreement as a function of plurality, be it a plurality of actors (Bowen, 1982) or a plurality of decision points (Pressman & Wildavsky, 1973). Yet the fact that agreements can occur, be it through negotiation or deliberation, suggests that the explanation for disagreement does not lie on plurality, since the plural number of actors can overcome their differences. Difficult decisions do not follow immediately from large numbers of actors or decision points.

The discussion of ideas in May and Jochim (2013), which includes the importance of shared commitments and understandings, is a refreshing deviation from the implementation research mainstream. Within this, concepts like frames (Rein & Schon, 1996; Schon & Rein, 1994), narratives (Roe, 1989; Roe, 1994) problem structures (Hoppe, 2011), problem representations (Chisholm, 1995) and ways of knowing (Schneider & Ingram, 2007) that are used to understand intractable policy controversies (Schon & Rein, 1994) have been largely absent from the analyses. This is in a way consistent with the conceptualization of implementation as action, activities, or behavior, and not as new moments of decision-making (for some exceptions to this majoritarian approach see Chapter 1). The few works incorporating discussions on problems in implementation research are often those incorporating the contributions by Robert Hoppe on problem structure and problem structuring (Hisschemöller & Hoppe, 1995; Hoppe, 2011; Turnbull & Hoppe, 2018).

This research contributes an elaboration on the approximation to implementation as continual decision-making, building upon research on organizational theory (Hatch, 1997) and organizational decision (March, 1991; March & Heath, 1994) but, more importantly, on problem representations and their influence upon decisions. Problem representations have been researched under different names and with different purposes: frames (Schön, 1984; Schon & Rein, 1994; van Hulst & Yanow, 2016), structured or unstructured problems for decision-making (Dunn, 1988; Hoppe, 2011; Ordóñez-Matamoros et al., 2013; Simon, 1973), versions of wicked problems (Churchman, 1967; Rittel, 1972; Rittel & Webber, 1973), or instruments of power (Bacchi, 2012; Pereira, 2014). Problem representations are not necessarily shared, and not obliged to agreement, be it about goals (Van Meter & Van Horn, 1975) or

means (Berman, 1978). This makes them a good starting point to build the concept of problem compatibility as a tool to understand joint decision-making.

2.3 A Heuristic of collaborative implementation

Up to this point, we have reviewed works within two different research approaches - collaborative governance and implementation research. The objective is to identify conditions relevant for outcomes in two different dimensions of collaborative implementation: persistence and progress. We also identified a third outcome of interest, consensus, that is one of the goals of collaborative governance, at least in the model by Ansell and Gash (2008). In real life, however, the outcomes of collaborative implementation regarding persistence and progress, or the presence of consensus in it, are not observed separately, but as wholes. We can think of three types of outcomes: First, outcomes of successful collaborative implementation showing both persistence and progress, as well as consensus, that would be the ideal final outcomes, consequence of the presence of all the right conditions. We could call it smooth collaborative implementation. Second, a mixed outcome where there is persistence, but the progress of collaborative implementation is deficient. Consensus is not expected here since it should belong to the optimum outcomes. We could call this outcome *troubled collaborative implementation*. Finally, an outcome where there is neither persistence nor progress in collaborative implementation. This would be an outcome of *failed collaborative implementation*, and we should not expect to find consensus in them.

In this section we describe these three types of outcomes in more detail and present our understanding, based upon the literature reviewed, of how our research question is answered. That is, how different conditions influence the dimensions of persistence and progress of collaborative implementation leading to one of these three outcomes in specific cases. We will also explore more about how consensus can be reached.

The first type of collaborative implementation that we will address is the preferred one: Smooth Collaborative Implementation. This outcome is the combination of good results in both dimensions of collaborative implementation, persistence, and

progress. Regarding persistence, the outcome of *smooth collaborative implementation* means that a collaborative effort that started around the implementation of a specific mandate completes its tasks with at least the same partners that started the process. No partner abandons the collaborative process. Regarding progress, it is robust since it is relatively timely and, at the same time, consensual. This consensus is expected to facilitate the joint decision-making in the following, "downstream" decisions, as Ansell and Gash (2008) anticipated.

How is *smooth collaborative implementation* achieved? Our initial response is, through paths where any of the conditions driving persistence and any of the conditions driving progress in collaborative implementation are present. There should also be some presence of conditions facilitating consensus. We do not find in the theory guidance on whether there are necessary conditions for persistence or progress, although the role of interdependence in persistence is perhaps the best documented one- and therefore we will leave it to the analysis of cases with this heuristic to find out.

Troubled collaborative implementation, on the other hand, is found in situations where the persistence dimension of collaborative implementation is strong -that is, the partners continue to work together- but its progress dimension is lacking. Consensus is expected to be absent in these cases, and the lack of it is expected to be related to slow progress. The paths leading to *troubled collaborative implementation* are expected to include any of the conditions facilitating persistence, but none of the conditions driving progress, at least in this version of the heuristic that precedes empirical exploration.

Finally, we find *failed collaborative implementation* in situations where things do not go well either in the persistence dimension of collaborative implementation or in its progress dimension. Regarding the persistence dimension, this means that at least one of the partners abandons the collaborative process. With respect to the progress dimension, decision-making is not consensual and that leads to uncertain task completion. There is no progress, or it is very slow. Consensus is expected to be absent as well. We expect that paths leading to this outcome are made in the absence of all the conditions contributing to persistence in collaborative implementation plus the absence of all conditions contributing to its progress until empirical evidence shows us otherwise.

We will now review the conditions that our reading of extant research suggests as more likely influential over each one of the two dimensions of collaborative implementation, including problem compatibility among them.

2.3.1 The conditions related to **persistence** in the heuristic

The first dimension of interest in collaborative implementation in this research is persistence. We defined it as a collaborative implementation effort completing its tasks with at least the same partners that started it, with no partner abandoning the collaborative process.

The heuristic incorporates three conditions expected to be relevant for persistence in collaborative implementation: Trust, perceived interdependence, and a broad mandate. Each one is expected to act as a glue keeping the partners in collaborative implementation processes working together, and therefore any one of them should be sufficient to drive persistence in collaborative implementation. Trust and perceived interdependence are widely considered in the collaborative governance literature as important for the collaborative process to take place (see section 2.1), whereas perceived interdependence is important in Winter's (2012) implementation model, as a tool to create commitment in the (inter) organizational moment of the implementation process. The mandate, on the other hand, is central to implementation research, especially in the top-down research tradition. The difference in our case is that, in a heuristic of collaborative implementation, we expect a broad mandate, not a narrow one, to be adequate. Let us review each one of these three conditions in more detail, starting with the mandate:

Broad mandate

The model by Winter (2012) starts its explanation of the implementation process by observing how the formulation and design phase of the policy produces a mandate that must be implemented. As the founding fathers of implementation research wrote, the word implementation directs us to an object – a decision- that is being implemented (Pressman & Wildavsky, 1973). This is also true when implementation is not

about the adoption of a new decision at the top -a new law, regulation, a brand-new policy. It is about multiple decisions being implemented at the same time by one or several organizations -the bottom-up argument (Sabatier, 1986).

The mandate is not present as a concept in the collaborative governance literature reviewed. It has no role in the Ansell and Gash (2008) model, and it is only weakly suggested in the model by Emerson et al. (2012), where one of the options of starting the collaboration is the action of a leader with access to resources that intervenes in several ways to guarantee the correct functioning of the collaboration. Such might be the situation of an organization trying to start what the Public Administration literature has labeled as mandated collaboration: situations in which "a third party tries to impose collaboration upon other actors within its area of influence" (Halper, 1982, as cited in Rodriguez et al., 2007; Saz-Carranza et al., 2016). Mandated implementation can also be delegated when a higher-level organization, like a national or even supra-national organization -for example the European Commission- adopts a general decision. In turn, it delegates to other organizations the definitions on the details of its application for both goals and means (Bergström et al., 2007; Christiansen & Dobbels, 2012).

If a mandate is important for collaborative implementation to exist, the narrow, very specific mandate, with very little ambiguity that top-down implementation research advises (O'Toole Jr., 1986; Sabatier & Mazmanian, 1980) is unlikely to be beneficial for the collaborative process. This is in an scenario where partners are expected to practice joint problem-solving through joint fact-finding (Emerson et al., 2012), overcoming their different opinions and problem representations, if they emerge.

A narrow mandate is helpful when higher-level decisions must be communicated. However, it will likely be inadequate when it does not match the problem space created by the diverse problem representations (Chisholm, 1995) of different decision-sharing actors. It is not the mandate, but that problem space, that makes problems well or ill-structured (Simon, 1973). It must match the problem space whenever that problem space represents actors with the capacity of making new decisions.

A broad mandate has even a second advantage in collaborative implementation. It allows partners to creatively adapt the goals and their decisions to the challenges they face. This is something especially important when the decisions to be implemented have few precedents, like when collaboration is about the development of innovations.

A broad mandate, in short, is especially helpful for the initiation and persistence of collaborative implementation. It reduces, instead of increasing, the possibilities for conflict in collaborative contexts, given the wide range of options for problem-solving that it provides.

Trust

As we saw above, trust has a key role in the collaborative governance literature and is expected to be very relevant both for the initiation and the continuation of collaboration. Following Ansell and Gash (2008), the heuristic understands trust as mainly a pre-disposition to cooperate with a trusting actor, emanating from a perception that the trusted actor will not behave opportunistically to take advantage of the trusting one. This predisposition can be explained by a pre-history of the collaboration, like Ansell and Gash (2008) do, but also by other factors.

Trust has a function in collaborative implementation: it allows the collaboration to exist because its members do not expect to be victims of the opportunistic behavior of others. It helps knowledge and all kinds of resources -money, people, time- flow by suspending the perception of risk emanating from trusted partners (Klijn et al., 2016; Oomsels et al., 2016). Trust is expected to act as a bond, keeping partners together despite the differences that may emerge, because while there is trust, there is no reason to not cooperate. This is what makes it a relevant condition for the persistence of collaborative implementation.

Trust is not expected to lead to mutual understanding like in the model by Emerson et al. (2012). That is to say, we cannot identify a mechanism leading from the expectation of someone's nice behavior (Klijn et al., 2016) to the understanding of their values and interests, even if there is no agreement with them. Nevertheless, trust can lead to openness to learn about those interests and values, facilitating the continuation of exchanges in the collaboration even when there is no agreement on decisions.

Perceived interdependence

Interdependence is widely considered a very relevant condition by researchers of collaborative governance like Ansell and Gash (2008), Emerson et al. (2012), and Huxham (1993, 2003). It is also essential for the research of inter-organizational implementation -(e.g. O'Toole Jr. & Montjoy, 1984). Palinkas (2014) addresses the importance of resource pooling for successful implementation. In Winter's (2012) model, it is the common interest that has to be built and used for inter-organizational implementation to work.

Our heuristic builds on the observation by Ansell and Gash (2008) that interdependence is perceived, but not just after the collaboration starts. Instead, it is needed from the beginning. The future partners may collaborate if they estimate that some others have the resources they lack, be them money, political clout, relevant knowledge, or any other. A resource, here, is an asset that public and private actors can use to support their actions (Bressers et al., 2016). But their cognition -in this case, their problem representations- influences whether they perceive it as a resource, and if so, how important a resource is.

In our heuristic, the influence of perceived interdependence is particularly relevant for the persistence of collaborative implementation. Like trust, it should act like a glue keeping the collaboration alive when it faces difficulties, by giving partners incentives to contribute resources to others in the expectation that they will receive resources. Very importantly, these resources are expected to be of different kinds: some partners may contribute financial resources, while others may have the legitimacy to take decisions on a subject. Still others may have specialized knowledge, for example. These differences in types of resources may compensate, up to a point, for a more linear calculation of "resource asymmetries" (Ansell & Gash, 2008) when analyzing the conditions for collaboration.

2.3.2 The conditions related **to progress** in the heuristic

The second dimension of interest in collaborative implementation in this research is progress, which we defined as including timely task completion together with consensual decision-making.

The heuristic incorporates four conditions expected to be relevant for progress in collaborative implementation: problem compatibility, leadership as a bond, facilitative leadership, and the use of authority. Each one is expected to act in a way that helps sustain a highly dynamic process of decision-making, and therefore any one of them should be sufficient to lead to progress in collaborative implementation. Problem compatibility should allow partners to agree on decisions even if they share different problem definitions. Bond-supported leadership should suggest to them to adopt the positions preferred by leaders, given their influence over their followers. creating a second option for achieving consensus. By contrast, facilitative leadership should help prevent and solve conflicts and the use of authority could work as a tool of last resort to prevent decision stalemates and guarantee the continuation of the collaborative process. We will briefly elaborate on the expected contribution of each condition:

Problem compatibility

As we found in the literature review, several concepts describing agreement on aims (e.g. Huxham, 1993), shared understanding (Ansell & Gash, 2008) and shared knowledge (Emerson et al., 2012) are part of the different research approaches. These concepts do not include the possibility of consensus when the aims, understanding, or knowledge are not the same, however. Therefore, they do not explain situations, often observed in political science, for example (e.g. Lijphart, 1975), where actors with different understandings of a problem may agree on decisions about that problem.

The contribution that problem compatibility brings to the heuristic is its strength in describing how similarities in at least one of its dimensions -problem representations, decision criteria, or judgements on knowledge validity- are enough to drive consensus on specific decisions. This is a broad concept if we compare it to problem structure, which is well-accepted in the Policy Analysis literature (e.g. Dunn, 2015; Hisschemöller & Hoppe, 1995). On the one hand, problem structure describes levels of agreement about ends and means -or ends and necessary knowledge for the case of Hoppe. On the other hand, problem compatibility emphasizes the possibilities for consensus given agreement in any of its three dimensions: the general problem representation, which may include considerations about both ends and means; the

criteria for the decision, that are decision-specific and can be understood as decision-specific ends; and the judgments on knowledge validity.

Problem compatibility can also be easily differentiated from the partners' general aims that drive collaboration in Vangen and Huxham (2010) since it is decision-specific. Problem compatibility between two partners may change from one decision to another, as the specific problems addressed by each specific decision differ, even if the main policy problem is the same.

Problem compatibility is expected to represent knowledge, conducing to progress like the framework by Emerson et al. (2012) expects. Also, it is a third, broader, possible explanation for consensus in joint decision-making, besides shared problem representations -shared understanding in Ansell and Gash (2008) and shared knowledge in Emerson et al. (2012). The main difference between this explanation and those previous concepts is that a complete agreement on the problem or knowledge is not necessary for consensus on the decision. It is also relevant if negotiations are needed since some match between problem representations, decision criteria, or ideas about relevant evidence will be needed to reach consensus. Consensus is expected to drive progress to its best possible values and is, therefore, a relevant intermediate outcome.

Leadership

In this heuristic, leadership is approached in line with the two conceptualizations identified in section 2.1.1. First, it is a psychological contract between leader and follower where leadership is relational, largely in the eyes of the beholder (´t Hart, 2014; Steyvers et al., 2008). It involves the capacity to direct others to "make things happen", although such capacity is not necessarily rooted in any type of authority. "Direction and purpose might emerge from actors who do not formally lead an organization" (Steyvers et al., 2008, p. 133). Or, we add, from organizations that do not formally command a collaborative effort. This is what we label bond-supported leadership, which should be helpful for the progress of collaborative implementation by being an alternative way to agree on decisions. Some decisions could be agreed-upon even in the absence of problem compatibility, simply because they are suggested by the leaders.

The second approach to leadership is through facilitative leadership, which is the one proposed by the literature on collaborative governance as more relevant for these contexts (´t Hart, 2014; Ansell & Gash, 2008; Ansell & Gash, 2012; Torfing et al., 2020). As we found in section 2.1.1, facilitative leadership includes, in its simpler version (Ansell & Gash, 2012), three roles: steward, mediator, and catalyst. Two of those roles -mediator and catalyst- should be more relevant to explaining the progress of collaborative implementation since they are related to solving conflict and challenging others to change the status-quo. Therefore, we chose to focus our attention on facilitative leadership in relation to progress.

Facilitative leadership should be helpful for collaborative implementation's progress for different reasons than those that make bond-supported leadership relevant. It includes several roles that can contribute to generating consensus, avoiding conflict, or managing it. The steward is more relevant to initiating the collaboration and keep it marching despite the difficulties -even by imposing decisions when consensus is missing. The mediator, on the other hand, should be salient to resolve most disputes. Finally, the role of the catalyst should be important to keep perceived interdependence high with the expectation of high rewards and joint fact-finding.

Use of authority

Of all the rules that might be studied under the umbrella of institutional design- see for example the seven types of rules in (Ostrom, 2010)- we chose for our heuristic those more directly linked to decision-making in collaborative implementation, i.e., those about the use of authority, defining who is expected to make decisions when the consensus that is sought proves elusive. We want to observe if, and how, such authority is used.

The literature on collaborative governance reviewed incorporates situations where authority is present. For example, government agencies collaborate with non-state actors over whom they have authority (Ansell & Gash, 2008). Many of the interventions that leaders are expected to make in the models by Ansell and Gash (2008) and Emerson et al. (2012) demand the use of authority -granting access to participation- to solve differences between participants and so on.

A common form of authority is the presence of differences in hierarchy that give some organizations influence over the decisions of others. For instance, a ministry and an agency under the Ministry's supervision join a collaborative governance process or a collaborative project, here the Ministry has hierarchical authority over the agency. Another form of authority is contractual: one agency, ministry, or organization hires the help of another organization in a collaborative project to implement policy, in which decisions are expected to be jointly made. The contract, however, might be expected to limit the independence of the contracted organization. In this heuristic we focus on the influence of those forms of authority as "last resort" to put order and impose decisions when consensus is elusive, therefore, fostering progress. Of the four conditions expected to influence progress, this is the only one not expected to drive consensus but to drive progress in the absence of consensus.

What we did not theorize

There were some conditions addressed by authors in the collaborative governance or the implementation literature that we did not include in this heuristic given the need to prioritize a rather small number and explore them in some detail.

Regarding persistence, internal legitimacy and institutional arrangements are two of those conditions left out, but since internal legitimacy seems to be linked to trust we chose to analyze trust instead. Given that institutional arrangements are conceptually very broad, we decided to focus on one specific type of arrangements -those related to the use of authority, that we found to be more closely influencing progress. Finally, resources, one of the components of the capacity for joint action in Emerson's (2012) framework, can also be studied by researching perceived interdependence.

Regarding progress, we chose not to theorize a role for perceived interdependence like the one that Emerson et al. (2012) expect, since there is less support in previous research for this expectation than for its role in persistence (e.g. Ulibarri et al., 2020). We also chose to theorize a role for trust in persistence, but not in progress, despite frequent mentions in the extant literature of its effects in promoting exchange (Akkerman et al., 2012; Klijn et al., 2016; Uzzi, 1996). We considered that such

effects upon greater exchange need not translate into more frequent agreements, and its main effect would be keeping the communications open to solve any differences. We also chose not to theorize the influence of facilitative leadership upon persistence, where the role of the steward might be important, privileging its role in progress where the roles of mediator and catalyst (´t Hart, 2021; Ansell & Gash, 2012) seemed to be needed more. We also left aside the influence of other rules in institutional design, focusing only on those related to authority. These choices were made to settle on a rather simple heuristic whose empirical justifications could be explored in depth with a few cases, leaving it up to the analysis of cases to show us what changes in the theory are needed.

2.3.3. Propositions

At this stage, we can formulate two propositions derived from our review of the literature:

- (a) Proposition 1: the persistence of collaborative implementation in projects is explained by pathways where trust, perceived interdependence, or a broad mandate should be present.

- (b) Proposition 2: the progress of collaborative implementation in projects is explained by pathways where problem compatibility, leadership, or the use of authority should be present.

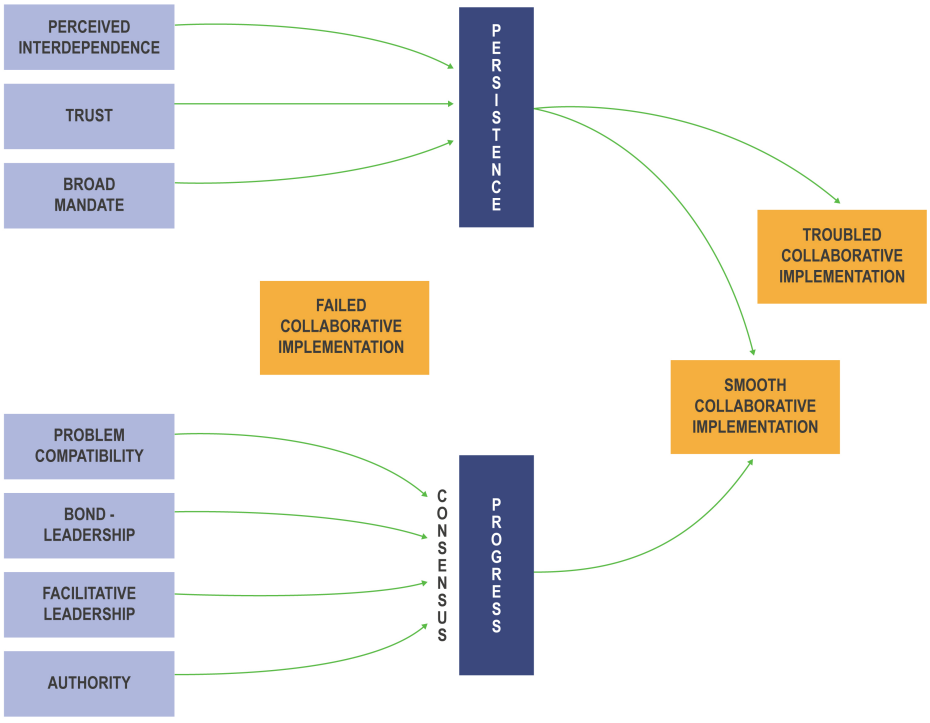
Propositions 1 and 2 are graphically represented in a figure (Figure 1) describing the heuristic of collaborative implementation. It shows how different levels of the conditions driving persistence and progress can result in three different outcomes, i.e. *smooth, troubled,* or *failed collaborative implementation*.

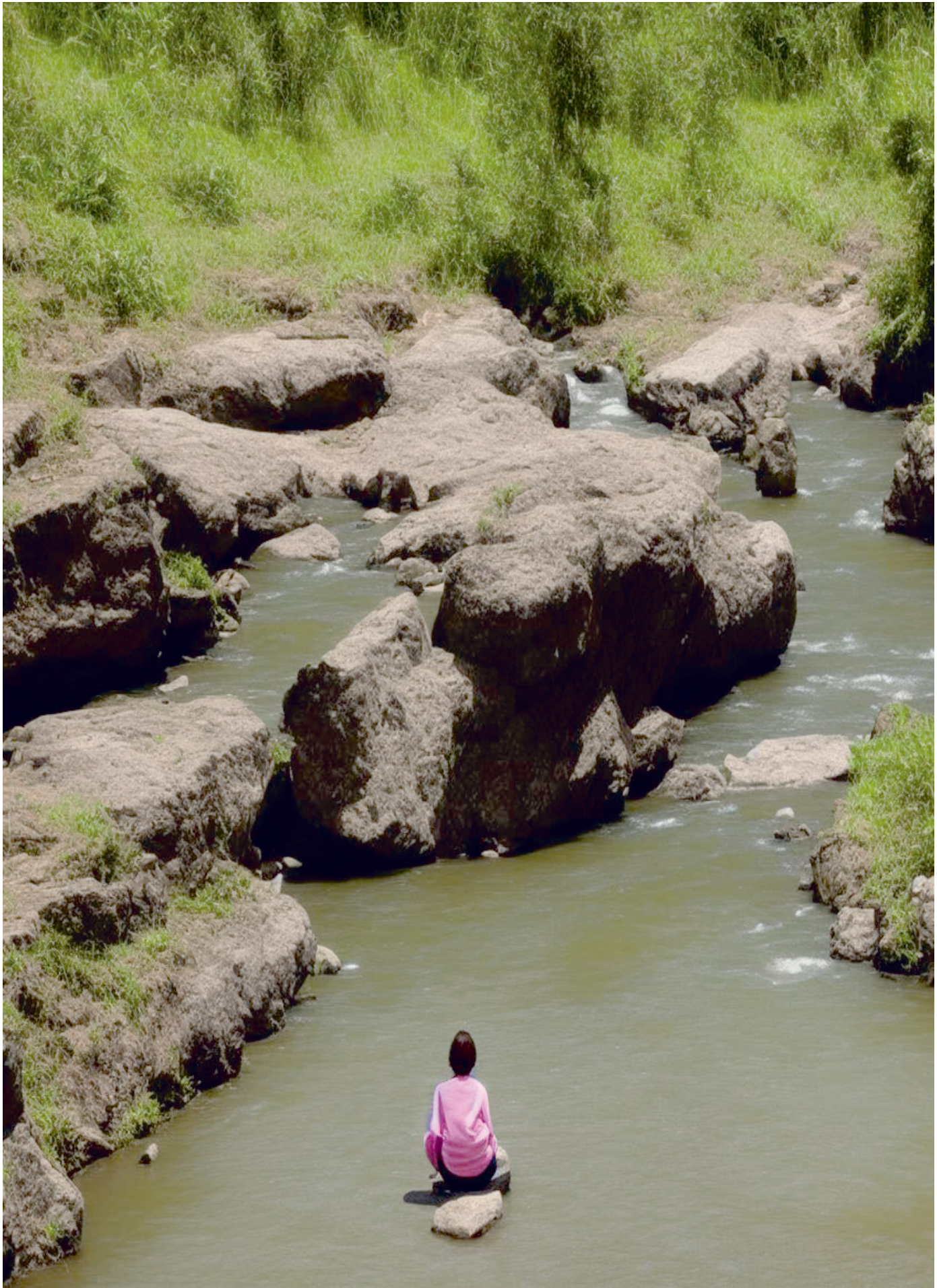
According to this heuristic, adequate levels of trust, perceived interdependence, or a broad mandate could lead to persistence, while adequate levels of problem compatibility, bond leadership. facilitative leadership or the use of authority could lead to progress. Both persistence and progress are intermediate outcomes, shown in blue boxes in the middle of the figure. Their combinations lead, through pathways shown in green, to one of the three possible destinations of smooth, troubled, or failed

collaborative implementation 4 (identified in yellow boxes). We will also call the latter consequences to be consistent with the terms that we will use in chapters 3 and 4.

Interestingly, the first among the final outcomes that we find in the figure is the one of *failed collaborative implementation*. It only occurs when none of the conditions that should lead to persistence and none of the ones leading to progress is present. On the other hand, if at least one of the three conditions expected to drive persistence and at least one of those driving progress -shown in blue boxes to the left side of the image- were present, the destination would be *smooth collaborative implementation*. And if at least one of those conditions driving persistence were present, but none of the conditions driving progress were present, the destination (consequence) would be *troubled collaborative implementation* (see Figure 1). We will revisit these explanations in Chapter 4.

Figure 1. Preliminary heuristic of collaborative implementation





CHAPTER 3

The Empirical Study of collaborative implementation

Chapter 2 ended with the presentation of two propositions aimed at answering our research question. Each proposition is identifying a number of conditions that are expected to influence outcomes regarding one dimension of collaborative implementation and ultimately lead to final outcomes of *smooth, troubled,* or *failed* collaborative implementation. This chapter presents the methods used in the empirical exploration of our propositions to be presented in Chapter 4. In the following sections, we will address the research design, followed by the explanation of criteria and techniques for case selection, data collection, data processing, and data analysis, to enhance the confirmability of our findings. We describe how a multiple-case replication design and an explanation-building analytic strategy build upon a detailed description of the cases that provides "thickness" (Geertz, 1973). Also, how cases will first be approached in groups comprising a project and its specific decisions, then through a cross-case analysis of them. Analyses of necessity and sufficiency that are useful for theory-building even with small numbers of cases will observe the presence of the individual conditions conceptualized as drivers in our heuristic, followed by a configurational, non-QCA analysis that will shed light on the pathways combining conditions relevant for persistence and progress and facilitating outcomes of *smooth, troubled*, or *failed* collaborative implementation.

3.1 Research Design: A Multiple-Case Replication Design with explanation-building

This research uses a multiple-case replication design (Yin, 2009, pp. 54-56) where several cases are analyzed to explore the empirical justification of the propositions derived from our reading of the literature. A multiple-case replication design is considered to offer more compelling evidence of the empirical justification of propositions than a single case, as well as the possibility of theoretical replication.

Three projects and five specific decisions within them were selected for analysis, making this a multiple-case study with embedded units of analysis (Yin, 2009), also called subcases (Miles et al., 2013). Projects are the main cases, while specific decisions within those projects are the subcases. An analytic strategy of explanation-building is used to cumulatively improve the robustness of our deductively-generated propositions with the findings from the theoretical replication, using several iterations -the sequential analysis of the different cases- to that end (Yin, 2009, pp. 142-145). Deduction and induction are thus combined in the analysis, as some methodologists (e.g. Miles et al., 2013) advise. The confirmability of the findings is increased by the continuous (re) evaluation of interpretations for the findings in the explanation-building exercise.

The aim is to explore the empirical justification for the two propositions presented at the end of Chapter 2 in relation to our research question on the conditions influencing the persistence and progress of collaborative implementation.

The first proposition (Proposition 1) refers to the conditions for persistence in collaborative implementation: the persistence of collaborative implementation in projects is driven by pathways where trust, perceived interdependence, or a broad mandate should be present. The second proposition (Proposition 2) refers, instead, to the conditions for progress: the progress of collaborative implementation in projects is driven by pathways where problem compatibility, bond-supported leadership, facilitative leadership, or the use of authority should be present.

Instead of direct replication, where findings are expected to be the same in the different cases, the search is for theoretical replication, where the theory anticipates differences between cases that should be associated with a variation in conditions. It is often called conceptual replication (e.g. Lucas et al., 2013). The use of theoretical replication demands diversity between cases regarding some specific, identifiable dimensions, to contrast the findings (Perry, 1998; Yin, 2009). The use of theoretical replication improves the credibility of our findings.

3.2 Case Selection

To apply theoretical replication, cases were selected according to their known outcomes of *smooth collaborative implementation*, *troubled collaborative implementation,* and *failed collaborative implementation*. Three projects were identified this way, having the combination of persistence and robust progress as characteristics of the *smooth collaborative implementation* case, persistence without robust progress as the mark of the *troubled collaborative implementation* case, and lack of persistence as the signature of the *failed collaborative implementation* case. These three projects were part of a larger, umbrella project, known by its Colombian counterparts as *Proyecto Holanda* (The Netherlands Project), whose goal was to implement Colombia's new Integrated Water Resources Management (IWRM) policy adopted in 2010.

Besides reasons of convenience sampling (Miles et al., 2013, p. 32) like easier access to information in the researcher's home country, studying collaborative implementation in Colombia is an opportunity to expand collaborative governance-related research in Latin America and, more broadly, in the Global South. In Latin America, contexts are different from those prevailing in Europe, the United States or Australia, where this research approach was developed. We expect our theoretical framework to be fully applicable in other contexts. Not only are administrative traditions different (see section 4.1) but State capacities are different too. Observing variation in outcomes within such a different polity context -with a different politico-administrative tradition, legislation, culture- should help us differentiate between outcomes driven by that context and those related to the policy context (IWRM), the project context, or the conditions in our heuristic.

There was only one case of *smooth collaborative implementation* at project level -the Cauca River Flood Control Project, and one case of *failed collaborative implementation* -the Basin Districts' Strategic Plan- within The Netherlands Project' six projects, making any additional selection procedure unnecessary. Conversely, four of the six cases in The Netherlands Project met the description of *troubled collaborative implementation*. The availability of information on the case was then the criteria to select among those cases, and the Chinchiná Basin Management Plan was selected.

After that first phase of case selection, a second phase took place to identify specific decisions for analysis as subcases. This was made after some familiarity with the cases was gained, through interviews and document analysis. The guiding criterion was finding the most diverging outcomes (extreme cases, see Gerring, 2006) among the specific decisions in each case. This is also known as the maximum variation strategy (Perry, 1998). These extreme cases within each project would help us refine our understanding, isolating the influence of the conditions in our heuristic from others in the context that would lead to within-project homogeneity.

Table 1. Cases analyzed according to outcomes

Outcome	Description	Locus
Smooth collaborative implementation	-Collaborative implementation persists (no partner participating in joint decision-making abandons it) -Robust progress (relatively timely, consensual decision-making)	Project: Cauca River Flood Control Project Specific decisions: Biological corridors (Cauca River), Biota (Chinchina River)
Troubled collaborative implementation	-Collaborative implementation persists (no partner participating in joint decision-making abandons it) -Frail progress (relatively timely, non-consensual decision-making) or meager progress (substantial delay)	Project: Chinchiná River Basin Management Plan Specific decisions: Detention reservoirs (Cauca River), Risk (Chinchina River)
Failed collaborative implementation	-Collaborative implementation does not persist (at least one partner participating in joint decision-making abandons it) -No or meager progress	Project: Basin Districts' Strategic Plan Specific decision: Baseline (Basin Districts)

Based upon Miles et al. (2013).

In all, the dissertation analyzed eight cases: The Cauca River Flood Control Project and two specific decisions within it, the Chinchiná Basin Management Plan and two

specific decisions within it, and the Water Districts project and one specific decision within it -there was only one specific decision to analyze, due precisely to the quick failure of collaborative implementation in it. (see Table 1 above). Although the analysis of only Colombian cases limits the external validity of our findings, comparing those findings later in the process with the extant literature will be helpful to reduce that gap.

3.3 Data Collection

In this section, we address the techniques used to gather data to answer our research question: How do different conditions influence the persistence and progress of collaborative implementation? We carry out an initial exploration of our propositions aimed at answering that question: (a) Proposition 1, stating that the persistence of collaborative implementation in projects is driven by pathways where trust, perceived interdependence, or a broad mandate should be present; and (b) Proposition 2, affirming that the progress of collaborative implementation in projects is driven by pathways where problem compatibility, bond-supported leadership, facilitative leadership or the use of authority should be present.

Data collected for the analysis at the level of the main cases -projects- included semi-structured interviews, where a conversation revolves around a set of pre-determined questions while new questions can emerge as a result of the dialogue between interviewee and interviewer (DiCicco-Bloom & Crabtree, 2006). Also, some narrative interviews, where the interviewee is asked to freely comment on a topic with minimum interruptions. Only after that, the interviewer can ask for clarifications, additional details or inputs, and conclude the interview (Anderson & Kirkpatrick, 2016). Data from the interviews (see the list of interviews in Annex 1) was analyzed together with umbrella-project and specific-project documents, including meeting records and progress reports (see Annex 2), terms of reference for the different projects, and additional information about the partners, their history, and their organizational characteristics. These documents were facilitated by the partners in each one of the three projects researched (Cauca River, Chinchiná River, and Basin Districts).

More narrative interviews were added to the data sources to carry out the analysis of specific decisions (subcases): the Biological Corridors and Detention Reservoirs Decisions within the Cauca River case; the Biota and Risk Decisions within the Chinchiná case, and the Baseline decision within the Basin Districts case. The semi-structured interviews followed a protocol described in Annex 4, while the steps for narrative interviews are described in Annex 5.

Given their strengths in identifying meaning (Ospina, 2005), narrative interviews provided a rich source of data for interpreting (Geertz, 1973; Yanow, 2000) the partners' problem definitions, decision criteria, and judgments on knowledge validity and reaching conclusions on problem compatibility. They also facilitated the triangulation of observations on trust, perceived interdependence, bond-supported leadership, and facilitative leadership.

These methods are well-suited for the detailed analysis of a small number of cases that can be documented at length and lead to theory-building (George & Bennett, 2005; Yin, 2009) which is the goal of this dissertation. Further research aimed at confirming some of the revised propositions that will emerge from this exercise may need different methods to collect data from larger numbers of cases and actors.

3.4 Data Processing

Data processing refers to procedures used to transform "raw data" collected in interviews and documents into observations that the analysis methods can use (Miles et al., 2013). It starts with steps to improve data reliability, often including interview transcriptions in the case of qualitative research like this (Gibbs et al., 2012), and ends with the definition of a codebook to guide the analysis (Bouma & Ling, 2004) and the coding itself. This was made with due awareness that the data were "small, very textured facts" (Geertz, 1973, p. 321) from which the researcher would reach conclusions through interpretation.

To ensure data reliability, professional transcriptions were written of the in-depth semi-structured and narrative interviews, with each transcript then checked against

the recordings for accuracy. Those transcripts, in Spanish, have been kept for review. After the transcription of those interviews, the second step was organizing them and the other materials for the analysis of the different cases -project meeting minutes, project reports, and policy documents- together to facilitate the analysis (Sandoval-Casilimas, 1997). Notes from the initial, brief, semi-structured interviews for each case that were not recorded were kept by the researcher.

The third step was operationalizing the conditions, defining the situations in which the researcher could consider they had been observed to create the codebook (Bouma & Ling, 2004). It was progressed always keeping in mind that the main goal was to empirically explore the conditions already identified in the heuristic presented in Chapter 2 rather than inductively identifying new ones. To develop the coding protocol, specific references from the literature were chosen to define each condition and, after those general definitions of the conditions, more specific definitions were written for the dichotomization of observations. Descriptions were made of what a high or low presence of each condition would look like, or, in the case of the mandate, how a narrow or a broad mandate could be observed. The coding protocol was first designed and tried in the first documents. Thereafter, it was adjusted following modifications suggested by the project supervisors and resulting from the learning process of the researcher (Miles et al., 2013, p. 82). The modified version was then applied to all the documents (see Annex 3, condition coding protocol). The only coder available was the researcher and this is a limitation of the research. Here, the definition of a threshold for the outcome of smooth collaborative implementation as less than a 50 percent delay was one of the most difficult decisions given the lack of literature to guide it (Ragin, 2000). There was no information on average time delays in projects in Colombia, nor a known international reference in this respect. Flyvbjerg, Skamris Holm, and Buhl (2004) work on average cost overruns in different regions of the world was the only relatively valid comparison, and their observation led to setting the 50 percent threshold. The software used to aid the analysis of interviews was Atlas.ti 7.5 -later updated to 8.1.

Coding itself was organized into several sub-steps: (a) an initial reading aimed at understanding the general content of the interviews and the documents, followed by (b) a second reading of the verified transcripts to identify the themes discussed in each

case. Then (c) a third reading to code the presence of the conditions in the heuristic in each case. This involved counting the total number of situations where each of the conditions was present in each project or specific decision, and reflecting on their relevance, according to a dichotomization between "high" and "low" levels of the conditions. In all situations they were found in interviews and documents. Pattern identification (Miles et al., 2013) was used to decide on the low/high level of the conditions in each case since the goal was to empirically explore those conditions already identified in the heuristic presented in Chapter 2. Procedures were devised for three situations: (1) If the assessment regarding the high or low presence of the condition in the case was the same from both sources, the result was considered final. However, if (2) there were discrepancies between reports from the coded documents and interviews, priority was given to observations from the interviews since they were expected to represent the opinions of the partners more reliably in the cases researched. To do this comparison, only observations regarding those partners identified in each case as making the main decisions were considered -this practice has been used in other research on collaborative governance. For a recent example see Ansell et al. (2020). Finally, if (3) there were discrepancies between versions of the key partners in the interviews, the version matching better with the evidence in coded documents was selected as the correct one. All these steps for coding were supported by ample descriptions of the cases (see Chapter 4), trying to ensure that some thickness in the description (Geertz, 1973) provides us with accuracy in our grasping of meaning.

There were some differences between the observation of conditions at project level (case) and specific decision-level (sub-case). Project compatibility could be observed in its three dimensions for specific decisions thanks to data from narrative interviews. At project level more, dispersed observations, were made by comparing ratios between observations of agreement and disagreement in meeting minutes, which were a more reliable source of information for the complexity of several decisions within each case. Sometimes it was possible to observe changes in conditions between two specific decisions within the same case -for instance, declines in trust in the detention reservoirs and the risk decisions or the decline of perceived interdependence during and after the Baseline Decision. In other situations, when a change in the condition was not observable, the interpretation made for the general case was kept for the specific decision.

It is fair to acknowledge the critiques in the literature of the use of dichotomization- that it may lead to losing information on the cases and, perhaps, to wrong diagnoses if the thresholds are not properly set. It is also true, on the other hand, that configurational analyses look for the differences between cases, and dichotomization makes the identification of those differences easier. Also, for the specific type of data in this research, it is more practical to look for the presence, or not, of trust, bond-supported leadership, facilitative leadership, or problem compatibility between partners in collaborations than to treat those as interval variables (Rihoux & Ragin, 2009).

3.5 Data Analysis

In this section, we assess whether the conditions expected in *smooth, troubled,* and *failed* collaborative implementation in our heuristic (see section 2.3) are indeed the ones present in the projects and specific decisions in our cases for the different types of collaborative implementation. This way, our theoretical framework informs the analysis (Yin, 2009). This is made with the full awareness that, when analyzing most of our conditions, we are "guessing at meanings, assessing the guesses, and drawing conclusions from the better guesses" (Geertz, 1973, p. 318) in a journey to find meaning (Miles et al., 2013) rather than reaching strong explanations of the phenomena observed. At the same time, we departed from the steps advised by Yanow (2000), for instance to identify interpretive communities. This is since we are more interested in understanding multiple specific decisions in collaborative implementation than positions vis-à-vis a unique policy issue.

We analyzed two propositions:

- (a) Proposition 1, stating that the persistence of collaborative implementation in projects is driven by pathways where trust, perceived interdependence, or a broad mandate should be present.

- (b) Proposition 2, affirming that the progress of collaborative implementation in projects is driven by pathways where problem compatibility, bond-supported leadership, facilitative leadership, or the use of authority should be present.

According to our heuristic, outcomes of *smooth collaborative implementation* should be driven by the presence of at least one of the conditions in Proposition 1, related to persistence, and at least one of the conditions in Proposition 2, related to progress. Besides intermediate outcomes of persistence and progress, however, *smooth collaborative implementation* requires intermediate outcomes of consensus for progress to be robust. Problem compatibility is expected to be the main driver of consensus. By contrast, outcomes of *troubled collaborative implementation*, where progress is expected to be frail or meager, should be driven by the presence of at least one of the conditions in Proposition 1, driving persistence, while all the conditions in Proposition 2, related to progress, should be absent. Consensus is not expected to be present in *troubled collaborative implementation* since its troubled nature is considered to be related to contestation. Finally, outcomes of *failed collaborative implementation* should concur with the absence of all the conditions in Proposition 1 and all the conditions in Proposition 2, and consensus is not expected to be present in them.

Our first step to prepare the analysis was to organize the cases around the main units of analysis, the projects: The first group of cases comprised the main case and the two subcases for the Cauca River Project; the second group, comprised the main case and two subcases of the Chinchiná River Project; and, finally, the third group comprised the main case and the only subcase in the Basin Districts Project, where only one specific decision could be researched given the rapid failure of the collaboration.

After that first step, we used a combination of methods for the empirical exploration of our propositions: First, and based upon the detailed descriptions of the cases, we looked for the presence and real influence of each one of the seven conditions in our heuristic in each one of the eight cases. This is addressed in sections 4.2.4, 4.3.4, and 4.4.4. Second, only after that analysis of individual conditions in individual cases, and following our explanation-building strategy, we carried out cross-case sufficiency, necessity, and configurational analyses within each one of the three groups of cases, using each iteration to refine the observations made in the previous one with the new evidence. These analyses are found in sections 4.2.5, 4.3.5, and 4.4.5, with the last one presenting the aggregated results after analyzing all the main cases and subcases. Third, we reflected on the implications of our findings for the heuristic presented in Chapter 3, reflections that are presented in section 4.5.

Sufficiency analysis is, as highlighted, another way to address the question of how strong relations of causality are. This is precisely the case when we have a heuristic, like the one presented in Chapter 2, expecting a series of relations between conditions and outcomes. The main notion is coverage. In this case, how much are the conditions driving persistence or progress in our heuristic, a subset of the outcomes of persistence or progress in collaborative implementation. The expectation is not that the coverage is perfect, but that it is wide enough. If the condition leads to an outcome (almost) every time it is present, it is considered sufficient. However, if it only sometimes leads to the outcome, sometimes not, it is not considered sufficient. The main debate currently is about the exact dimension of the coverage. Some authors (Rihoux & Ragin, 2009) consider 0.8 a good consistency level, while others (Vis, 2012) advise higher thresholds. Robust sufficiency is a concept currently debated (Baumgartner, 2021; Dușa, 2019). In this theory-building research, however, the small number of cases per outcome leads us to take a conservative approach: a condition is only considered sufficient if it leads to the outcome every time it is present.

Third, we carried out cross-case necessity analyses, identifying which conditions had to be present for persistence or progress to occur in the different cases. The combination of necessity and sufficiency analyses gave us inputs to evaluate the empirical support for each of our propositions that were related to each of the two dimensions of collaborative implementation: persistence and progress. Second, necessity analysis aims to identify the conditions that were present every time the expected outcome was present -necessary conditions- while excluding from that group those considered trivially necessary (Braumoeller & Goertz, 2000), which lack explaining power upon the outcomes analyzed. If we once again use the logic of sets of Charles Ragin (Ragin, 2000) we could say that the necessity analysis looks for strong relations of causality by asking how much the outcome is a subset of the cause. In our cases, it is looking at the extent to which outcomes of persistence and progress are subsets of the conditions predicting persistence and progress in our heuristic.

A great challenge in necessity analysis is discarding triviality. One example is the analysis of necessary conditions for war, identifying non-democratic regimes as a necessary condition, for a period of time like the XVIII century where almost all the governments in the world met that description (Braumoeller & Goertz, 2000, pp. 854-

856). Necessity analysis needs to be theory-informed and is, therefore, more suitable when it starts with a theory-informed heuristic like ours.

Fourth, to identify the pathways combining conditions relevant for each dimension that would lead to *smooth, troubled,* or *failed collaborative implementation*, we carried out configurational analyses, including the pathways conditions that were neither necessary nor sufficient for an outcome, but were still compatible with it.

Conjunctural causation has been described in terms of one variable leading to different, or even opposite outcomes depending on context (Fischer & Maggetti, 2017) but such a description may not capture the main proposal of the approach. The invitation, according to Ragin is "simply to abandon the idea that variables should be seen as independent, separable aspects of a case. Instead, variables should be seen as the components of configurations" (Ragin, 2000, p. 74). Those configurations, in turn, are historically specific conjunctures of causal mechanisms (Aus, 2007). At a given point in space and time, they combine in ways that lead to an outcome. This is how they become pathways.

As Becker (2000, p. 208) put it when explaining this approach championed first by Charles Ragin "…variable X1 has an effect, but only if variables X2 and X3 and X4 are also present. In their absence, X1 might as well have stayed home".

Configurational analysis allows for the explanation of opposing forces influencing an outcome: The presence or absence of one causal mechanism can "level out" the impact of another (Aus, 2007, p. 11). Braumoeller Bear (2003, p. 211) presents conjunctural causation as one of the building blocks of several approaches to causal complexity, all of them sharing that:

> …complexity implies a particular form of nonadditivity that arises from the nature of the accumulation of the impact of the independent variables on the dependent variable: the presence or absence of one independent variable mitigates-or in the extreme, nullifies- the impact of another.

This configurational analysis is uniquely positioned for case research (Fiss, 2007, 2009; Ragin, 2004), since cases are configurational by nature -they are combinations

of attributes. A particular method of configurational analysis (Qualitative Comparative Analysis, or QCA) developed by Ragin (Ragin, 2000; Ragin, 2008; Rihoux & Ragin, 2009) is becoming increasingly appreciated by researchers in the social sciences and has been successfully used to investigate implementation (Verweij, 2015; Verweij et al., 2015) and collaborative governance (Douglas et al., 2020b).

In this investigation, given the abundance of conditions being researched -seven- the number of cases required for a QCA was very high. Standards for the use of QCA dictate that the number of cases should be K^3 -the number of conditions powered 3 times (Rihoux & Ragin, 2009; Schneider & Wagemann, 2010; Schneider & Wagemann, 2012). For our seven conditions, that would have meant 343 cases. This is particularly challenging when the analysis requires qualitative exploration of documents. We found three alternatives to choose from: (a) Limiting the number of conditions researched, thus quitting to find a comprehensive understanding of collaborative implementation; (b) Attempting the research of a very large set of cases by perhaps adapting the operationalization of our conditions in a radical way; (c) Maintaining a relatively large number of conditions to be observed with a relatively small number of cases, as a theory-building exercise that allows for follow-up research. We chose the third one.

We opted, then, for a less stringent approach to the same Boolean analysis used by Ragin in earlier works (Ragin et al., 1984) where the building blocks are the same. That is, cases classified according to outcomes, relevant conditions identified in the literature, conditions observed in the cases and then dichotomized -the high or low presence of the condition- to finally identify configurations.

It is important to highlight that the configurational analysis in this research was aimed at complementing the findings from the necessity and sufficiency analyses by identifying the full pathways that lead to the outcomes, beyond the necessary or sufficient conditions in them. It was not meant to look for the most parsimonious expressions of causality, but instead to find conditions that were not needed or even sufficient, yet still are compatible with the outcomes. Configurations were observed to know what is possible in the relationship between a given condition and an outcome, including all situations where the outcome does occur (Dușa, 2019). This analysis of configurations also informed us about what configurations should not be expected to lead to one of the three outcomes we were investigating.

Sufficiency/necessity analyses, on the one hand, and configurational analyses, on the other hand, start from different assumptions about causation. It is the result of the individual influence of conditions for sufficiency/necessity analysis or the result of a combination of conditions in a specific moment in time for configurational analysis. Sufficiency analyses are used currently, however, as part of the analytic repertoire of the increasingly popular QCA (Qualitative Comparative Analysis) approach. A sufficiency analysis, for example, was recently used to identify the conditions in pathways leading to collaborative governance performance (Douglas et al., 2020b).

The findings of this empirical exploration will be shown in section 4.5 in the familiar form of a predictor-outcome-consequences matrix inspired by (Miles et al., 2013).It sums up our findings about the influence of each condition, and the different configurations of conditions, upon the dimensions of persistence and progress. It shows consensus (intermediate outcomes), and the development of *smooth, troubled* or *failed collaborative implementatio*n that are the consequences. Table 2 shows the structure of the proposed matrix. Finally, we will later compare our findings with those of the extant research. Therefore, enhancing their external validity.

Table 2. Structure of the summary of configurations (pathways) to be shown in section 4.5.

Consequences	**---Intermediate outcomes---**			**Conditions**						
(*Projects* and decisions)	**Persistence**	**Progress**	**Consensus**	**Broad mandate**	**Trust**	**Perceived interdependence**	**Problem compatibility**	**Bond-leadership**	**Facilitative leadership**	**Use of authority**
Smooth Collaborative Implementation *Cauca River* -Biological Corridors										
Troubled Collaborative Implementation -Detention Reservoirs Chinchina -Risk -Biota										
Failed Collaborative Implementation *Basin Districts* -Baseline										

Based upon Miles et al. (2013)

CHAPTER 4

Understanding smooth, troubled, and failed collaborative implementation in three Cases in Colombia

In this chapter, the analytical strategy of explanation-building outlined in Chapter 3 will be applied to the analysis of the conditions present in three different outcomes of collaborative implementation. The chapter starts with a description of the water challenges faced by Colombia, the IWRM policy devised to face them, and the pilot project for the implementation of that policy. Then, the cases are presented: one project showing overall *smooth collaborative implementation*, one showing overall *troubled collaborative implementation*, where the collaborative implementation persisted but was highly delayed, and finally one project with *failed collaborative implementation*. Five specific decisions are also analyzed. Two of them with opposite outcomes within the project with *smooth collaborative implementation*. Another two with contrasting outcomes within the case with *troubled collaborative implementation*. Then, a last one, the only one that could be identified and documented within the case with *failed collaborative implementation*. This allows us to refine our understanding of the different conditions in our heuristic beyond what the general outcome of each case suggests.

4.1 Colombia's water challenges and the IWRM response

In this first section of the chapter, we address the context of our cases: The paradox of a very water-rich country with millions of its citizens enduring water scarcity or quality problems. Added to this, the IWRM policy that was drafted to solve those problems, the challenges of implementing collaboration-based policies within an adverse politico-administrative tradition, and the pilot project that attempted to do so.

4.1.1 A water-rich, water-stressed country

Colombia's 2018 National Water Survey, carried out by the country's Hydrology and Meteorology Institute (IDEAM) affirms that, in only 0.7 percent of the world's continental space, the country concentrates 5 percent of the planet's water wealth (IDEAM, 2019). The country is consistently ranked among the world's most water-rich countries measured by renewable internal freshwater resources per capita. That is, the part of water resources consisting of internal river flows and groundwater from rainfall for each inhabitant in the estimated population.

The same hydrology institute, IDEAM, warns that despite the country's weather wealth, precipitations vary widely between humid, average, and dry years. In dry years, rainfall is half than in average years and a fourth of humid years. Besides, rainfall varies across the Colombian geographical regions. The larger centers of the agriculture and fishery industries have sprung in regions where water supply is less favorable. Therefore, they face considerable risks in water availability and quality in extreme weather conditions, like drought or heavy rains, that have become more frequent.

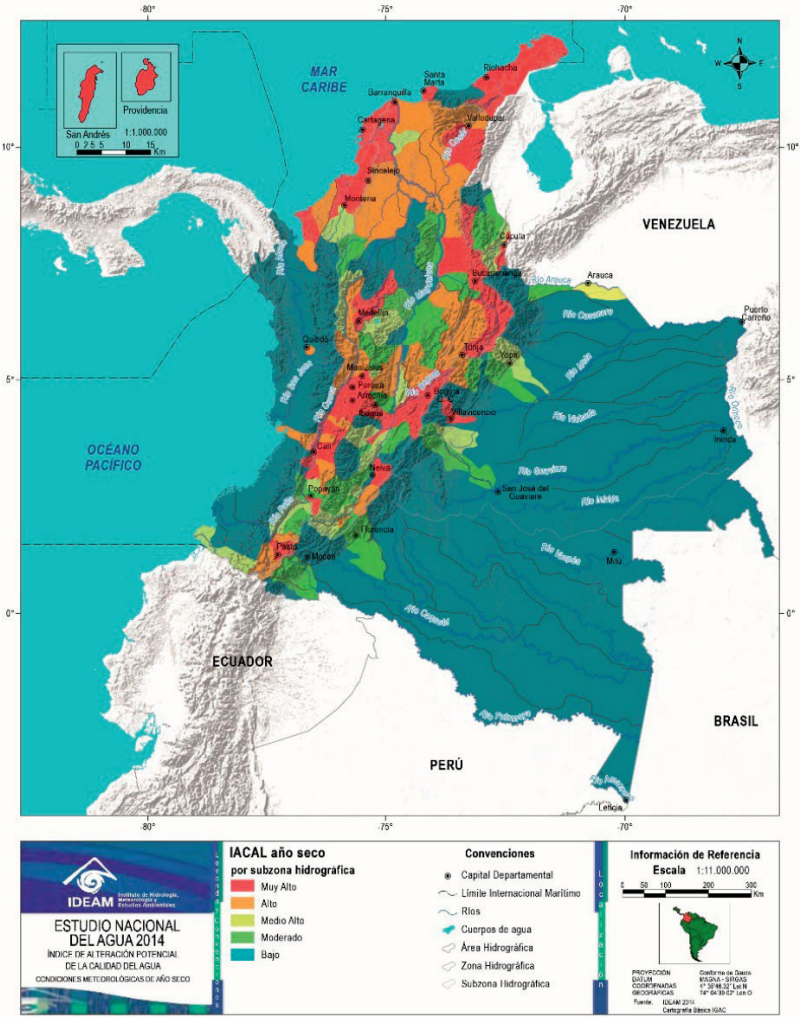
Higher climate variability has caused massive floods, like those associated with the so-called "Winter Wave" in 2010-2011 that left thousands of people temporarily displaced from their homes and generated billions of U.S. dollars in losses. It has also caused droughts like the one in 1992 which affected 90 percent of the territory and led to months of power cuts. In 2016, another drought affected 85 percent of the territory. In 2018 IDEAM estimated that 3.2 million people were highly exposed to floods, some 7 percent of a population of around 45 million.

Besides water supply problems there are water quality problems. A significant fraction of the water in Colombian rivers is not usable for human consumption, since those rivers receive and carry wastewater from different social processes, not adequately treated for the most part. Furthermore, they are the receptors of large volumes of sediment originating from erosion, be it of a natural or human origin. Human intervention is largely responsible for these threats to water supply and quality. A report by the UN Economic Commission for Latin America and the Inter-American Development Bank on the large floods that hit Colombia in late 2010-2011 blames human activity for one-

third of the erosion in the large basins which were more affected. This erosion, in turn, created the conditions for the heavy floods (CEPAL, 2013).

Figure 2 below represents the challenges for water quality in Colombia, as analyzed by IDEAM. Almost all major cities, including the capital Bogotá, face high water-quality risks in a dry year.

Figure 2. Colombian areas with expected low water quality in a dry year



(IDEAM, 2014)

Pesticides used in agriculture are also an important source of pollution. Human-originated pollution has been reducing oxygen in the river waters, affecting their natural life and limiting the possibilities for renewed human consumption. High levels of organic contamination have been found in rivers like the Bogotá, Cauca, Pamplonita, and Pasto, which serve some of the country's biggest cities.

One of the main reasons for such contamination was the presence of industrial corridors in river basins and "the alteration of most of the Colombian hydric system due to the transportation of sediments and toxic substances" (IDEAM, 2015, p. p.14). Meanwhile, the ever-growing main cities keep demanding more water.

The available offer to supply the big concentrations of demand, in particular, those corresponding to the largest cities (Bogotá, Medellin, and Cali) is based upon complex storage and transportation systems. To satisfy surging demands, those systems turn to ever-more distant sources, including transfers from other basins in some cases. (IDEAM, 2015, p. 17).

With those inputs Colombia's Hydrology Institute (IDEAM), predicted that by 2025 dozens of the country's 1,100 municipalities will be suffering from water scarcity in an average year, affecting some 3 million people. The figure could climb to some 700 municipalities in a dry year, with over 20 million people at high risk of experiencing water shortages.

4.1.2 IWRM and collaborative governance as solutions to water challenges

To face its water challenges, in March 2010, Colombia adopted an Integrated Water Resources Management (IWRM) policy introducing collaborative governance to water management. The following sections explain IWRM, introduce Colombia's specific context, and begin the analysis of collaborative implementation at project level, for three pilot projects supported by the Dutch embassy and Colombian national and local partners.

Concern about water quality and supply has been increasing throughout the world for a generation now. In 1992, parties to the United Nations Conference on Water and the Environment meeting in Dublin declared:

> …human health and welfare, food security, industrial development and the ecosystems on which they depend, are all at risk unless water and land resources are managed more effectively in the present decade and beyond…(ICWE, 1992, p. 11)

Facing those dire prospects, the same conference embraced Integrated Water Resources Management (IWRM) to guarantee access to water for all, in a way that is sensitive to different priorities, taking health concerns into account.

The 1992 Dublin Declaration (ICWE, 1992) set four basic principles for IWRM:

1. Freshwater is a finite and vulnerable resource.
2. Water development and management should be based on a participatory approach.
3. Women play a central part in the provision, management, and safeguarding of water.
4. Water has an economic value in all its competing uses and should be recognized as an economic good.

At least two other streams have irrigated the fields of IWRM. These are the Global Water Partnership perspective, which emphasizes the need for coordination, and the Adaptive Management perspective, which emphasizes the relevance of complexity in water management. Adaptive management also stresses the importance of institutions and the links between science and policy decisions (Lubell & Edelenbos, 2013). One common priority in all perspectives is stakeholder participation, which reflects complexity, allows coordination to operate, and represents diverse knowledge.

The Global Water Partnership, perhaps the main non-governmental champion of IWRM in its early stages, defines it as a coordination process. This is since it promotes the coordinated development and management of water, land, and related resources, maximizing economic development and welfare while protecting ecosystems (GWP, 2000). Another well-known training manual highlights that IWRM:

> "calls for a broader and more systemic approach to water management. Implementing it can require reforms of water management laws, institutions, and regulatory systems, and capacity building at a range of levels. It aims for more coordinated use of land and water, surface and groundwater and up/ and downstream users" (WGF, 2011, p. 12)

A great deal of the interest in IWRM from the social sciences – and indeed, the main reason for studying it in this dissertation- comes from its collaborative dimension (Lubell & Edelenbos, 2013; Margerum, 1999).

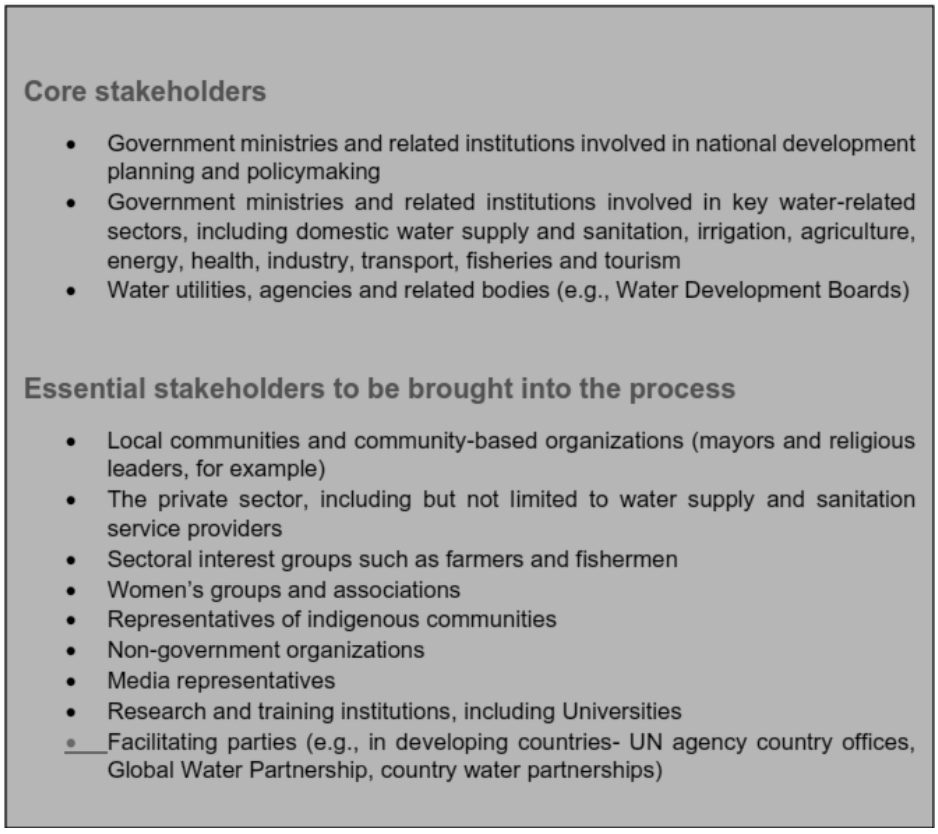
A large part of the Public Administration literature would rather use the term collaboration, instead of coordination, to describe what is expected from IWRM. Collaborations focus on the long term, and they are more often formalized than other, softer forms of integration like cooperation and coordination. Regarding decisions, members of collaborations share decision power to a larger degree than those in exercises of coordination – where there is "some element given to joint effort and joint planning" (Keast et al., 2007, p. 27). Agreement is more necessary in collaborations.

A similar position is found in McNamara (2012) who defines coordination -the term used by IWRM manuals- as "an interaction between participants in which formal linkages are mobilized because some assistance from others is needed to achieve organizational goals". On the other hand, collaboration is about "participants who work together to pursue complex goals based on shared interests and a collective responsibility for interconnected tasks which cannot be accomplished individually" (p.391). In collaboration, like in IWRM, joint decision-making is expected.

Sandfort and Milward (2009) also share this scale but specify that "collaboration can occur through multiple mechanisms, such as integrating staff, joint planning, or joint budgeting" whereas coordination is about organizations trying to "calibrate" their actions, while remaining autonomous (p.154).

IWRM aims at replacing several sectoral decision centers on water -agencies related to agriculture, sanitation, and housing- with comprehensive, agreed-upon water plans with active participation from stakeholders. These include different government stakeholders, with those very sector agencies among them (Cap-Net, 2005). It is, then, a collaborative approach. See Figure 3 below:

Figure 3. The role of stakeholders in IWRM



(Cap-Net, 2005, p. 48)

In fact, in several countries where IWRM has been developed since the 1990s, one of its key components has been the creation of river-basin governance bodies in a way that fits the definition of collaborative governance as Ansell & Gash (2008) present it (see Chapter 2).

Collaboration is seen as the way to create solutions "across political boundaries and public policy sectors" (Heikkila & Gerlak, 2016, p. 180). It is also an opportunity to better understand the nature of the problem -by incorporating several views- as well as a tool to reach provisional, agreed-upon solutions. Finally, and interestingly, it is seen as an enabler of implementation because "it enables mutual adjustment" among partners "as problems arise in putting the agreed solution into practice" (Head & Alford, 2015, p. 18).

4.1.3 IWRM efforts and a State-centric politico-administrative tradition

The Colombian quest for IWRM started in the 1990s, right after the Rio-Dublin process accelerated the adoption of the framework. It reached a peak in the IWRM policy of 2010, but it has also faced numerous challenges originated in the country's context and its administrative traditions.

The Colombian government has acknowledged the need to address the growing concerns about water supply and quality for quite some time. Shortly after its creation in 1993, following the United Nations Conference on the Environment and Development (1992), technicians at the Ministry of the Environment and Sustainable Development identified IWRM as the adequate approach to water governance.

A brief review of Colombia's steps on the implementation of IWRM includes the following:

1996: The Ministry of the Environment issues guidelines on IWRM that lead to no substantial changes in water governance.

2002: At the Johannesburg World Summit on Sustainable Development, Colombia is among 200 national governments committing to develop integrated water resources management and water efficiency plans by 2005. The plans would include regulation, monitoring, land-use management, and cost-recovery which should not become a barrier to access to safe water by poor people (UN, 2002)

2005: The Colombian government, following up on its Johannesburg commitments, submits to Congress a draft bill setting up "the regime for the integrated management of all hydric resources and comprising all waters, in any of their states and shapes, that are in the jurisdiction of the Colombian state" (MADS, 2005, p. 11). If there remained any doubt about the inspiration, the following paragraph, still in article 1, clarified it:

> "The integrated management of hydric resources corresponds to the orderly and planned set of activities aimed at the management of water and its interrelation with the other renewable natural resources and elements in the environment, to foster sustainable development…" (p.11).

The norm dealt with water allocation in a language that prioritized human health and sanitation needs, creating river basin governance mechanisms –the river basin councils- and river basin governance plans – POMCAS- for their Spanish acronym (MADS, 2005, p. 55). The bill faced stiff opposition, however, mostly because of its goal to create water markets lacking enough safeguards to preserve the consuetudinary rights of indigenous groups and communities (Rodríguez Becerra, 2005). The insufficient protection measures could have led to costly legal battles with international water companies (Gupta & Leendertse, 2005; Rodríguez Becerra, 2005).

2006: After the defeat of the Water Law in Congress, the government turns to the Plan Nacional de Desarrollo (National Development Plan, NDP for its English acronym) as the tool to introduce an IWRM policy in the country. The NDP is the quintessential policy document of national governments in Colombia. It translates an elected government's more important campaign promises, and some of the bureaucracy's main priorities, into law with significant financial resources attached to it. After the failed attempts of 1996 and 2005, the 2006-2010 National Development Plan was the path to finally develop a national policy on integrated water management. The 2006-2010 NDP included the decision to develop an IWRM policy for the country, which had to be completed by 2010 because that was the end year of the NDP's mandate.

The NDP commanded the Ministry to work with the National Planning Department (DNP), the Institute for Hydrology, Meteorology and Environmental Studies (IDEAM), and

> "other relevant actors" to "guide the integrated management of hydric resources, including surface water, groundwater, and marine waters. To that end, they would need to establish goals and strategies for the efficient use of water and the prevention and control of hydric contamination, taking into account and harmonizing social, economic, and environmental themes" (DNP, 2006, p. 353).

For the plan, "environmental management ought to be organized around integrated water management" (DNP, 2006, p. 349), and IWRM was one of the six "structural themes" for environmental management in the following years (p. 350). Priority would be given to river basins that were tributaries to the Magdalena and Cauca rivers -the largest ones in the country's heartland.

2010: Colombia adopts an Integrated Water Resources Management (IWRM) policy. The Ministry spent three years gathering information for the formulation of the policy, with an active role for stakeholders. They included regional environmental agencies, community organizations, business organizations, especially those related to agriculture and cattle raising, NGOs, universities, international development organizations, and the National Department of Planning (MADS, 2010). Commissioned studies included, but were not limited to:

a. A road map for the incorporation of Integrated Water Management in Colombia.

b. A logical framework of action for the National Hydric Plan.

c. A strategic contamination appraisal providing guidelines for controlling water contamination.

d. An estimation of the costs of hydric contamination.

e. e. A survey to regional environmental authorities on water planning and management, water basins, and water conflicts.

f. An evaluation of the implementation of water use fees.

g. Recommendations for incorporating gender equality in water management.

h. Collective construction of a “water culture”.

i. A diagnostic of the analytical capacity of the labs in regional environmental agencies.

j. National and international experiences in the use of residual waters and the handling of water contamination.

k. The creation of water basin councils.

l. A program for identification and management of socioeconomic conflicts (with an emphasis on water).

After all those diagnostics, the decision made in March 2010 was ready to be implemented. At that point, the Dutch Embassy, which had a water management expert within its team and had sponsored the development of the Policy (MADS, 2010), approached its Colombian counterparts. They offered to support pilot projects for this implementation (UmbrellaProject1,15/03/2017, WaterDistricts4,09/12/2014), that could generate knowledge for a wider national IWRM effort. That was the setting where the cases that we will study in the following sections started to be discussed. It was also the scenario where Colombia's context and politico-administrative system became more influential for the future of IWRM. At this point, a brief analysis of the context can inform the in-depth analysis of conditions in projects and specific decisions within those projects that we will take on in the following sections of this chapter.

Research has found that context has a significant influence on the success of IWRM implementation (Boer & Bressers, 2011; Casiano, 2017). Lubell and Edelenbos (2013) find that different dimensions of integration in water management are affected in different ways by context. Functional integration, for example, considers simultaneously the different water functions of flood management, water supply, water quality, biodiversity, and land use. This is more difficult to achieve in developing countries that are still in the early stages of natural resources development. Social integration -participation, stakeholder engagement- is influenced by the strength of the technocratic approach to decision-making and by levels of decentralization. Institutional integration -coordinated decision-making across different geographical, hydrological, and jurisdictional scales- is easier to achieve where there is some level of centralization, introducing an apparent contradiction with the needs of functional integration.

In this research, more than just levels of centralization, it is the normal way of conducting Public Administration -the politico-administrative tradition- that is expected to influence the implementation of IWRM. And not necessarily because of the weaknesses of the State that some authors (Cejudo et al., 2019) have rightly pointed out when explaining several failures of policy implementation in Latin America. They refer to the absence, not in theory, but in practice, of a Rechstaat where rules are followed, and infractions punished. Also, to the lack of professionalism in bureaucracies, and the lack of trust of citizens in their governments. Public Administration acknowledges that politico-administrative systems influence the way governments act (Ongaro, 2013; Pollitt &

Bouckaert, 2011), and, paradoxically, problems in collaborative implementation may emerge *because* those politico-administrative systems do operate.

Colombia's Public Administration can be classified within a subset of the Rechstaat tradition that has been called the "Napoleonic" administrative tradition (Ongaro, 2013; Painter & Peters, 2010; Peters, 2008). The Napoleonic tradition is distinguishable by its emphasis on law, formality, and uniformity in Public Administration. It embraces a "more organic conception of the state, with the state conceived as a means of integrating society" and ascribing "less of an autonomous role to society and citizens with the state having an obligation to defend society" (Peters, 2008, pp. 121-122). In the France described by Chevallier (1996) the State had its special status guaranteed by the power of legal dogma, rather than the British notion of the rule of law. Since the State is "the incarnation of general interest" (Chevallier, 1996, p. 67), the law is not expected to guide the behavior of both officials and ordinary citizens alike in a stable, predictable manner (Fallon Jr, 1997). However, it is a tool at the service of the sovereign, autonomous State (Laborde, 2000). This description applies to Colombia.

Colombia's version of the Napoleonic tradition, however, falls within a Latin American variant. It is a Latin-American tradition that combines "excessive legalism and formalism" with "the use of discretion to dispense personal favors" (Painter & Peters, 2010, pp. 24-25).

Daniel Pecaut and Liliana González (1997), writing about the Law Problem in Colombia, highlighted that few countries cultivate law as much as Colombia. "Not only lawyers are the top gear in the relationship between civil society and political society", but the reference to the Rechstaat is a fundamental topic of political rhetoric. Yet it also happens that "law is very often mistreated in its principles due to the unremitting use of states of exception, and especially on its application…". References to laws, executive orders, and secondary legislation are omnipresent in Colombia's public policy documents, and the legal framework is often the first point of analysis when studying policy action. What is allowed, however, depends very much on who in power is interpreting the law.

Peters (2008) describes Napoleonic tradition countries as keen on uniformity and less prone to experimentation. They try to create uniformity of services and policy in

their territories in the hope that this will build a cohesive and integrated political system. This has also been true for Colombia, a "supervised decentralization" (Jolly, 2009) where even the devolution of a series of government functions, mainly on education and healthcare, to regional and local governments since the 1980s (Leyva B., 2011; Valencia & Karam, 2014) was partly reversed after a few years. The national government created new tools to guide, and even control and constrain, the actions of local and regional governments. Many of those governments did not have enough institutional capacities, while adequate coordination mechanisms between layers were still missing (Leyva B., 2011; Valencia & Karam, 2014).

IWRM faces distinctive challenges in a country like Colombia, where the State, especially at the national level, is less likely to collaborate horizontally with other partners. It is also more prone to assume that it represents the general interest of society -limiting the options for collaboration. The State may also feel more entitled to use authority to impose itself upon others, given its special status -reducing the options for social integration and institutional integration at the same time. More importantly for this research, two of the conditions of collaborative governance hypothesized in Chapter 2 -perceived interdependence and facilitative leadership- are at risk of being missing, at least from national government actors, in Napoleonic contexts like the Colombian one. This is because the State should not be expected to perceive itself as inter-dependent nor to look for ways to facilitate other actors' participation in collaborative implementation efforts.

In the following section, we present the cases and analyze the projects and five specific decisions addressed in this research, previously identified in Table 2.

4.2 Smooth, and Troubled, collaborative implementation in The Cauca River Flood Control Project

As described in Chapter 2, *smooth collaborative implementation* refers to an outcome where partners maintain the collaboration until the Decision is complete. That is, the collaboration persists with less than a 50 percent delay and consensual

decision-making between the parties, which signals robust progress. That was the situation in the Cauca River Flood Control subproject, in the department (province) of Valle del Cauca, in Southern Colombia, when we look at it as a whole. As we will also see in the following pages, the general outcome averages the very different specific outcomes of multiple specific decisions.

4.2.1 Background

The Cauca River Flood Control project had the main goal of regulating streams in the Upper Cauca River Valley, a region in South-West Colombia with its soil formed by the degradation of lake and river sedimentation. It encompasses the river's protective layer, wetlands, and some segments of the forest. The project's area of interest (see Figure 4 below) starts at 1,200 meters above sea level, in the mild weather zone of the La Salvajina dam, in the department of Cauca. It stretches for 444 kilometers if measured along the riverbed, or 200 kilometers if measured in a straight line (CVC, 2016) down to the municipality of La Virginia, in the department of Risaralda, to the North-East and at 900 meters above the level. These are only some of the initial sections of a very large river, the second-longest in Colombia. Its headwater is further South in the mountains of the Cauca and Huila departments. The river travels for over 1,200 kilometers to its final destination in the lower lands of Colombia's North-Western regions.

The project's area of interest included portions of the territories of 35 municipalities in three departments -Cauca, Valle del Cauca, and Risaralda- with a population of around 3.6 million around the time of the events analyzed in this case.

Human activity around Cauca's Upper Valley is diverse. At its headway, in the mountains of the department of Cauca, peasant populations use the river mainly for fishing and the transportation of the riverside communities. At the end of the Upper Valley, in the department of Risaralda, it is a source for construction materials. For most of its journey in this Upper Valley, however, the Cauca is a source of water for large sugarcane plantations and, to some degree, also for cattle.

The sugarcane industry is by a large difference the most relevant in this area. The Upper Cauca basin is the heart of Colombia's sugarcane industry, producing over 2 million tons of sugar a year, and over 116 million gallons of fuel (bioethanol). This industry's annual exports exceed USD 300 million, and it generates roughly one-third of the department of Valle del Cauca's GDP (Asocaña, 2021). This industry also helps sustain some 300 thousand jobs in the region.

Much of the economic importance of the area has been gained, however, at the expense of once-rich biodiversity and the wetlands that helped regulate the streams. The Cauca River is not only long. It is also abundant, with some 2,100 cubic meters of water flowing each second at some points of its journey. The economic development that started in the 1930s powered by large sugarcane plantations and sugar mills to process their crops claimed swaths of forests and lands that were used to receive and regulate the river floods. Areas of forest are now scarce and small, no more than 10 hectares each, and many of them are now isolated from the river because of the building of dikes, paddocks, or cane plantations. As a result, the fauna of the area has been devastated. Birds suffer the most, due to the lack of places for their reproduction and nutrition. The area occupied by wetlands fell from 15 thousand hectares in 1955 to less than 3 thousand in 2015 (CVC, 2016).

Besides its impact on the biota, the loss of wetlands and forests has had an impact on the regulation of the Cauca streams. That regulation was the original main goal of the organization that was born as an economic development agency inspired by the model of the Tennessee Valley Authority (TVA). It later became the environmental agency tasked with protecting the water and the biodiversity of the area as well as its dwellers: the Corporacion Autonoma Regional del Cauca (CVC). Building dikes and dams, as well as organizing the general regulation of the river, was the main task of the CVC for four decades (1954-1994). By the time our case developed, however, it was trying to figure ways of protecting the sugarcane industry it helped thrive and, at the same time, protect the natural resources of the area.

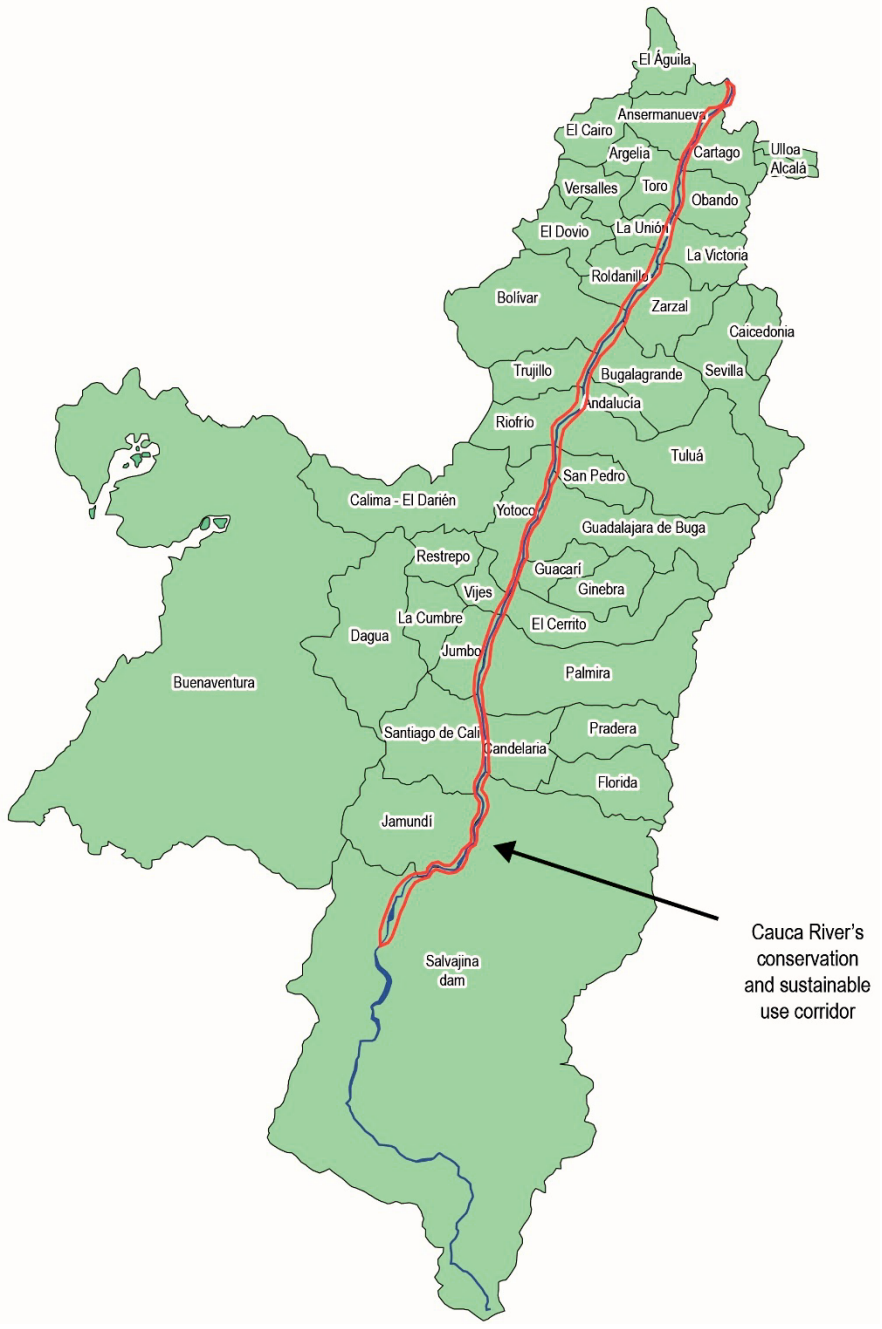
Environmental diagnostics in the early 2010s pointed to increased climate variability, originated by climate change, as a threat to biodiversity in the department. A series of other connected phenomena, like deforestation, were leading to the loss of several

species of birds (Valderrama, 2013). By 2018, CVC estimated that one in four of the 1,326 animal species known in Valle del Cauca was at risk of extinction. Birds accounted for over half of those species at risk (UnivalleTV, 2018). Interestingly, systems-oriented analysis led environmental researchers to think that environmental conservation and restoration could lead to preventing further biodiversity losses, and that such preservation could also help reduce the effects of climate change (UnivalleTV, 2018). That is, biodiversity conservation and flood prevention efforts could reinforce each other.

Flood regulation was, however, the number one priority of the Cauca project. It was no coincidence that the area covered by the project started at the La Salvajina dam, built in the 1980s with the main function of helping regulate the Cauca River streams. Both new stream regulation plans and new conservation efforts were being debated for the Upper Cauca Valley by that time. Nonetheless, it was the extremely unusual heavy rains and floods of late 2010-early 2011, and the damage they brought, which led to the initiation of the Cauca River Flood Control Project.

The extreme rains of 2010-2011 were known in Colombia as La Ola Invernal (The Winter Wave). That year, an unusually swift transition between the two opposite extreme weather phenomena of El Niño -extremely dry- and La Niña- extremely rainy- led to a quick passage from historically low levels to historically high levels of water in several rivers. Therefore, to severe floods that affected over 2 million people in Colombia (CEPAL, 2013; DM, 2011). Although only a few towns within the Cauca River basin were flooded, almost 10 thousand hectares of crops, mostly sugarcane, were lost in the Valle del Cauca (CEPAL, 2013). Flood control, a long-time priority in an area that developed thanks to the large-scale agribusiness of sugarcane, became critical for the stability of landowners who have long-term supply contracts with sugar mills. All of this at a time when environmental authorities were experimenting with new approaches to flood control, relying less on infrastructure building, as well as trying to escalate their conservation efforts given a rapidly deteriorating biodiversity (CVC, 2012).

Figure 4. The Cauca River Corridor



Source: The Netherlands Project general document, November 2011.

4.2.2 The unfolding of The Netherlands Project in the Cauca River Basin and its key actors

By late 2010, before the floods started, the former development agency (CVC), had turned into the regional environmental authority for the department of Valle del Cauca. It was already working on new ways to deal with what has historically been its major challenge: the Cauca River regulation. The Winter Wave's floods added a sense of urgency to that task. Valle del Cauca was one of the most affected areas in the country in terms of damaged households -some 50 thousand, and people who at least temporarily lost their homes -151,000. Over one hundred people died or were unaccounted for even one year after the events in the department, mostly victims of floods and landslides (CEPAL, 2013).

Due to the disaster, the president of Colombia at the time, Juan Manuel Santos, took the opportunity to make a drastic change in the country's water management arrangements and quickly sought Dutch help (DM, 2011). By that time, the Dutch Embassy was already supporting the Ministry of the Environment and Sustainable Development in the design of the umbrella project. This would work as a pilot for the country's new IWRM policy. Colombians informally called it Proyecto Holanda (The Netherlands Project).

In the last week of January 2011, a Dutch team of water experts contacted by the Dutch embassy in Bogota through the Global Water Partnership (GWP) consortium visited the three areas most affected by the floods and landslides of the Ola Invernal. These included the Cauca River basin, and delivered a series of recommendations directly to the president (DM, 2011). They had the political will, understood the problems, and had access to knowledge and information at the national level. Their report highlighted that "the current approach to flood response in Colombia is local, ad-hoc and often self-defeating" (p.4) therefore insufficient to meet the larger-scale challenges of economic development and climate change. The suggested solution was integration -of resources, of planning capabilities. The mission's suggested strategy for addressing Colombia's weaknesses for flood response was Integrated Water Resources Management (IWRM), which should be implemented while taking care of economic, social, and environmental factors. Including the Cauca River Valley in the list of pilot projects within The Netherlands Project was also suggested (see section 4.1).

The project's main goal was the development of proposals to reduce flood risk and improve the sustainability of water management in the Upper Cauca Valley, including criteria of sustainable use, ecosystem restoration, risk management, and integrated water resources management. It was expected to incorporate the *Room for the river* approach (Busscher et al., 2019; Rijke et al., 2012) which would lead to granting space to wetlands that were almost completely absorbed by cane-producing farms, as well as to relocating dikes. It would also include Biological Corridors protecting biodiversity that would help in the natural regulation of streams. All of these using mixes of interventions combining multiple instruments. Finally, it would include a review of the roles of different social and Government actors in water management, learning lessons from what they considered a tragic failure during the 2010-2011 Winter Wave (CVC, 2011b).

The project started with approximately 1 million euros from the regional environmental agency's budget, plus 600 thousand euros from the Dutch Embassy (CVC, 2011b). The environmental agency, Corporacion Autonoma Regional del Valle del Cauca (CVC), requested Dutch expertise for the management of the general project, flood risk management, and riverbed restoration. It also signed an agreement of cooperation with the environmental agencies' association (ASOCARS) for the administration of its resources and those of the Dutch Embassy. That was the way the flood prevention project in the Upper Cauca Valley became part of The Netherlands Project.

Agreement 079/2011 between CVC and ASOCARS, was signed on 15 December 2011, expected to last 29 months until May 2014. It was later expanded until December 2014 and, finally, until April 2015. It was completed in 40 months.

According to the agreement, CVC and ASOCARS would put together their "technical, human and financial efforts" to build a conceptual model for the restoration of the Cauca River's conservation and sustainable use, "taking climate change scenarios into account" (CVC, 2011b). The project was referred to in the agreement as a pilot project, part of Colombia's new IWRM policy, especially implementing its component linking land planning to water planning and management. CVC would be responsible for the "general direction and orientation of the project" while ASOCARS would be responsible for the administration of the financial resources (p.7). As it was written,

it seems like this project would not entail joint decision-making, and therefore would not be a scenario for collaborative implementation. The agreement does not even mention other partners. However, as we will find in the following sections, things were different in practice.

Thirteen organizations were partners in this project, including ASOCARS, the Ministry of the Environment and Sustainable Development, three universities, two sugarcane-grower associations, and a Dutch consultancy consortium. However, only two of those partners made the main decisions, and we could call them the core actors: the regional environmental agency (CVC), and the sugarcane producers represented by their association, ASOCAÑA. The three universities and the Dutch consulting consortium, hired by the Rijksdienst Voor Ondernemend Nederland to advise on the project, were also key actors influencing those decisions. However, the real decision-making power rested only in the hands of CVC and ASOCAÑA. Decision-making was indeed joint between these two actors, as we will see in the following pages.

Let us zoom in on those two core actors and their incentives for collaboration. If we start with CVC, the regional environmental agency responsible for the department of Caldas, it is one of 33 regional environmental agencies implementing Colombia's environmental policies since the 1990s. Like the other regional environmental agencies, CVC is the environmental authority for the 22,000 square kilometers of the Valle del Cauca department. It is tasked by law to implement the national government's environmental policies designed by the Ministry of the Environment within a National Environmental System ("Law for the Creation of the Ministry of the Environment and the National Environmental System," 1993). It is also constitutionally autonomous from the National Government, and therefore, not subject to hierarchical control from it (González Chaves, 2014).

However, CVC's existence predates that environmental policy role by several decades. It was created in 1954 as a regional development corporation inspired by the model of the Tennessee Valley Authority (TVA). At the time, it was tasked with finding solutions specifically for the floods in the Cauca River and its tributaries that could also help promote economic development. For forty years, up to 1994, CVC promoted land irrigation, power generation, and stream regulation using dams, and dike

construction, mainly in the Upper Cauca Valley (CVC, 2017). Then the 1991 Constitution made it the environmental authority of the whole Valle del Cauca, expanding the scope of its authority both thematically and geographically.

By 2012, the year the project started, CVC's budget was approximately 55 million euros (CVC, 2011a), and its personnel included just over 400 staff working at the headquarters in the city of Cali and eight regional directions in different areas of Valle del Cauca. Although it had over 40 USD million for investment in infrastructure and different projects, it was mainly an authority granting permits for economic activity and working to protect the environment, instead of the engineering-minded organization it once was.

CVC had the legal authority to decide on the regulation of the river and the protection of biodiversity. What it lacked was the authority to decide on private land management and to ask specific owners to act in specific ways in the administration of their properties. That is where our second core actor, ASOCAÑA, enters the scene.

ASOCAÑA, the sugarcane producers' association, was created in 1959, only five years after CVC, to promote sugarcane agribusiness. Its creation was directly related to the expansion of the sugarcane industry that accompanied the origins of CVC. As its webpage explains, the number of sugar mills changed from just three, before 1959, to twenty-two 50 years after. ASOCAÑA presents itself as "the spokesperson of the sugarcane industry and cane growers" before the Government, other businesses, and even international organizations. It sees itself as a type of policymaker within the sugarcane sector, leading the industry in new directions like the adoption of information technologies, environmental protection, and sustainable development (Asocaña, 2017).

Indeed, ASOCAÑA represents 12 very large sugar mills that own some 60 thousand hectares of cane and rent another 180 thousand from 2,750 owners. Those mills and the cane plantations supplying them sustain 300 thousand jobs, both direct and indirect. Although there are cane plantations in neighboring departments also in Colombia's South, like Cauca and Risaralda, all of the larger mills, most of the plantations, and most of the jobs are in Valle del Cauca (Asocaña, 2021).

CVC and ASOCAÑA had strong objective interdependencies -needs of one another's resources- related to flood prevention and the Cauca River regulation. CVC had the legal authority to decide on policy and choose approaches to stream regulation -for instance, abandoning the building of new dikes in favor of a new room for the river strategy- or biota conservation. ASOCAÑA represented the owners of the lands where the new approaches should be tried. They would have to give room to the Cauca River, sometimes relocating dikes, sometimes using other methods. And they would also be the ones giving additional space for biodiversity to revive, all of this in some of the most productive cane-producing lands in the world.

ASOCAÑA's landlords and industry bosses needed CVC's authority and financial resources to help them protect their lands from floods. CVC, on the other hand, needed landlords and industry's authority over cane land for the implementation of the new approaches to stream regulation, where infrastructure building was a much smaller component of the mix. It was not realistic for CVC to expect that it could simply force them to remove their dikes, withdraw from the wetlands and leave space for biodiversity in their lands without years of litigation. Each of the core actors lacked a key resource that the other had. CVC needed cane growers to co-produce its new IWRM policy to make it a reality, while ASOCAÑA needed CVC's authority and financial muscle to support actions to protect its associates from floods.

Apart from these two core actors -ASOCAÑA and CVC- three other actors were very relevant for the subproject. One was the Dutch consortium of experts led by Arcadis who advised CVC on the construction of the portfolio of flood-prevention measures for its project. The other two were Colombian universities, one State-owned, and one private, who drafted the proposals leading to the two decisions that we will focus on in the coming pages: the ones on Biological Corridors and Detention reservoirs. In the three cases, the resource these actors had was knowledge.

The State-owned university was Universidad del Valle (hereafter Univalle), one of the most prestigious in Colombia. Established in 1945 as an industrial university as part of the same push to step up the economic development of the Valle del Cauca, by 2012 Univalle was the alma mater for almost 29,000 graduate and undergraduate students (Univalle, 2012). The university, which is particularly renowned for its

Engineering Faculty, was chosen by CVC to propose structural measures -those normally involving infrastructure building- for stream management in the Upper Cauca Valley (Univalle, 2014). Univalle joined the Cauca River subproject through an association agreement with the environmental agencies' association (ASOCARS) by which it would identify flood threats in different zones of the Upper Cauca Valley and present alternatives for protecting against them. However, although it had no direct contractual link with CVC, it collaborated directly with it in the development of the proposals -they were proposals for CVC- with the assistance of staff hired by ASOCARS specifically to support CVC in the project.

The privately-owned university was ICESI. Created in 1978 by a group of the department's businessmen as a modern business school to educate the region's "leaders of the future". It quickly diversified to areas like Medicine, Music, and Psychology and became one of the most renowned universities in Colombia. When the Cauca River subproject started in 2013, it had over 6,000 students in over 20 programs, some of them in Biology and Natural Sciences (Icesi, 2021). ICESI also joined the subproject through an association agreement with ASOCARS to propose landscape management tools that could help biodiversity conservation efforts in sugarcane plantations while contributing to flooding regulation. Just like Univalle, it did not have a contract with CVC, but instead with ASOCARS. It worked directly in collaboration with CVC, and with ASOCARS staff hired specifically to support CVC in the project.

Finally, the Arcadis-led consortium of Dutch consultants gathered expertise not only from Arcadis but also from other Dutch organizations like the Dutch Water Authorities. It was hired directly by the Rijksdienst Voor Ondernemend Nederland to advise CVC on the identification of alternatives and the decision-making process to select a group of them.

Both Univalle, ICESI, and the Dutch consortium had a knowledge-contribution role in the Cauca subproject, having specialized knowledge that both CVC and ASOCAÑA lacked. That was the resource they could contribute in exchange for the financial resources and legitimacy that CVC and ASOCAÑA could contribute to their proposals. In that regard, these different actors were interdependent.

Equally interesting, however, is the way that these actors managed their interdependences, especially because of the strategy that CVC adopted. CVC chose a team-like strategy to work with both the universities and the Dutch consultants. In the case of the universities, it used project staff paid by ASOCARS as liaison officers, who joined (some of) their technical meetings and worked with their experts from ICESI and Univalle on the proposals. The alternatives were jointly developed, then, and had good support within CVC between they were officially presented to the agency's management.

Although interdependence is often explained as the result of a balance of resources, (Douglas et al., 2020a), it is the diversity of those resources that draws attention in this case. CVC had legal authority, some technical knowledge, and money. The universities had the specialized knowledge needed for designing alternatives. The Dutch consultants had extensive experience both in the general use of the flood prevention strategies and on their implementation, and ASOCAÑA had legitimacy before sugarcane growers.

4.2.3 The decisions in the project and its challenges

To have sufficient background for understanding the analysis of implementation as decision-making, we should explain more in-depth what was expected from the Cauca Flood Control Project.

If we look at the tasks in the project, we will find 23 of them, divided into six groups in non-strict chronological order:

The first type of task includes those devoted to knowledge accumulation before decision-making. In the first group, there were tasks for basic information gathering, like the purchase of satellite imagery, topography, and optimization of geographic information systems (GIS) that were needed for a diagnostic of the areas. Then the second group of tasks included hydraulic analyses to identify pitfalls in the existing protective infrastructure, and the search for alternative, sustainable flood control systems, research on wetland-river interactions. Also, research on water governance and alternatives for its improvement. The third group of these knowledge-

accumulation tasks was devoted to scenario modeling -i.e., the estimation of the possible developments under a series of conditions: hydrologic modeling and analysis of the monitoring system, river dynamic multitemporal analysis, flood scenario modeling, and flood management modeling.

After these knowledge-accumulation phases, the second type of task includes those more related to the adoption of measures and the dissemination of the goals and the decisions of the project: within it, one group of tasks included the definition of a riparian zone for the river, as well as the delimitation of wetlands in the Cauca River corridor, the definition of conservation priorities and the formulation of landscape management projects. Another group of tasks included the development of an early warning system, a guidance document on flood prevention infrastructure-building, and the preparation of documents for engaging civil society actors on the project. Finally, the last group of tasks included workshops with different actors to share the goals and aims of the projects, as well as to "empower them to plan and execute their tasks" (ASOCARS, 2011b).

This review of tasks allows us to make a couple of observations. First, although the first group was related to analyses and the second one was more related to actual policymaking, both types of tasks involved important decisions. They focused on what methods to use, what scenarios to model, what type of satellite imagery was adequate, and so on. These were very consequential for the actual policymaking decisions, and the way they were reached is also important. The list of tasks could be understood as a list of decisions to be made.

Second, in principle, all these tasks -and the decisions they implied- were the responsibility of CVC. That is why, once the norms and the projects were in place, it would organize workshops with different actors to empower them to do their part. This makes it more interesting, however, to notice that CVC had, in fact, two different approaches to shared decision-making in this case: The first was expecting that its legal authority, combined with robust analyses, would be enough to lead other actors to simply do their part in the plans that it prepared. Also, that those other actors would even have to be empowered to do those parts. The second approach, as we will see in the following section, was teaming up with those that should supply the specialized

knowledge for its decision-making -the universities, and the Dutch consultants. It would not wait for the findings to then decide whether to accept them or not. Instead, it became involved in the decision-making process of its counterparts, learning from their findings and their opinions as well as providing its own views as suggestions.

As we will see in the following section, not all actors waited for CVC to empower them. At least in the case of ASOCAÑA, its members had enough resources to be able to negotiate with CVC -and even impose on it- which alternatives for flood management they considered worthwhile, and which ones not. Their influence is clear when we realize that, both in the less disputed decision in the project and the most disputed one, CVC's counterpart was precisely ASOCAÑA.

We can now elaborate more on those decisions: One on the creation of Biological Corridors and the other on the use of Detention reservoirs to temporarily store water from river floods. Both decisions were alternatives developed to follow through on the project's goal of identifying a portfolio of alternatives for both flood control and the sustainable use of the river (CaucaRiver2,09/19/2016; CaucaRiver7,09/27/2016), what CVC called a "new paradigm" for the management of the Upper Cauca Basin (CVC, 2015). We will address them as specific decisions, although they are indeed specific decisions including a careful preparation of the alternatives between CVC and its knowledge partners -ICESI University, Univalle, and the Dutch consultants. They included meetings, workshops, and detailed discussions between CVC and the cane growers represented by ASOCAÑA.

The Biological Corridors alternative was developed by ICESI University, as an option to help prevent further loss of biodiversity. Therefore, it helped the sustainable use of the river- and contributed to flooding prevention through the preservation of wetlands useful both for animal nutrition and for stream regulation. The core of the proposal was connecting the Cauca River to water streams in the mountains through 14 corridors where plantations would leave room for natural vegetation. It allowed a safe passage for wildlife between the different points and allowed for flood control using that same natural vegetation. Its research and discussion began in the last half of 2013 and were completed by December 2014, when the proposal was officially incorporated in CVC's Plan for the river in consensus with the cane-growers

association (ASOCAÑA). Collaborative implementation showed persistence in the case of this specific decision, where the two main partners agreed to continue to work on the proposal.

The Detention reservoirs alternative, on the other hand, was developed by Univalle. This was as part of a set of options for flood management departing from the long-lasting reliance on dike and dam building by both CVC and sugarcane growers in the region. Its focus was completely on flood management, but within the new, *Room for the river* approach that CVC wanted to include in the project. Its research and discussion began in January 2013, based on international experiences, in the Netherlands and elsewhere, storing water from floods in pre-designated places. It faced stiff opposition from cane growers and their representatives in ASOCAÑA, with dozens of letters sent by cane growers to the director of CVC asking him to drop the proposal. Its process was completed by June 2015, when the proposal was dropped by CVC from the list of actions proposed in its plan for the river. This occurred after months of pressure by ASOCAÑA and its associates. Persistence is, of course, lacking in this case, where the proposal was abandoned.

Progress was good for both decisions in terms of time. The proposal on Biological Corridors was developed by Universidad ICESI and CVC and then approved by stakeholders in less than 17 months, compared to the 20 allocated for the project. Also, the proposal by Universidad del Valle and CVC on Detention reservoirs was developed and rejected in less than 23 months, compared to the 28 allocated for the project. The difference between the two decisions becomes apparent when we observe the consensus dimension of the process since only the decision on the Biological Corridors was consensual. The other decision, on Detention reservoirs, was reached without consensual decision-making, basically through CVC giving into ASOCAÑA's demands. Therefore, we can say that progress was robust for the decision on Biological Corridors and frail for the Detention Reservoirs.

The overall Cauca River Flood Control Project was scheduled for completion in 29 months, and it was completed in 40, for an overall delay of 40 percent, well below those in other subprojects within The Netherlands Project. Nonetheless, such aggregated result mixes the very different outcomes of different specific decisions within

the project. On the one hand, the *smooth collaborative implementation* of the Biological Corridors, showing persistence and timely, consensus-based, robust progress. On the other hand, the *troubled collaborative implementation* of the Detention reservoirs, where both persistence and progress were achieved, but progress was non-consensual, and therefore frail.

4.2.4 How the conditions for collaborative implementation played out in the Cauca basin management project

Now we have obtained an understanding of the background of the Cauca River Flood Control Project, plus insights into the core actors, their interdependencies, and the type of decisions that had to be made in the project. We also know that, given its outcome, we can call this a case of *smooth collaborative implementation.* That is, an outcome where the collaboration lasts for enough time as needed to complete its tasks and is completed with less than a 50 percent delay. Last, but not least, we are aware that the smooth overall results average different outcomes for different specific decisions, including the truly *smooth collaborative implementation* in the Biological Corridors Decision and the rather frail collaborative implementation in the Detention reservoirs.

For the project-level outcome and the Biological Corridors Decision, where there was *smooth collaborative implementation* we expect, based on our Heuristic (section 2.4) that at least one of the three conditions driving persistence (a broad mandate, trust, or perceived interdependence) will be present. This along with at least one of the conditions driving progress (problem compatibility, bond-supported leadership, facilitative leadership or the use of authority). For the Detention reservoirs Decision, where we found *troubled collaborative implementation*, we expect, in line with our heuristic, that at least one of the conditions driving persistence in the same heuristic will be present, while none of the conditions driving progress should be present.

Problem compatibility, in particular, should be present both at the project level -the Cauca River Flood Control Project- and absent at the Decision-level, particularly for the Decision where there was *troubled collaborative implementation*, i.e. the Detention Reservoirs.

After going back to our predictions, we can go forth now to our findings regarding those predictions. We will proceed first to analyze the presence of the conditions that should explain persistence, then those conditions driving progress.

4.2.4.1 The conditions driving persistence

Our heuristic of collaborative implementation (see section 2.3) expects three conditions to explain the initiation and persistence of collaborative implementation: trust, perceived interdependence, and a broad mandate. Previous research finds these conditions to create incentives for partners to collaborate, be it because they expect other partners will refrain from opportunistic behavior (trust); because they expect to benefit from collaborating (perceived interdependence), or because they have very much flexibility as to how to collaborate (broad mandate). Following the steps outlined in section 3.5, we will first analyze the individual presence and influence of each of the three conditions in this specific case, observing those conditions both for the project -the Cauca River Flood Control Project- and for each of the two decisions selected within it: the Biological Corridors and the Detention Reservoirs. We will start with the type of mandate, followed by trust and, finally, perceived interdependence.

Broad mandate

In Chapter 2 we explained that, when analyzing collaborative implementation, mandates matter. A broad mandate provides partners in a collaboration with the possibility of agreeing on a specific alternative before a decision, be it because they converge on that choice naturally or because they negotiate it. A narrow mandate, on the other hand, may be thought of as an option to simplify implementation by putting some decisions off the table but can also lead to a more complicated implementation if at least one of a group of partners with equal decision-making capacities attempts to change that mandate, or interprets it differently.

The Cauca River Flood Control Project had a rather broad mandate, with the project specifying 23 tasks in terms of goals, not regarding the procedure, and only 7 products. Tasks descriptions were of the type: “buying satellite imagery for the lower

basins of the Cauca River and the Palo River in the Department of Cauca", "literature review on land adequation works worldwide to gain knowledge on new approaches to engineering solutions for extreme events". Seldom did they indicate what specific rules to follow or what specific criteria to use in the analysis.

This general observation about the project is also correct for the two specific decisions on Biological Corridors and Detention Reservoirs. There were four tasks in the project related to the Biological Corridors:

(1) the identification of opportunities -identifying biodiversity, prioritizing farms according to the type and number of specifies found in them, analyzing socioeconomic information on the properties to find out which owners were more likely to join the conservation effort

(2) the design of the specific tools -including those that might help set or sustain the conservation mechanisms

(3) socio-economic analyses -gathering and analyzing information on each property to later be used for negotiation with its owners about the land to be used for conservation efforts and

(4) agreements on the specific measures on each property, the species to be protected, the specific places to be destined for them and the management of land in them.

On the other hand, there were five tasks in the project related to the Detention reservoirs, specifically (1) the above-mentioned literature review on new approaches to engineering solutions for extreme events (2) multi-temporal analyses of the river dynamics and the evolution of its stream (3) scenario modeling -including the zoning of areas with a high risk of zoning and finally (4) the definition of alternatives for water storage, including the development of norms for the localization and design criteria for water storage works.

These were all the instructions the universities had and all the restrictions they found on their design process.

The mandate, then, was broad for universities to develop alternatives completing the tasks given to them by CVC. And what occurred was indeed the joint fact-finding

theorized by Ansell and Gash (2008): CVC staff worked together with both ICESI University -for the Biological Corridors- and Univalle -for the Detention reservoirs. They developed the proposals together through several meetings and extensive consultation.

The situation was different, however, when CVC discussed the already-developed alternatives with ASOCAÑA. Instead of the open space of possibilities that CVC and the universities had for the development of the alternatives, ASOCAÑA was presented by CVC with the already-developed proposals. Therefore, its alternatives were essentially to approve, reject, and (in very few cases) modify what CVC had already accepted. The situation here was anticipated in Chapter 2 for partners in collaborative implementations with very narrow mandates: they are likely to end up arguing about the right interpretation, or even the relevance, of what is already mandated. That is what happened between CVC and ASOCAÑA, at least in the Detention Reservoirs Decisions.

In the case of the Cauca River Flood Management Plan, a broad mandate provided the opportunity for CVC and the universities to work together. In addition, to collaboratively develop the alternatives that CVC asked from them, even if there was no formal contractual relationship between them. The universities had signed their contracts with ASOCARS and in turn, they had signed an agreement with CVC. This was true for both the overall project and the two specific decisions on Biological Corridors and Detention reservoirs. The situation was different when CVC discussed the already-completed proposals with ASOCAÑA. The mandate was very narrow then, reduced to approving and helping execute the proposals -at least that is what ASOCARS expected- propose perhaps a few changes or reject them. Given that small range of options, it is not surprising that ASOCAÑA chose to accept one of the proposals -the Biological Corridors- and reject the other -the Detention reservoirs.

Trust

In our heuristic presented in Chapter 2, trust is expected to contribute to the persistence of collaborative implementation through a pre-disposition to cooperate with those from which non-opportunistic behavior is expected. This should conduce to better information flow and more fluid decision-making. Also, openness to learning

about other actors' interests and values, facilitating the continuation of exchanges in the collaboration even when there is no agreement on decisions (see section 2.3).

All the main partners in the Cauca River project reported high trust in each other during the interviews. The two main decision-makers, CVC and ASOCAÑA, highlighted trust in a cooperative relationship (CaucaRiver1,09/19/2016; CaucaRiver6,09/19/2016). Team members from both ICESI University and the Universidad del Valle (Univalle), on the other hand, describe their interactions with CVC as a "close" relationship, with fluid exchanges in a framework of trust.

"It was not the classic client-supplier relationship," says a member of the Univalle team. He adds:

> I feel the interaction is very different from the tradition, a very strong interaction, where there is trust, and there are inputs, and I must admit, often good inputs from CVC (CaucaRiver6, 09/19/2016).

There are no observations of trust coded in the project meeting minutes for these specific decisions. Therefore, based on trust levels reported in interviews, trust could be judged as high for both decisions.

At a certain point at the end of 2014, however, interviews and documents indicate that trust between CVC and sugarcane landowners (ASOCAÑA) receded regarding the Detention Reservoirs Decision. After the latter presented their objections to Detention reservoirs to CVC, leaders of the project within the environmental agency insisted on explaining the virtues of the measure instead of withdrawing or negotiating it (CaucaRiver4,09/20/2016). That was when several landowners started to write letters to the CVC general director demanding the withdrawal of the proposal, until in Mid-2015 CVC officially announced that it was dropping this alternative from the new plan's portfolio (CaucaRiver2, 09/19/2016). The insistence on writing directly to the top management at CVC indicated that they had lost trust in CVC's project leaders. Nothing of this sort happened regarding the decision on Biological Corridors.

Trust, then, was generally high for the Cauca River Flood Control Project and for the specific decision on Biological Corridors. However, not for the decision on Detention

Reservoirs, where it declined over the Decision, specifically between CVC and ASOCAÑA. When it did happen, it was more likely a consequence of their difficulty to reach agreements on that specific measure than its cause. Also interestingly, at no point did any of the main partners attempt to withdraw from the project as a result of trust problems regarding the Detention Reservoirs Decision, even if ASOCAÑA vehemently opposed the decision.

The collaboration persisted although its progress was meager, suggesting that trust might be more influential over progress than over persistence.

Perceived Interdependence

In Chapter 2, our heuristic of collaborative implementation expects perceived interdependence to be a condition leading to the initiation and persistence of the collaboration. This is because it gives partners incentives to collaborate in their quest to access resources that other partners have, be those resources in the form of money, staff, knowledge, political influence or in any other form. It is important to stress that interdependence is perceived: what drives actors to collaborate is their perception that other actors have a resource, as well as their perception that such resource is important for themselves, not any objective measurement of resources possession or their relevance. Like the other conditions in our heuristic, it is expected to be a sufficient condition for persistent collaborative implementation. It is not necessary, but in the cases where it is present, we should expect an outcome of persistence.

In this case, CVC showed the priority given to the project by assigning liaison staff to each of the project teams partners, Univalle and ICESI, working together with them in the development of the proposals. Both the teams of Univalle and ICESI, for their part, had meetings with the Dutch consultants to review their proposals. In interviews, one representative from the ICESI team highlighted that the Dutch "were key at some specific moments to give the project (direction)…correct some things, align some things with the general goals of the project" (CaucaRiver5,09/20/2016).

The higher interdependencies, however, were between the two main actors, CVC and ASOCAÑA. CVC was the main promoter of the project, had the legal authority to decide on natural resources management in the Upper Cauca Valley, and had plenty of resources at its disposal to contract technical advice for it. Nevertheless, seventy percent of the land in the area covered by the project belonged to sugarcane plantations owned by ASOCAÑA associates (CaucaRiver2, 09/19/2016). At the same time, those sugarcane growers owning the land were not authorized to decide on the river's management or to build infrastructure to influence its course without CVC's authorization. Besides, they preferred to have the support of the State, via CVC, for the important investments that river management demanded. Since the creation of CVC, it had been their main resource to that end. The two organizations showed their awareness of such interdependencies through their actions in the project. For example, the invitations by CVC to ASOCAÑA to join some of the project's committees and the signature of an agreement between the two for ASOCAÑA to organize workshops where CVC would present its proposals (CaucaRiver2, 09/19/2016). They also reinforced this observation through their statements in interviews (CaucaRiver4,09/20/2016), although there are indications that ASOCAÑA's participation was not as proactive as that of other partners, and at least in the Biological Corridors' decision they limited themselves to listening (CaucaRiver5,09/20/2016).

ASOCAÑA highlights that the exchanges were several along a lengthy period -although perhaps not in the above-mentioned committees. On most of the themes, efforts were made successfully, to reach agreements with CVC. Those efforts to reach agreements indicate a perception of interdependencies between the two organizations. That was the case in the specific decision about Biological Corridors when CVC tried to adapt itself to what was feasible for landowners (CaucaRiver1,09/19/2016), as well as when ASOCAÑA quickly accepted that proposal, even if considering it a negligible contribution to its priority of flood management and the need to devote part of the area of plantations to it (CaucaRiver4,09/20/2016). That was also the case for CVC in the specific decision about Detention reservoirs. After months of receiving complaints from landowners, it dropped one of its preferred alternatives, the one more clearly embodying the change of paradigm that it wanted to introduce in the management of the river. All to accommodate the demands of those crucial partners.

We can affirm, then, that perceived interdependence was high in the Cauca River Flood Control Project between all the main partners. Even more so between ASOCAÑA and CVC, both for the Biological Corridors' decision and for the one on Detention reservoirs. Also, perceived interdependence did not fall because of the very intense disagreements on the Detention reservoirs' decision. CVC abandoned the Detention reservoirs' proposal because of the importance of the landowners' opinion, and they kept working alongside CVC until the final approval of the draft plan. None of these partners were ready to try to move on without the resources that the other provided. In terms of our heuristic, this case shows that perceived interdependence can persist even when collaborative implementation faces serious disagreements -like with the Detention reservoirs. It also shows that collaboration can persist, even when facing a decline in trust like we report in the case of the decision on Detention reservoirs, if perceived interdependence is high.

4.2.4.2 The conditions driving progress

Our heuristic of collaborative implementation (section 2.3) expects three conditions to explain the progress of collaborative implementation: problem compatibility, leadership -be it classical or facilitative- and the use of authority. The heuristic finds those conditions driving progress because they lead to consensus (problem compatibility); they unify visions (bond-supported leadership); or they allow the removal of obstacles (facilitative leadership). Alternatively, for the imposition of decisions allowing the collaboration to move on (use of authority). We will now address how each one of those conditions influenced the Cauca River case, starting with problem compatibility, followed by leadership (classical and facilitative), and finally by the use of authority.

Problem compatibility

Our heuristic in Chapter 2 expected problem compatibility to be a frequent condition for progress in collaborative implementation. By suggesting similar decisions to partners, even if they have different problem representations, problem compatibility is expected to provide a path to consensual decision-making, one that is broader than the one provided by the shared understanding that collaborative governance

literature expects. It needs not such shared understanding of the problem but can be driven by compatible criteria or similar interpretations of valid knowledge Also, different from the path bond-supported leadership it creates, since it may exist even in the complete absence of the expectation that one of the partners "knows better".

If we now turn to our observations of the Cauca River Flood Management Plan, we find a general situation of high problem compatibility combined with very different diagnoses for the two specific decisions on Biological Corridors and Detention reservoirs.

At the overall project level, both the interviews and the documents' analysis signal high levels of problem compatibility between the main partners in the Cauca River Flood Control Project. All the interviewees from the main partner organizations judge their general level of agreement as "high" (CaucaRiver2,09/19/2016; CaucaRiver4,09/20/2016; CaucaRiver5,09/20/2016; CaucaRiver6,09/19/2016). Just as it was cautioned in Chapter 2, problem compatibility is easier to observe in the meeting reports than the other conditions, and most of the observations about it were positive.

Where there was low problem compatibility, the sources were diverse. Many of the situations of low problem compatibility were related to the plan's goals, and many of them were about technical issues that are usually not expected to draw debate: How important was it to discuss the separation between dams? What kinds of variables should be modeled for that? What kind of information was to be expected from a given study and which decisions should it support? Yet there were also debates on means/procedure: What should be in a report? How could a formal agreement with a Spanish university be signed so that they would support the building of the local geoid?

Delving more into the specific decisions about alternative paths to implement the project, we observe a significant difference between problem compatibility for the Biological Corridors -high- and for the Detention reservoirs -very low. That difference is more straightforward to observe from the narrative interviews used to research these specific decisions than from project meeting minutes. There is only one observation of low problem compatibility for the Biological Corridors in the project's meeting minutes, compared to zero for high problem compatibility, making the diagnostic unclear if we only rely on them. The observations are somewhat clearer if we look at the Detention Reservoirs Decision and find there are zero observations of high

problem compatibility in them, versus three of low problem compatibility. A richer understanding of the differences, however, is possible by observing the interviews, and especially the narrative interviews, and looking at the three dimensions of problem compatibility: general problem representations, which coincide with frames, criteria for the decisions, and, lastly, knowledge considered relevant.

Narrative interviews allow us to better appreciate the difference between shared problem definitions as they are often expected in the literature, and problem compatibility as it is studied in this research. As discussed in Chapter 2, two or more different problem definitions can be compatible if they suggest the same actions. Some of the ways that they can suggest the same decisions include situations where the criteria used for decisions are similar, or the weight given to different criteria by different partners suggests similar decisions.

Partners' stories in their narrative interviews shed light on the differences between the Decisions on Biological Corridors and Detention reservoirs. While all partners agreed on the general virtues of Biological Corridors and the need to "do something" about conservation and sustainability, even at the cost of devoting some land on sugarcane plantations to that end, there was a strong adverse reaction, especially from the sugarcane growers, to the idea of eventually having to flood some properties through Detention reservoirs (CaucaRiver1,09/19/2016; CaucaRiver2,09/19/2016; CaucaRiver3,12/21/2016; CaucaRiver4,09/20/2016; CaucaRiver5,09/20/2016; CaucaRiver6,09/19/2016; CaucaRiver7,09/27/2016; CaucaRiver8,09/28/2016).

In the Biological Corridors Decision Process, CVC and ASOCAÑA had very different ideas about the importance of the corridors and their contribution to supporting flood prevention. That is, in terms of problem compatibility, they had very different problem representations. Despite those differences, both organizations had reasons to support the decision of going ahead with the Biological Corridors. For CVC, because in its problem representation conservation was so important and the situation in the corridor so bad, that any possible action was a good idea. Also, it was aware that it needed the collaboration of landowners, and it would need to work in association with them. Among its criteria for the decision, feasibility was a very relevant one. The corridors, not being ambitious, were feasible. For ASOCAÑA, on the other hand, the Biological Corridors should be expected to have a low impact on flood regulation, that was their priority, but

they were also a low-risk decision. Even if plantations along the corridors had to lose some space to them, this should not put their business in danger. This problem representation met with decision criteria, that had precisely risk as their priority. Also, knowledge and experience with the idea, which were two qualities the Biological Corridors had thanks to previous experiences in neighboring areas of the country. This experience also meant that their effectiveness was known, and their risk easier to calculate. Finally, regarding the validity of knowledge and methods, the whole restoration effort by CVC was hardly relevant for ASOCAÑA but the experiential knowledge behind the proposal, again, made it a viable one. In the case of Biological Corridors, problem representations were very different for ASOCAÑA and CVC. Nonetheless, the combination of criteria -especially risk- opened avenues to the same decisions and assessments about knowledge validity with common points between the partners which led them to agree on the decision (see Table 3).

In the Detention Reservoirs Decision, unlike the Biological Corridors, problem representations, decision criteria and opinions on the validity of knowledge and methods led partners in different directions. We can briefly examine the differences.

First, CVC and ASOCAÑA held very different problem representations about Detention reservoirs. For CVC they were part of a new paradigm on water management (CaucaRiver1,09/19/2016). For ASOCAÑA they were only a fad, basically nonsense, with very little impact upon flood regulation and for which there was no experience in the country (CaucaRiver4,09/20/2016). Second, their criteria for the decision were also very different and led them in opposite directions. While CVC gave priority to sustainability and a systemic approach to the problem, ASOCAÑA privileged technical support -which it judged limited. It also privileged experience that, unlike in the Biological Corridors, was absent in Colombia for Detention reservoirs. Finally, regarding relevant knowledge and methods, their positions differed as well. CVC focused on the international evidence of the effectiveness of the Detention reservoirs, while ASOCAÑA emphasized the absence of national evidence -lack of national experiential knowledge- of that effectiveness. Further, CVC relied on a systemic approach to the problem of flooding where this measure should be part of a mix of interrelated steps with an aggregate result. In contrast, ASOCAÑA emphasized the lack of evidence of the direct contribution of this measure to reduce the impact of floods.

Table 3. Manifestations of problem compatibility in the Biological Corridors

Themes	CVC	ASOCAÑA
General problem representation	The Basin's ecosystems are more and more intervened by humans, and CVC cannot preserve them alone, without the participation of landowners. The situation is serious, we must save what we can (CaucaRiver1,09/19/2016)	Biological Corridors are a measure with low impact upon flood management, but also an unproblematic idea, presenting low risk (CaucaRiver4,09/20/2016)
Relevant criteria for the decision	Feasibility. Functionality (corridors must have a function). Restoration requires associations (CaucaRiver1,09/19/2016)	Risk (corridors represent a low risk). Knowledge, experience with the idea. Also, agreement (measures should be agreed upon with CVC and not imposed by it). Field-testing (theory is one thing, implementation is another). Effectiveness. (Cauca-River4,09/20/2016)
Relevant knowledge and methods	Although this is mostly a restoration effort to protect/restore biodiversity, Biological Corridors demand stream management in a way that helps prevent flooding Cauca-River1,09/19/2016 Experiential knowledge: The approach has been tried before by CVC and biologists that later joined ICESI, in several projects (Cauca-River1,09/19/2 016)	In the beginning, this was a discussion about microorganisms, hard to connect with the flood prevention priorities. There is little contribution from Biological Corridors to flood prevention, even if their risks and costs are also low (CaucaRiver4,09 /20/2016) Experiential knowledge: This idea has been presented by CVC to ASOCAÑA for a long time. There are several experiences of its use in different situations (Cauca-River4,09 /20/2016)

In this case, the decision criterion that was essential for ASOCAÑA's support for Biological Corridors -risk- played against the proposal on detention reservoirs. And the main consideration that led it to consider the methods appropriate for Biological Corridors – that there was a national experience with the methods- led it to reject the proposal for detention reservoirs. The difference in problem representations was amplified by the collision of decision criteria and ideas on knowledge validity. It is easy to understand why, as one ASOCAÑA representative recalled during an interview, "this was

the great battle of this project" (CaucaRiver4,09/20/2016). Problem compatibility was low for detention reservoirs. Table 4, below, shows the differences in more detail.

Table 4. Manifestations of problem compatibility in the Detention Reservoirs

Themes	CVC	ASOCAÑA
General problem representation	One concrete form of making the Room for the river approach real. This is the new paradigm that CVC wants to implement. Yes, details had to be worked out, compensation to landowners whose land is used for reservoirs is legitimated and must be included in the planning. (CVC, 2015) (CaucaRiver1,09/19/2016)	This proposal is basically non-sense. Its impact on flood regulation is irrelevant, there are several actions that we still don´t know who would be in charge of, or who would pay for them. There's plenty of experience in managing flood risk with structural measures and no experience in Colombia with this (CaucaRiver4,09/20/2016)
Relevant criteria for the decision	The impact upon landowners. Governance - not imposition but agreement. Sustainability, culture - how much actors are used to some ways of acting. Systemic character of the problem and the needed interventions (CaucaRiver6,09/19/2016) (CaucaRiver1,09/19/2016) (CaucaRiver8,09/28/2016)	The impact upon landowners. Technical support of measures (reservoirs would lack technical support). Norms (what landowners are obliged or not to do). Need for agreement, not an imposition. Experience with measures in the field. Impact upon landowners, what is technical, norms, agreement, field testing (CaucaRiver4,09/20/2016)
Relevant knowledge and methods	A systemic approach to the problem makes it advisable to use Detention reservoirs within a mix of measures, including both structural and non-structural ones. Plenty of experiential knowledge of this approach, starting in - but not limited to the Netherlands (CaucaRiver1,09/19/2016) (CaucaRiver6,09/19/2016)	Technical analyses show this proposal's contribution to flood prevention is irrelevant. No national experiential knowledge, it is a foreign idea imported to Colombia disregarding the differences between the Netherlands and our context (CaucaRiver4,09/20/2016)

Leadership

In Chapter 2 we identified two different types of leadership that might be relevant for collaborative implementation: First, what we called the classical notion of leadership, where there is a psychological contract between a leader and a follower directing the latter to decisions that he expects to be preferred by the leader (´t Hart, 2014). As we put it, if trusting implies a predisposition to cooperate, in bond-supported leadership following implies a predisposition to agree.

The second, potentially relevant, type of leadership is facilitative, or also collaborative, leadership (´t Hart, 2014; ´t Hart, 2021; Ansell & Gash, 2012; Emerson et al., 2012). Leaders devote themselves to removing obstacles to the participation of others and work to start and maintain the collaborative process. Bond-supported leadership could foster collaborations' progress by providing a problem representation that followers could embrace, therefore, guiding their decision-making without recurring to authority. Facilitative leadership, on the other hand, can help progress by facilitating the fluid participation of the different partners. Let us first review the presence of bond-supported leadership and, after that, the likely contribution of facilitative leadership in the Cauca project and the two specific decisions we are researching in more detail.

There are few observations on bond-supported leadership -the expectation of good guidance- from the Cauca project documents coded, and slightly more reports on high rather than low leadership among them. Perhaps more interestingly, most of the interviewees did not think that leadership was important for the collaboration (e.g. CaucaRiver4,09/20/2016; CaucaRiver5,09/20/2016). It is even more interesting that the CVC team leader highlighted that "although there were discussions, CVC's technical capacity has always been respected, and that was a good starting point for all the interactions (CaucaRiver2,09/19/2016)". After reviewing the strengths of the universities her team worked with, the CVC leader summarized that "there was previous confidence in criteria and approaches and we did not have conflicts" (CaucaRiver2,09/19/2016). This may be an example of distributed leadership (´t Hart, 2014; Brown & Gioia, 2002), which each partner considered a reliable guide on a given subject. The leader of the ICESI team, too, conveyed in an interview that what was proposed to CVC was somehow similar to what was expected from the beginning.

That is, CVC knew the type of work ICESI was doing from the beginning. Even ASOCAÑA's representatives highlighted their confidence in CVC's technical qualities (CaucaRiver4,09/20/2016). Therefore, we can affirm that bond-supported leadership was high at the overall project level, and there are no indications that the situation was different for any of the specific decisions.

We can now briefly examine what happened in this case regarding facilitative leadership -incentivizing participation, looking for resources to sustain the collaborative process, and guaranteeing a leveled playing field where all the voices are heard. In the Cauca River Flood Control Project, that role was adopted by CVC.

CVC not only hired the local universities to give their knowledge inputs for the project but worked with them in the development of the proposals. They worked in a very non-traditional and high- trust manner, as is explained above. CVC also invited ASOCAÑA to at least some of its meetings with the universities and the Dutch experts. Moreover, it paid ASOCAÑA for the organization of workshops to explain the project with the association's partners -putting more resources if other partners needed them to sustain the collaborative process. In the end, it was CVC that abandoned one of its preferred alternatives for flood prevention -the Detention reservoirs- to keep the collaborative process going.

"I think collaborative leadership is very much our modus operandi ", said the former CVC project leader when asked about this condition and explained its conceptualization (CaucaRiver2,09/19/2016). She went on to explain how the organization has emphasized relational dimensions of Governance, based upon Dutch models on the subject, not only in the Cauca Flood Control Plan but on several other projects over the previous years. Also, she highlighted the joint nature of the work between CVC and the universities, as well as the frequent consultations and joint exploration of solutions with ASOCAÑA. No other partner acted similarly.

Facilitative leadership, in this case, did not reach the point of CVC inviting ASOCAÑA from the very beginning of the design of alternatives for flood management. That kind of interaction was reserved for the universities. Like the phases' delineation in the project show, the design work was mainly conceived for the environmental agency and the experts -the universities, the Dutch consultants. Only in a later phase would

other sectors be included to share with them what was expected of them (ASOCARS, 2011b; CVC, 2011c). Although ASOCAÑA was invited to project meetings even before the proposals' finalization, it did not take part in the initial planning of the nature of the project. Even if that early involvement was absent, however, CVC made efforts to facilitate its key partner's involvement. Facilitative leadership was, in short, high in the case of CVC, both for the Biological Corridors and the Detention Reservoirs. It was more complete for the collaboration between CVC and its knowledge partners, the universities, than for the collaboration with ASOCAÑA.

Use of authority

Our heuristic in Chapter 2 (see section 2.3) proposed that the use of authority could be one of the conditions influencing the progress of collaborative implementation. It gives some partners the possibility to impose decisions on others even in Decisions expected to be horizontal. Authority helps put an end to disputes, speeding up joint decision-making. This, of course, boosts the progress of collaborative implementation, although it clearly should not be the default way of deciding in partnerships. We also identified two forms of authority that could be relevant for our research: hierarchical authority, where one of the partners has a higher standing in a hierarchy and can order other organizations to follow instructions, and contractual authority, where one of the partners is contracting another one's services and can make its payments dependent on the obedience to its requests.

In the Cauca River subproject, hierarchical authority was absent, no partner organization was hierarchically superior to others. Contractual authority, on the other hand, was present but largely irrelevant. Although there were contracts signed between ASOCAÑA and CVC, between CVC and ASOCARS, and between ASOCARS and the universities, working relationships were horizontal in all circumstances. First, there was a contract between ASOCAÑA and CVC for the organization of workshops with cane growers. Yet although ASOCAÑA was CVC's contractor for this purpose, their interactions were mainly horizontal, with ASOCAÑA representing the interest of those cane growers before CVC. It was also ASOCAÑA who blocked one key proposal backed by CVC, not the other way around (CaucaRiver2,09/19/2016; CaucaRiver3,12/21/2016; CaucaRiver5,09/20/2016). Second, there were contracts between

ASOCARS and ICESI, and also between ASOCARS and Univalle, but the two universities did not coordinate their efforts or submit their proposals for ASOCARS' approval However, they worked together with and obtained authorizations from CVC. Finally, there was a contractual relationship between CVC and ASOCARS, but it was an agreement in which, although ASOCARS had to report to CVC, the relationship was horizontal, and the decisions were made jointly.

If we focus a little more on the relationship between the two main partners -CVC and ASOCAÑA- and look at the two specific decisions on Biological Corridors and Detention reservoirs, we notice that in the case of the Biological Corridors there was no need for using authority This is due to ASOCAÑA quickly agreeing -although not enthusiastically- to including this alternative in the conceptual model's portfolio of alternatives. In the Detention Reservoirs Decision, on the other hand, trying to use CVC's contractual authority above ASOCAÑA related to workshop organization to pressure it on project decision-making would have been pointless. ASOCAÑA had behind it powerful companies owning the sugar mills, with enough resources to even hire its own consulting firm to have its own knowledge and evidence to compare with those of CVC (CaucaRiver4,09/20/2016). Its dependence on mills and cane growers was far larger than any bond a small CVC contract could create. In any case, the environmental agency did not try to use authority.

In the Cauca Flood Control Project, we do not know the effect of the use of authority on the collaboration, because it was not even attempted. In one specific decision -Biological Corridors- there was no need for it since the partners agreed rather soon on the next steps. In the other specific decision, the Detention reservoirs, it seems trying to use contractual authority to force ASOCAÑA to agree on decisions could have been self-defeating, yet CVC did not try it.

4.2.5 Exploring the empirical justification for the propositions

At this point, we can explore the empirical justification that these first three cases provide for the two propositions built upon our heuristic of collaborative implementation presented in Chapter 2.

Proposition 1 claimed that the persistence of collaborative implementation in projects is driven by pathways where trust, perceived interdependence, or a broad mandate should be present. We find confirming evidence supporting this proposition in these first three cases. Collaborative implementation persisted at the general project level. It also persisted in the successful, robust Biological Corridors collaborative decision where progress was adequate and consensual (robust progress), and the frail Detention reservoirs collaborative decision where progress was adequate. However, consensus was lacking (frail progress). The three conditions anticipated by the proposition as sufficient for persistence – trust, perceived interdependence, and a broad mandate- were present in the three cases. Despite this, we should note that trust seemingly eroded at some point during the Detention Reservoirs' Decision. This suggests that trust is not as important a driver for the persistence of the collaboration as perceived interdependence and the type of mandate.

Our proposition 2, on the other hand, stated that the progress of collaborative implementation in projects is driven by pathways where problem compatibility, bond-supported leadership, facilitative leadership, or the use of authority should be present. Again, each of the conditions on the list should be sufficient to lead to the outcome of good progress. Our data shows otherwise. The three conditions were present in the Biological Corridors Decision -where the expected outcome of good progress was present, By contrast, one of them, problem compatibility, was absent in the Detention Reservoirs Decision, and the presence of another two was not sufficient to lead to good progress. This suggests that, perhaps, not all the conditions in the proposition are sufficient to lead to good progress in collaborative implementation, and problem compatibility might be necessary.

Conclusion

In the Cauca River Project case and its subcases, we find inputs to start applying our explanation-building strategy (see section 3.1) in a first review of our propositions. We expected all the conditions associated with each of the dimensions of persistence and progress to be sufficient to lead to them (see section 3.5). Our findings for these three cases support such expectations for the conditions associated with persistence, that led

to the outcome every time they were present. They also support the sufficiency of three of the conditions expected by the heuristic to lead to progress -problem compatibility, bond-supported leadership, and facilitative leadership. Conversely, the fourth condition, the use of authority, could not be observed since it was not present in any of these cases.

Now we analyze necessity (see section 3.5) and start again with the conditions expected to drive persistence. We observe that two of those three conditions -perceived interdependence and a broad mandate- were indeed present every time the outcome was present. Trust, however, was missing in one of the cases where the outcome was present, the Detention Reservoirs Decision. If we now observe the necessity for the conditions related to progress, we find that two of the conditions, bond-supported leadership, and facilitative leadership, were necessary -they were present every time the outcome was present. Meanwhile, problem compatibility was not necessary since, although it was present in the two cases with robust progress, it was not present in the case of the Detention Reservoirs Decision, when progress was frail. Finally, the use of authority was not necessary for progress since it was not present in any of the cases where the outcomes of robust or frail progress were present.

We should also draw attention to the variation between outcomes within the same projects. The overall Cauca River project and one of the specific decisions selected within it showed *smooth collaborative implementation.* In contrast, the other specific decision showed a different outcome, *troubled collaborative implementation*, even as it shared the same actors, in the same period, within the same type of State and politico-administrative traditions. More interestingly for the empirical exploration of our heuristic, the pathways leading to such different outcomes include five conditions with identical behavior: perceived interdependence, a broad mandate, bond-supported leadership, facilitative leadership, and low use of authority. They are regarded as having only two differences: trust, which seems to have declined during the collaborative process and was finally low in the Detention Reservoirs Decision, and problem compatibility. The difference in those two conditions may be relevant to explain the difference in outcomes between the two specific decisions.

It is important to highlight that these three cases include different pathways to *smooth collaborative implementation* and *troubled collaborative implementation*. The

pathway to Smooth collaborative implementation is the same for the Cauca River Project and the Biological Corridors Decision. This refers to all the conditions being expected by the heuristic to drive to persistence -trust, perceived interdependence, and a broad mandate. Plus, three of the four conditions being expected to drive to progress -problem compatibility, bond-supported leadership, and facilitative leadership. The only condition not included in this pathway is the use of authority. The pathway to *troubled collaborative implementation* diverged from the one leading to *smooth collaborative implementation* in only two conditions: problem compatibility and trust. This suggests that the difference in outcomes could be at least partly driven by the different levels of these two conditions.

4.3 Troubled collaborative implementation in The Chinchiná Basin Management Plan

We introduced *troubled collaborative implementation* in Chapter 2 as an outcome where partners maintain the collaboration until the Decision is complete. That is, the collaboration persists while the delay is 50 percent or higher and decisions are non-consensual, thus making progress frail. That was the situation in the Chinchiná River Water Management plan, in the department (province) of Caldas, in South-West Colombia, when we look at it as a whole. In this case, again, the general outcome turns out to be less instructive than the specific outcomes of different specific decisions concerning the role that the conditions in our heuristic may have played.

4.3.1 Background

The Chinchiná Basin is found at the center of the department of Caldas, one of Colombia's 32 main political-administrative units. At the time this case developed it was a very central area of the department in terms of population and economic activity. Some 550 thousand inhabitants, roughly half of the department's population, lived in this basin which stretches through roughly 20 percent of its territory. Eighty-five percent of them lived in urban centers and the rest in rural areas, and population density

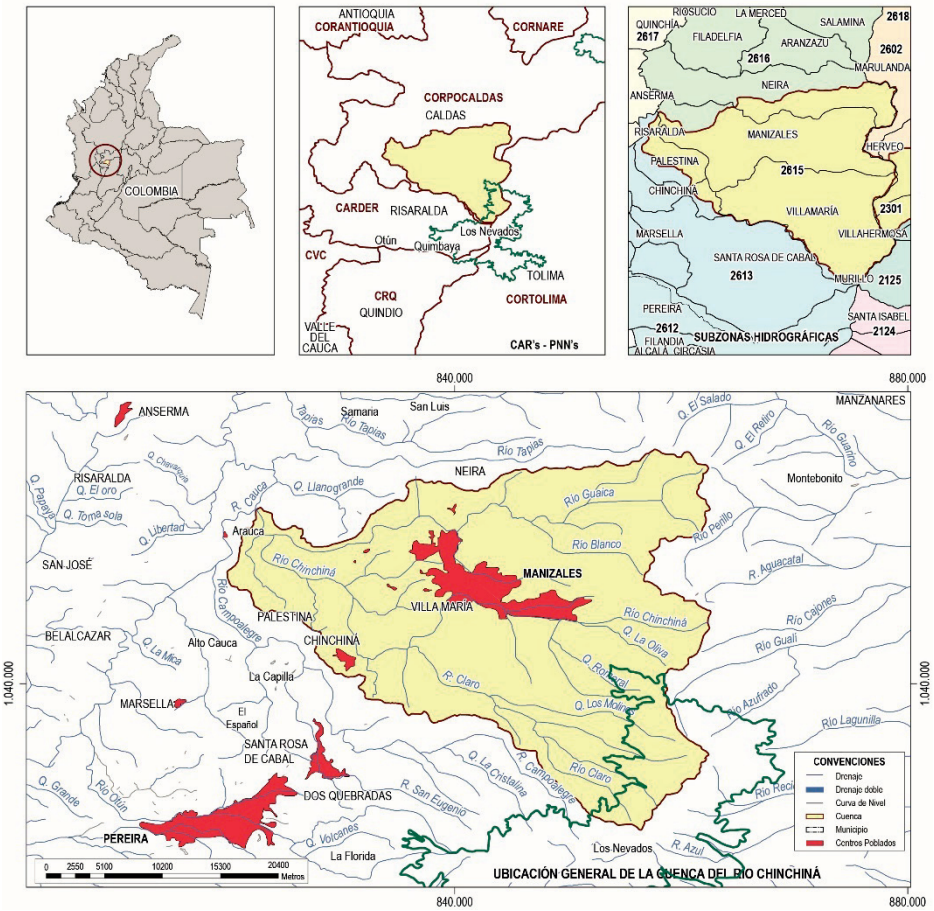
(358/km2) was high by Colombian standards. This area makes important contributions to the Colombian economy, given its high participation in coffee production. Some seventy percent of the department of Caldas' gross domestic product (GDP) is produced in the basin. In ecological terms, the basin extends itself from the highest points in Colombia's Cordillera Central, at 5,200 meters above sea level -where the Claro, Chinchiná, and Guacaica rivers are born, down to a mere 800 meters above sea level, where the Chinchiná river delivers its waters to the larger Cauca River. Some 10,000 hectares of the basin are in fact within the limits of a national park, Parque Nacional Natural de Los Nevados, ranked among the biggest water reserves in Colombia. Biodiversity is especially rich: several endemic specifies of flora and fauna can be found in the basin, many of them already considered endangered. Figure 5 (below) shows the basin at different scales.

This abundance of resources has not precluded threats to the basin. In large chunks of Colombia, including the Chinchiná basin, even if access to water is still unproblematic, access to fresh, adequately treated, and not contaminated water is becoming difficult, with the Chinchiná River basin among those with the highest levels of pollutant load in the country (IDEAM, 2019). Water-related hazards, like droughts and floods, but also landslides, are also becoming more frequent due to climate change and climate variability.

Large-scale erosion in the Magdalena-Cauca Basin District -where the Chinchiná basin belongs- is considered responsible for much of the flooding that occurred in the so-called "winter emergency" of 2010-2011, since it reduced the capabilities to regulate the hydric offer. The joint report between the UN Commission for Latin America and the Inter-American Development Bank on this emergency, for instance, stated that

> "…the Magdalena and Cauca river basins experienced increasing processes of sedimentation and erosion, mainly due to higher levels of economic activities like agriculture, cattle raising, and mining. Human-made deforestation would explain a third of the erosion in the Magdalena and Cauca river basins" (CEPAL, 2013, p. 63)

Figure 5. The Chinchiná River Basin observed on different scales



Source: ASOCARS (2011b)

Cities in the basin, like Manizales and Chinchiná, have been affected by floods often in the past. In time, they developed early warning and rapid response systems with the help of local researchers from Universidad Nacional. Besides, the Chinchiná basin has other water-related hazards that are very specific to it, given the presence of an active volcano, the Nevado del Ruiz. Not so long ago, in 1985, the volcano erupted creating an avalanche of mud and rocks that then multiplied its force when mixing with river waters. As a result, some 23,000 people died in what is known as the Armero tragedy.

Risk management and the protection of the basin's endangered biota were, then, natural priorities for the basin's management when the basin management plan was discussed. Integrated Water Resources Management (IWRM) seemed like a good alternative to tackle those problems, given their priority for water resources' efficient and sustainable management (ICWE, 1992; UN-Water, 2013). The country's own IWRM policy emphasized the objectives of guaranteeing water supply, managing -and curbing- demand, as well as preparing for risk, among other priorities.

4.3.2 The unfolding of The Netherlands Project in the Chinchiná Basin and its key actors

The Chinchiná Basin's water management plan was prioritized to join the list of four basin's water management plans receiving funds from the Dutch Government. It formed part of the contribution agreement BOG0113303 that we, in this book, call with the term its Colombian counterparts used at the time: The Netherlands Project. Like the overall project, the goal in the Chinchiná subproject was to support the implementation and the obtention of feedback to the country's IWRM policy. Learning about possible implementation challenges, new methods to analyze environmental hazards, and new methods to research water pollution, or evaluate risk, were among the main goals. Like the other basins prioritized for the formulation of basin management plans, this was chosen because of the importance of its ecosystems and the high hydric stress it faced in some of its areas. This together with the high levels of risk arising from the type of terrain and the volcanic activity, among other sources.

An association agreement for activities of public interest (ASOCARS, 2011a) was signed in late November 2011, between the regional environmental agency of the department of Caldas, where the basin is located -CORPOCALDAS-, ASOCARS, the national association of those environmental agencies, and the Manizales branch of the Universidad Nacional, the largest university in Colombia. This was to "join economic, technical and financial efforts for the integrated water resources management" of the basin. These three were the core actors making decisions in this project. The overall budget of the project was some 678,000 euros, of which the University contributed one-sixth -113,000- through the time of its researchers and administrative staff and use of

its equipment. CORPOCALDAS contributed a little less than 29,34 percent, 199 thousand euros in cash, and ASOCARS turned over 366 thousand euros of the Dutch funds, or fifty-four percent of the total, also in cash. Both funds from ASOCARS and CORPOCALDAS would be managed through a trust fund. Particularly relevant for this research, decision-making powers were granted to a steering committee comprising representatives of the three organizations. The university only had a "voice" while ASOCARS and CORPOCALDAS could vote on decisions. As we will see next, the formal agreement does not describe what happened in the project, where Universidad Nacional had as much decision-making power as CORPOCALDAS and ASOCARS.

Let us zoom in on these three core actors and their incentives for collaboration. CORPOCALDAS, the regional environmental agency responsible for the department of Caldas, is one of the 33 regional environmental agencies implementing Colombia's environmental policies since the 1990s. Like many other regional environmental agencies in Colombia, it was created in 1971, before the national environmental policy started in the 1990s. Its objective was to tackle a specific problem -soil erosion causing landslides- in only three municipalities (CORPOCALDAS, 2022). It saw the scope of its competencies expanding both geographically and thematically in the 1990s when the Constitution made it the implementer of the new environmental policies aimed at tackling multiple environmental problems in the whole department of Caldas.

In 2012, when the project to formulate the basin management plan started, CORPOCALDAS' budget was approximately 17 million euros (CORPOCALDAS, 2012a). Its personnel included some 140 people working in its headquarters and 21 small citizen services offices in the different municipalities of the department. Also at that time, Colombia's national development plan, the country's most important planning instrument, gave regional environmental agencies a key role in the implementation of the IWRM policy. It dictated that decision-making on integrated water resources management, water use regulation, and all permits relating to the conservation and rehabilitation of water sources and related ecosystems were of their competence. These agencies were explicitly tasked with formulating basin management plans like the one this pilot project aimed at creating for the Chinchiná River basin. Only the environmental agency's board could legally adopt such a plan. Yet it needed partners to formulate and implement it. It needed partners with specialized knowledge which

CORPOCALDAS lacked, with links to national organizations who possessed valuable information, and with the capacities to mobilize their own resources for the implementation of the plan.

The second main actor, in this case, is ASOCARS, the association representing all the regional environmental agencies. Even if they are autonomous and the sole environmental authorities in their jurisdictions, those agencies can only implement national policies. To do that, they often need coordination with other regional agencies and/or with the Ministry. That is why they created an association for themselves (ASOCARS) in 1996, just a few years after the new environmental system started to operate. The association provided regional agencies with a unified voice before the Government, but also provided the Government with a unified vehicle to communicate the policy to -and also coproduce policy with- the regional agencies.

Over the years ASOCARS has developed skills in facilitating cross-learning between environmental agencies. Also, the implementation of national policies in their different regions by sharing information and exchanging learning, often signing contracts with both the Ministry and the regional agencies to that end. In the Chinchiná basin's case, CORPOCALDAS needed ASOCARS to better communicate with the Ministry, but also with an international donor, the Dutch embassy. The embassy, on the other hand, needed to direct its funds to the territories but preferred to have one counterpart (ASOCARS) instead of several of them.

Finally, the third main actor, the University: Universidad Nacional, a State-owned organization, is one of Colombia's most prestigious universities, as well as the largest one according to its number of enrolled students -some 55,000 undergraduates in 2021, plus several thousand more graduate students. The Manizales branch alone had some 5,000 undergraduate students and several hundred graduate students during the period analyzed in this research. The branch was invited by ASOCARS and CORPOCALDAS to participate in the Chinchiná Basin Management Plan for being based in the capital of the Caldas department and having a long history of relations with CORPOCALDAS.

In the water management plan's terms of reference, Universidad Nacional is considered the ideal knowledge partner because of its previous experience with

CORPOCALDAS in the formulation of a water management plan for another river. In addition, for its research on hydraulic and environmental engineering, risk management, sustainable urban development, and environmental education, among other areas. This, together with its highly interdisciplinary workgroups gave it an advantage. The same document commends the University's abundant research on integrated risk management in the Chinchiná basin, including hydrometeorological analyses informing early warning systems in the highly vulnerable area of Manizales, the department's capital (CORPOCALDAS, 2011). These credentials made Universidad Nacional the perfect knowledge partner for this project.

CORPOCALDAS, Universidad Nacional, and ASOCARS had different but complementary resources that made them interdependent. CORPOCALDAS was the only one with the legal authority to adopt a basin management plan. However, it needed more specialized knowledge as well as communication with other agencies and the Government, and its financial resources were scarce. Universidad Nacional, on the other hand, had the specialized technical knowledge that CORPOCALDAS lacked for the formulation of the basin management plan Yet, it did not have the legal legitimacy to make decisions on the basin's management. Moreover, it did not have a network of relationships at the national level to help it access official information generated by the Government or to gain approval for its technical proposals. Finally, ASOCARS had a national standing allowing for fluid exchanges with the Ministry of the Environment, administrative experience, and the ability to coordinate with different regional environmental agencies. More importantly, it was the only actor authorized to order payments using Dutch funds. Nonetheless, it lacked the specialized knowledge of the university and the legal authority of the environmental agency.

The interdependence between the three core actors was partly a result of the 1991 Constitution (González Chaves, 2014), which gave regional environmental agencies autonomy, no longer controlled by the central government. This was the basis for the foundational law of the country's environmental policy, Law 99 (1993) which created a National Environmental System (SINA, Spanish acronym) responsible for "the environmental management of the country" ("Law for the Creation of the Ministry of the Environment and the National Environmental System," 1993). The system, established in the 1991 Constitution, is coordinated by the Ministry of the Environment but

includes several other actors. Among these actors are the 33 environmental agencies that, like CORPOCALDAS, are in charge of environmental policy in the different departments of the country. There are also five research institutes, each one specializing in marine research, biodiversity, the Pacific Coast's environmental issues, the Amazon's environmental issues, and of course, hydrology and meteorology. There is also space for civil society organizations, business organizations, indigenous and Afro Colombian organizations, and community organizations whose actions influence the environment.

Last, but not least, the system also includes all organizations conducting research, disseminating information, or developing technologies in the environmental field (Rubio Goyes, 2019). Only the Ministry, the regional environmental agencies, and the five official research institutes regularly coordinate their actions. However, collaborations between them and organizations conducting research -namely universities- are frequent, partly because of the lack of more specialized knowledge within government organizations where politics plays a big role in human resources policies.

Given the autonomy granted to them in the Constitution, the thirty-three regional environmental agencies have so far been the de facto main actors in the system. They have been granted legal authority to make decisions upon environmental issues in the territory. Therefore, they are responsible for those decisions, even if they are dependent on other actors for making and implementing them, like in this case.

4.3.3. The decisions in the project and its challenges

To have sufficient background for understanding the analysis of implementation as decision-making, we should explain more in-depth what was expected from the project.

The subproject for the formulation of the Chinchiná Basin Management Plan was signed in late November 2011, expected to last for 19 months, up until September 2013. Like all the other water management plans in The Netherlands Project, it would be drafted for 12 years to plan the use of natural resources aiming to strike a balance between exploitation and the preservation of the physical-biotic structure of the basin. Tasks in the Chinchiná subproject were grouped into six clearly defined phases:

1. Pre-preparations. 2. Preparations, 3. Diagnostic, 4. Foresight, 5. Environmental zoning, 6. Formulation.

The first phase, pre-preparations, included the signing of legal agreements between the initiating partners. Those partners were ASOCARS, CORPOCALDAS , and the Ministry of the Environment. ASOCARS had received funds from the Netherlands for the overall management of the project. CORPOCALDAS and the Ministry of the Environment, for their part, were going to implement the IWRM policy. A task group would be formed within CORPOCALDAS to work on the water management plan, and the basin would be declared legally under a special period of planning. Then, there was a second phase, preparations. It included the hiring of external technical teams to support regional environmental agencies that lacked sufficiently specialized professionals for some of the tasks. Also, drafting operational plans and timetables, compiling secondary information and cartography, and carrying out stakeholder analyses to identify those that should be part of a basin management body, the river basin model. In the Chinchiná case, technical support would be provided by Universidad Nacional. Decisions in these first two phases would be on the selection of actors and the rules for the collaboration.

With the agreements signed and partners identified, the work on the plan would continue in a third phase, diagnosis, where the goal was identifying a “baseline” for the basin. Also, analyzing its situation concerning the demand and supply of renewable natural resources (with an emphasis on water). There would be a multi-temporal analysis of the social, economic, cultural, and biophysical situations, and the identification of threats and vulnerabilities that could lead to land and resource-use restrictions. That baseline would be the starting point for planning. Decisions in the diagnostic phase would mostly be about valid procedures for data collection.

In the three phases following the diagnosis, choices about the future of the basin would be made. Once that baseline was established, the fourth phase, foresight, aimed at identifying a trend scenario -a likely future according to the trends- and the desired future. The goal in this phase was to visualize the way the different dimensions, components, and sub-components of the territory can interact, taking as a starting point the desired events that would serve as referents for the transition from the original situation to the one desired for the future. The choice here was about a model defining what

activities should take place in the basin so that its water and biological resources were protected, and the population was protected from water-related risks.

In the fifth phase, environmental zoning, decisions on land use would become concrete, identifying the different homogeneous units of territory and the categories of environmental use for each one, following the guidelines from the Ministry of the Environment. This was the moment where models for Risk Decision, fed by the data collected during the diagnostic, would have to lead to decisions on the activities allowed in each area of the basins. Choices here would have to be on concrete goals for the plan, realizing the model for the basin. Finally, in the formulation phase (sixth phase), both investments and norms necessary to reach the goals identified in the previous phase would be identified. Projects, budget sources, and follow-up and evaluation mechanisms would be defined, while simultaneously specific water streams would be prioritized for the definition of the riparian zones on their sides. Forests would be singled out where timbering should be restricted and, where necessary, water rights would be assigned. Choices in this last phase would mostly be of instruments.

It is now easier to observe how, instead of simply “doing what was mandated”, the implementation of the project required several new decisions on a variety of topics, in each phase. Proceeding according to plan demanded relatively straightforward progress on a great number of those decisions, something difficult to achieve when multiple actors need to agree on the decisions. As we will see below, things did not go according to plan in the Chinchiná subproject. Agreement was elusive in many decisions during different phases, especially the third phase (diagnostic) and the fifth phase (environmental zoning). In terms of pace, the project that was scheduled for completion in nineteen months continued for thirty-two months and was only finalized because the partners, after very long delays, were running out of time and money. The situation was so bad that even trust was damaged between CORPOCALDAS and Universidad Nacional, two of the main partners. Now, those delays were not mainly due to external factors like lack of funding, changes in the political landscape, or the actions of nature. They were largely a consequence of very different problem representations by the different actors for the decisions to be made in the project. Two examples help us illustrate how those different understandings influenced not only highly value-loaded decisions, which are usually expected to be subject to conflict, but also other, more technical ones.

The first example is of a decision where values are expected to be important, one on participation mechanisms. The terms of reference of the project established that a river basin council with representatives of different social sectors would be formed to make decisions on the governance of the basin, and the regional environmental agency, CORPOCALDAS, agreed to those terms in November 2011. However, the terms did not specify the process for selecting those members and left that decision to the partners. In the third meeting of the steering committee (month 2 of the project, preparations phase), CORPOCALDAS expressed for the first time its concerns about the membership of a river basin council. It would be formed mainly by representatives from institutional actors like municipalities, the departmental government, and business associations, besides themselves. That was not what they wanted, although it was a typical membership of a river basin council, a central component of IWRM policies that should be the forum where different social actors balance their demands to make joint decisions about basin management (see section 4.1). Similar models had been implemented in places like Mexico, Brazil, and Spain. CORPOCALDAS and the University, however, shared at least one experience they regarded as successful in another basin -the La Miel River. In that case, the council was made up mostly of local community leaders, with no representatives from larger businesses, and very few from authorities (CORPOCALDAS, 2012b). This was the approach they favored, one of consulting and working with communities and even individual actors, instead of setting formal deliberation bodies with large institutional actors like the type of river basin councils that the project sought to form. Their focus was on garnering knowledge from local communities and at the same time training them on sustainable practices, more than on giving representation to different social sectors.

Throughout 2012 and much of 2013, during the phases of diagnosis and formulation of the plan, the University team and CORPOCALDAS first joined forces to try to obtain approval for more community-based participation mechanisms. Later, when it was obvious that the Ministry would not see other mechanisms with sympathy, they worked in tandem to create a basin council with branches in each of the basin's five municipalities. This was to try to guarantee the participation of individual actors that they both considered relevant and did not represent specific sectors. At the end of 2013, however, new guidelines from the Ministry for all basin management plans, which were formally nonbinding but were indeed treated as binding, forced partners

in the project to reshape the basin council. In doing this, they followed the more representation-based scheme that the Ministry had favored all along, and that was backed by ASOCARS throughout the process. Therefore, the processes that they had already advanced had to be developed again, meaning time was lost to rework.

In this case, the two local partners could not win the argument since although ASOCARS and CORPOCALDAS had the same votes on the steering committee, ASOCARS had the backing of the Ministry of the Environment. The country's politico-administrative tradition (see section 4.1) helps understand how the Ministry, not being part of the committee, could still impose non-binding guidelines in what was conceived as a pilot project.

The second example is water quality measurement, and here the main difference was about knowledge validity, in this case, the validity of an index. Once again, the terms of reference defined that one of the analyses to be conducted in the diagnostic phase was measuring water quality with an index called IACAL. Nonetheless, in October 2012, several months after the start of the project, the University team cast doubt on the appropriateness of the index: "We're requested to measure water quality with the IACAL index, but we don't know yet whether the methodology is well defined or even if it's relevant for this basin". ASOCARS backed them. "It's true that this is defined as a quality index, yet it doesn't really measure quality but contamination load instead. We need to clarify this with the hydrology institute" (10/16/2012). On the other hand, this time CORPOCALDAS did not side with the University.

The University tried for months to "at least" be allowed to measure water quality including the presence of coliform bacteria in the water, one of the simplest ways to inform on its sanitary condition. By doing so it would avoid producing a "distorted" water quality report. In the end, neither the hydrology institute nor CORPOCALDAS backed the University, and it had to report the water quality index without reporting on the presence of coliforms. In the meantime, a delay of several months affected progress in the diagnosis phase which included analyzing water quality.

The two very different examples of problems show how different problem representations were not only evident in the example of social problems (participation) where the role of values or perspective should be judged evident. These different understandings

were also present in the example of technical issues (water quality measurement). These are examples of how problem compatibility cannot be fully appreciated from just the observations of those general problem representations that frames are.

There are two decisions selected for in-depth analysis in this case because of their very different outcomes inviting theoretical replication. Also, because of the sufficient documentation. They are the Biota Analysis, in the third phase of the project (diagnostic) and the Risk Decision which should inform the fifth phase of the project (environmental zoning).

Both the Biota and the Risk Decisions were made about proposals presented by Universidad Nacional to CORPOCALDAS. The Biota Analysis was a standard procedure for the diagnostic of the basin, while the Risk Decision incorporated some new types of analysis that would be particularly relevant in an area that had already suffered the dire consequences of natural disasters.

There was no major contestation in the Biota Decision, where Universidad Nacional disagreed with CORPOCALDAS, but they found ways to agree on the final analyses. Decision-making was consensual. In the Risk Decision, on the other hand, the collaborative process was contested, with CORPOCALDAS only agreeing to accept some of the last products to complete the project, although there were no threats, or actions, to abandon the project.

Like in the Cauca River Flood Control case, both decisions show persistence, with the main partners agreeing to continue to work on the proposals and complete all the tasks. Also, like in the Cauca River Flood Control case, one of the decisions, the Biota Decision, shows consensus, while the Risk Decision is not consensual, and there is a remarkable gap between them regarding delay: 114 percent for the Biota Decision and 400 percent for the Risk Delay. While both are examples of *troubled collaborative implementation*, with delays well over the 50 percent threshold, the differences in consensus and the very high differences in delay should not be overlooked.

The stark difference between the two outcomes within the same project is what the conditions of collaborative implementation in each specific decision might explain. We now proceed to check how our propositions presented in Chapter 2 fared in this case.

4.3.4 How the conditions for collaborative implementation played out in the Chinchiná Basin Management Plan

We have obtained an understanding of the background of the Chinchiná Water Management Plan's project, plus insights into the core actors, their interdependencies, and the type of decisions that had to be made in the project. We also know that, given its outcome, we can call this a case of *troubled collaborative implementation.* That is, an outcome where there is persistence – no actor abandons the collaborative implementation process- while progress is not consensual and may be slow.

With those elements, we can address our research questions and see how this case helps us answer them. We can do this through the observations about the conditions identified in the heuristic presented in Chapter 2.

For the project-level outcome, as well as for the Biota Decision, where there was *troubled collaborative implementation*, we expect, based on our Heuristic (section 2.4) that at least one of the three conditions driving persistence (a broad mandate, trust, or perceived interdependence) will be present. However, none of the conditions driving progress should be present. At the same time, for the Biota Decision, where there is a relatively *smooth collaborative implementation*, at least one of the conditions driving persistence and at least one of the conditions driving progress should be present.

For problem compatibility, the expectation would be to find it in the Biota Decision, where progress was noticeably better than in the Risk Decision.

After reviewing our three predictions, we can now go forth to our findings regarding those predictions in the case of the Chinchiná Water Management Plan's project. We will proceed first to analyze the presence of the conditions that should explain persistence.

4.3.4.1 The conditions driving persistence

Our heuristic of collaborative implementation (see section 2.3) expects three conditions to explain the initiation and persistence of collaborative implementation: trust, perceived interdependence, and a broad mandate. The literature finds these

conditions to create incentives for partners to collaborate, be it because they expect other partners will refrain from opportunistic behavior (trust); because they expect to benefit from collaborating (perceived interdependence); or because an ample problem space makes joint fact-finding easier (broad mandate). We will now address how each one of those conditions influenced the Chinchiná River Water Management Plan and the two Decisions selected within it. We will first analyze the role of the broad mandate, followed by trust and, finally, perceived interdependence.

Broad mandate

In Chapter 2 we explained that, when analyzing collaborative implementation, mandates matter. A broad mandate provides partners in a collaboration with the possibility of agreeing on a specific alternative before a decision, be it because they converge on that choice naturally or because they negotiate it. A narrow mandate, on the other hand, might be thought of as an option to simplify implementation by putting some decisions off the table. Conversely, it can also lead to a more complicated implementation if at least one of a group of partners with equal decision-making capacities attempts to change that mandate or interprets it differently.

The four basin management plans within The Netherlands Project (see section 4.1) had a rather narrow mandate compared to those of both the Cauca River Flood Control Project and the Basin Districts. This includes the Pamplonita River, the Guali River, a wetland complex around the Magdalena River on the North Coast of the country, and, of course, the Chinchiná River Management Plan. Both the tasks and procedures for the completion of these river basin management plans were highly specified, despite them being considered pilot projects. The Netherlands Project specified only four activities and two products for the Basin Districts Plan. On the other hand, no less than 43 activities and sub-activities, as well as 33 products were specified for each one of the river basin management plans, including that of Chinchiná (ASOCARS, 2011b).

This narrow mandate only became narrower after the Ministry of the Environment published in December 2013 a set of guidelines on the preparation of river basin management plans (MADS, 2013). The guidelines were conceived to be fed by the

experiential knowledge from The Netherlands Project' subprojects, yet they were published beforehand, in part because of the delays in the completion of those pilot projects. In the Chinchiná case, the narrowing of the mandate clashed especially with the incentives of university researchers at Universidad Nacional. If universities are complex, loosely coupled, knowledge-producing organizations where different communities with different incentives can be found (Benneworth & Nieth, 2018), the incentives for researchers and university managers in projects are different. University managers are the ones signing the agreements, and they may be more interested in collaboration and access to resources, not minding too much about how broad or narrow mandates are. For researchers, on the other hand, a broad mandate, like the one that could be expected in a pilot project, means the opportunity to test their own models and techniques, not those of others. That incentive is missing where the mandate is narrow.

If the disadvantage of a narrow mandate is limiting the possibilities for joint fact-finding (Ansell & Gash, 2008; Emerson et al., 2012) by the partners, an extremely narrow mandate like the one in the Chinchiná Basin Management project would extremely limit those possibilities. Partners in collaborative implementations with very narrow mandates are likely to end up arguing about the right interpretation, or even the relevance, of what is already mandated. This is a good way to understand what happened, for example, in the previous examples of the basin council and the water quality index: the University tried to adapt what was already mandated. In one case, they did it with support from CORPOCALDAS to what its experts considered appropriate, and found opposition, mainly from ASOCARS and the Ministry.

If we now delve more into the two specific decisions selected for their very different outcomes within the Chinchiná subproject -the decision on methods to diagnose Biota and the decision on Risk Decision methods- we notice that the mandate was originally narrower for the diagnostic. The University saw its ability to propose an alternative way of measuring limited by what the terms of reference of the project demanded from the beginning in terms of the specific indexes that should be used to measure water quality, among other conditions. When it tried to modify the indexes to be used to accommodate the concerns of its researchers, then, the University was trying to modify the mandate. The time spent in those efforts was time lost from the implementation of what was already set.

For the Risk Decision, on the other hand, the mandate was broader in the sense that terms of reference did specify what should be taken into account when measuring but did not specify so much how. Risks, for instance, should be prioritized according to certain criteria, and threat zoning should be made according to well-known methodologies. Nevertheless, it did not specify which criteria, which weights for those criteria, or which methodologies to use, leaving the room open for discussion and even negotiation between the University and CORPOCALDAS. This broad mandate did not lead to joint discovery, however. The two main partners did have the opportunity to reach agreements, but they missed it, leading to a stalemate. That was when the mandate became narrower as the Ministry, which was expected to use feedback from these pilot projects to inform the following ones, did not wait for their results and issued a series of Guidelines that applied also to these pilot projects (MADS, 2013). The guidelines were still not precise enough to impose an unequivocal method for assessing risk, yet they were specific enough for CORPOCALDAS to argue that the University was not following them.

We can conclude that in the case of the Chinchiná Water Management Plan, a broader mandate, especially for the Risk Decision, provided an opportunity for the partners, namely the University and CORPOCALDAS, to reach agreements. It was an opportunity they just did not seize. On the other hand, the narrower mandate for the diagnostic did not prevent arguments between partners in what was understood as a pilot project, providing room for innovation, and a collaborative exercise where horizontality was expected. Neither a broad nor a narrow mandate led to adequate progress as expected in this case, although the narrow mandate provided the opportunity for it. Progress, being far from adequate, was still not nearly as bad in the Biota Analysis with the unwanted narrow mandate as it was in the Risk Decision with the desired broad mandate.

Trust

In Chapter 2 we anticipated that trust should help collaborative implementation to persist even if it faced severe hurdles, since trusting partners have a predisposition to cooperate with trusted ones from which they do not expect opportunistic behavior.

This would also allow for better information flows and fewer guarantees required from partners than would otherwise be the case. Trust should lead to openness to learn about other actors' interests and values, facilitating the continuation of exchanges in the collaboration even when there is no agreement on decisions (see section 2.3).

When we look for trust in this subproject, according to the interviews and meeting minutes, we find that it was generally high at the beginning. "We took on the project because we trusted CORPOCALDAS" replied one member of the Universidad Nacional team when questioned about the relevance of this condition for the collaboration (ChinchináRiver5,04/05/2016). However, those levels of trust seem to have declined over time, up to a moment where very little trust remained, especially between CORPOCALDAS and Universidad Nacional. This is particularly important because these two were the local partners who had the most at play in the project. Interestingly, trust seems to have declined because of disagreements in a series of important decisions, and the way CORPOCALDAS and Universidad Nacional managed those disagreements.

At the beginning of the project, ASOCARS signaled its concern that one of the hydrologists included in Universidad Nacional's staff was living in another region and this was against the project's goals of supporting local human resources. However, CORPOCALDAS helped the university by judging that it was "preferable to work with professionals that have been accumulating technical experience -no matter how many contracts they have- than to start anew with technical staff that's still unfamiliar with the scope of tasks in certain phases".

High trust seems to have lasted at least throughout most of the diagnostic phase. A series of events show it eroded, however, when the time came for risk analyses and decisions on land allocation informed by them. The university's analyses indicated the need for drastic changes in the economic activities taking place in the basin, changes that CORPOCALDAS rejected.

In an episode highlighted in the interviews, CORPOCALDAS affirmed that a Universidad Nacional report had been delivered without proper support for their analyses (annexes were blank). The university team explained that this was a feature of the software. The version of ARGISS they were using did not reproduce intermediate

shapefiles -visual representations of the geographical entities and their attributes. Another episode was a letter sent by CORPOCALDAS asking for a series of clarifications on the methods used by the university and their results – a letter that University team members downplayed by calling it "the little letter" or *la cartica* in Spanish. According to one member of the university team, they were so offended by the "basic" -meaning in this case elementary- character of the questions in the letter that they decided not to reply (ChinchináRiver2,04/05/2016). Around the same time, CORPOCALDAS accused the university of filtering information to members of the basin's main city council (Manizales) so that they could pressure the environmental agency to align with the university's preferred course of action (ChinchináRiver4,04/05/2016; Chinchiná River1,04/05/2016). These actions and reactions are not examples of trust if it means "the expectation that the partner will refrain from opportunistic behavior".

By the end of the project, the University staff felt not trusted by CORPOCALDAS (Chinchiná River1,04/05/2016; ChinchináRiver3,04/05/2016). Although the environmental agency insisted that "there was always trust, despite the discussions" (ChinchináRiver3,04/05/2016) they admit they could not "lower the barriers" to partnering as trust is supposed to be fomented due to the controls that anti-corruption bodies in the Colombian State have placed upon them (ChinchináRiver 3,04/05/2016). Those controls demand the completion of a series of steps in all projects receiving public funding, and CORPOCALDAS would be made responsible if it was found that some steps were not followed. Of course, that was not the way the University interpreted the events. When complaining that their relationship with CORPOCALDAS did not develop as planned, one member of the University team affirmed that "some people over there are nice, but also really protective of their information. Others would share the information, but do not support the project. Cooperation means information and support".

In short, trust was present as an initial condition in this project. However, it decreased during its evolution, at least between the two most influential partners, CORPOCALDAS and Universidad Nacional, leading us to an assessment of low trust. Interestingly, however, the decline in trust did not prevent the subproject's completion. The role of trust in supporting collaboration's persistence was not verified in this case, at least when we observe the whole subproject as one case. The fact that the

collaboration persisted, although with an overall meager level of progress, suggests that the influence of trust was more relevant to progress, as we observed in the Cauca River case already.

Now we turn our attention to the two specific decisions selected for comparison given their very different outcomes within the project. The first one is the Biota methods decision, where very little contestation was evidenced in the interviews and meeting minutes analyzed. Corresponding to the third phase of the project (Diagnostic), it faced a 114 percent delay. The second decision we will analyze is the Risk Decision, part of the fifth phase (environmental zoning), which suffered a 400 percent delay. In this case, much more contestation was evident.

When we analyze the interviews with actors in the Chinchiná subproject more in detail, almost all references to low trust in the general case analysis refer to situations that occurred at the time of the Risk Decision. They include the alleged leak of information to a city council or the *little* -meaning, in this case, irrelevant, unimportant- letter that CORPOCALDAS sent to Universidad Nacional asking for clarifications on the analyses. It is plausible to affirm that trust was high during the Biota Decision and low at the time of the Risk Decision.

There seems to be an association, then, between the low levels of trust at the time of the decision on risk and the extremely low rhythm of progress during that phase of the project. At the same time, there seems to be an association between the higher levels of trust at the beginning of the collaboration and the much better levels of progress on implementation at that time. Even if some episodes were showing a lack of trust in the earlier phases of the project, they seem less frequent and less severe than those during the Risk Decision, in the environmental zoning phase. They seemed to be linked to better progress in the first phases of the subproject than at the end.

In sum, the evidence on trust in the case of the Chinchiná Basin Management Plan is that trust was low in general, quickly declining from good levels at the beginning to very low levels at the end. Also, it was rather high for the Biota Decision but low, and declining, for the Risk Decision. These findings lead us to reflect on the influence that our heuristic expected from trust in collaborative implementation, a reassessment

that already started when analyzing the Cauca River case. Trust was expected to be a relevant factor in the explanation of persistence, but at least in this case, it might be rather associated with progress since persistence was achieved in Decisions with very different levels of trust. Perhaps trust's role in "lowering defenses" (Oomsels et al., 2016) and facilitating information exchange (Klijn et al., 2016) is more relevant for allowing collaborations to progress at a good pace when they persist than for conducing to such persistence.

Perceived Interdependence

In our heuristic of collaborative implementation, perceived interdependence is a condition leading to the initiation and persistence of the collaboration. It gives partners incentives to collaborate in their quest to access resources that other partners have, be those resources in the form of money, staff, knowledge, political influence, or any other form. It is important to stress that it is perceived. What drives actors to collaborate is their perception that other actors have a resource, as well as their perception that such resource is important for them. Like the other conditions in our heuristic, it is expected to be a sufficient condition for persistent collaborative implementation: It is not necessary, but in the cases where it is present, we should expect an outcome of persistence.

In the Chinchiná Basin Management Plan, statements in interviews indicate perceived interdependence was high, at least between the main partners: CORPOCALDAS, Universidad Nacional, and the Ministry of the Environment and Sustainable Development. The situation was different with some other, non-key partners, whose collaboration was still relevant for some important tasks.

Just like in the Cauca Project case, for example, technical cooperation was expected from the National Geography Institute (IGAC), whose official information regarding current and potential land uses in the basin was needed in the early phases of the project. The meeting minutes show that ASOCARS attempted to obtain the information via inter-organizational agreements with the participation of the Ministry, a national organization higher in the State hierarchy with which IGAC would be expected to collaborate. Those intra-Government negotiations did not bear results,

however, and it was only after CORPOCALDAS paid for it that IGAC started working on a land-use map for the project. Even then, the map was not delivered in time, and this led to delays in the diagnostic phase. Its actions show how little interdependence IGAC perceived with respect not only to CORPOCALDAS but also to the Ministry.

IGAC was not the only national organization giving little priority to the Chinchiná subproject. Another example is the National Hydrology and Meteorology Institute (IDEAM), a research institute subordinated to the Ministry of the Environment that usually makes many of the decisions on water-specific diagnostics, including water quality. Again, its ties to the Ministry and the regional environmental agencies did not incentivize IDEAM enough to collaborate. On the contrary, the project had to pay the institute for information on the basin's hydrology and weather to use it in the diagnostic. This was only because its information was official, even if a local research center on coffee (CENICAFE) had more stations to monitor them and therefore more precision in measurement.

In any case, the interviews and meeting minutes make it clear that the core of the collaboration in this project was the interaction between CORPOCALDAS and Universidad Nacional, with a few critical interventions from ASOCARS and the Ministry. For these two partners, CORPOCALDAS and the University, interdependence was high, as there is a dense web of relationships between them. In the words of one Universidad Nacional team member:

> There are several relationships because almost everyone working at CORPOCALDAS studied here. We work very often for CORPOCALDAS, so much so that there is a framework agreement (between both organizations). We work for, because of, and against CORPOCALDAS, and the Chinchiná Water Management Plan was not the first and will not be the last project (ChinchináRiver2,04/05/2016).

The analysis of the two specific decisions chosen for comparison -the diagnostic and the Risk Decision- suggests there was no relevant difference in perceived interdependence between the decisions.

Both CORPOCALDAS and the University started the subproject with high levels of perceived interdependence, as their interviews indicate. Those levels remained high

during their collaborative implementation, as we can see from the continuation of their inputs and the fact that none of these core partners attempted to break the collaboration. They kept working together in the diagnostic phase and after the change in rules with the introduction of new guidelines by the Ministry. They also kept working together during the crisis of the Risk Decisions, when progress became almost inexistent and there was a 400 percent delay. They continued to collaborate even when trust between them declined to a minimum. Indeed, CORPOCALDAS agreed to approve the analyses it disagreed with to declare the project complete when they ran out of time. Just as we have reasons to conclude that trust varied, and indeed diminished, between the diagnostic and the Risk Decisions (see section 4.3), we have reasons to conclude that perceived interdependence did not fade, at least between these two core partners, even in the face of very disappointing results working together. CORPOCALDAS' interdependence with ASOCARS, with which it also had strong ties, may have played a role in the environmental agency's decisions too, yet it was not mentioned by interviewees or in the documents reviewed.

4.3.4.2 The conditions leading to progress

Our heuristic (section 2.3) expects three conditions to explain the progress of collaborative implementation: problem compatibility, leadership -be it classical or facilitative- and the use of authority. Those conditions lead to progress because they create consensus (problem compatibility); unify visions (bond-supported leadership); allow the removal of obstacles (facilitative leadership) or allow for imposing decisions and moving on with collaborative processes (use of authority). We will now address how each of those conditions influenced the Chinchiná River Water Management Plan, starting with problem compatibility, followed by leadership (classical and facilitative), and finally the use of authority.

Problem Compatibility

Our heuristic in Chapter 2 expected problem compatibility to be a frequent condition for progress in collaborative implementation. By suggesting similar decisions to partners, even if they have different problem representations, problem compatibility is

expected to provide a path to consensual decision-making. This path is broader than the one provided by the shared understanding that collaborative governance literature expects This is because it needs not such shared understanding but may be driven by compatible criteria or similar interpretations of valid knowledge, different from the path bond-supported leadership creates. This path may exist even in the complete absence of the expectation that one of the partners "knows better".

If we now turn to our observations of the Chinchiná Basin Management Plan, they show us few signals that this path existed in the case, there were low levels of problem compatibility. First, the observations of low problem compatibility in the documents coded were almost four times as many as those of high problem compatibility. Second, the interviews reinforce a picture of very frequent disagreement:

"Several discussions took place that led to the process's delay. From technical debates about the scope, to where primary or secondary information was needed" said CORPOCALDAS' Deputy Director of Planning (ChinchináRiver3,04/05/2016).

What explains these differences? For the former university team's director, the main explanation lies in the type of decision: "We were all in agreement regarding ends. Yet in the methodology, we had several differences" (Chinchiná River1,04/05/2016). For a key CORPOCALDAS actor, the reasons had more to do with the challenges of boundary work: "Academia's stubbornness is difficult to deal with" (ChinchináRiver4 ,04/05/2016).

Sometimes CORPOCALDAS and the University agreed in their opposition to the proposals by ASOCARS and the Ministry. They only abandoned such opposition at the end of the project when the Ministry used its authority to issue official guidelines for the formulation of basin management plans. It happened even though this and the other pilot projects had not been completed. More often, however, the differences were mainly between these two core local partners: CORPOCALDAS and the University. Those differences were of different natures. Some of them were about administrative decisions, for example: do we need a single transport supplier? How is performance evaluation going to be conducted in a way that respects "horizontality" between the parts? How important is it to have local staff? Other differences were about methods, like procedures and the need to collect biota samples or the above-mentioned debate on the pertinence of the IACAL water quality index. Yet besides these differences in

means, there were also many debates on goals and what the plan was supposed to deliver. From the scope of the Risk Decision to the type of specific projects that should result from the river basin management plan, including the nature of a basin council representing different stakeholders in the river basin's governance. Many of the differences were worked out by the different partners through compromises. And finally, some differences remained unresolved throughout the project.

One decision was agreed-upon just to declare the project completed. It was the decision on the type of resulting interventions needed for the implementation of the risk management strategy. While the University prepared a list of interventions directly linked to the enforcement of the riparian zone it proposed, CORPOCALDAS wanted and pushed for, a diversity of investment projects. When the time came to wrap up the project, CORPOCALDAS declared itself satisfied with Universidad Nacional's proposal just to declare that the project had finished on time but afterward it presented a modified list of projects (see above the analysis on perceived interdependence). The way disagreements outnumber agreements leads us to judge problem compatibility as low in this subproject.

What changes, now, if we observe problem compatibility in the Biota and Risk Decisions, the two decisions with very different outcomes we chose for comparison to illustrate the influence of the different conditions in this subproject? The data on problem compatibility shows a significant variation between these two joint decisions. Both the interviews and documents pointed to higher problem compatibility in the Biota Decision than in the Risk Decision. If we focus on observations from meeting minutes, for example, eight out of fourteen specific observations for problem compatibility when addressing Biota were of high problem compatibility, while the other six showed low problem compatibility. Comparatively, only one out of ten observations on the Risk Decision coded from the minutes of the Chinchiná project shows problem compatibility. Like in the Cauca River case, however, the difference between the two decisions can be better understood by looking separately at the three dimensions of problem compatibility: general problem representations, which are similar to frames, criteria for the decisions, and knowledge considered relevant.

In the Biota Decision, there was no major confrontation of visions about what the Biota Analysis should include. The general problem representation, then, was very

similar for both partners. There was also agreement on the importance of ecological connectivity as a criterion for the analysis. There was disagreement, however, on the knowledge and methods that would lead to appropriate analyses. The university preferred to set up its methodologies for species sampling, while CORPOCALDAS wanted to abide by the already accepted methodologies. Also, the University argued that CORPOCALDAS' maps were not very useful, since they were not comparable given the use of different methodologies in their elaboration. Here CORPOCALDAS was open to reviewing its methods, but this would surely take time.

Two of the three dimensions of problem compatibility in this Biota Decision saw situations where the two core partners, CORPOCALDAS and Universidad Nacional, were very similar and pointed to an agreement. In a third dimension, however -relevant knowledge- some differences would make agreement harder to reach. Those were differences of preference, but they were not leading to any unsurmountable drift. The analysis suggests that problem compatibility was rather high for the Biota Decision (see Table 5).

Table 5. Manifestations of problem compatibility in the Biota Decision

Dimensions	University	CORPOCALDAS
General problem representations	There is a main biological structure of which the land and multiple types of species are part. It is important to measure biodiversity, the use of land, and other dimensions of biota (Project Steering Committee 10)	There is a main biological structure of which the land and multiple types of species are part. It is important to measure biodiversity, the use of land, and other dimensions of biota (Project Steering Committee 10)
Relevant criteria for the decision	Ecological connectivity is a very important goal. (Project Steering Committee 10)	Ecological connectivity is a very important goal (Project Steering Committee 10)
Relevant knowledge and methods	The University prefers to generate its own methodologies for the sampling of species (Project Steering Committee 4) Maps provided by CORPOCALDAS were created with different methodologies and are therefore not comparable (Project Steering Committee7)	It is preferable to use the already accepted procedures of the Humboldt Institute (Project Steering Committee 4) It is worth reviewing the methods used for the creation of previous maps. No objection to taking a step back and reviewing methods. (Project Steering Committee7)

The Risk Decision was very different from the Biota one. In the Biota Decision the two core partners agreed on the general problem representation and the criteria while having workable differences in their judgments about valid knowledge and methods. In contrast, in the Risk Decision their understanding was very different on the three dimensions. Where the University saw an opportunity to innovate, CORPOCALDAS saw an obligation to proceed "by the book". Where the University saw risk levels as the only relevant criterion guiding decisions on zoning, CORPOCALDAS saw a need to also bear in mind current levels of economic activity and "social realities". Finally, concerning relevant knowledge and methods, in the Biota Decision the University wanted to skip the use of CORPOCALDAS maps, and the environmental agency was open to at least reviewing that option. However, in the Risk Decision CORPOCALDAS was not ready to replace the measurements that the University wanted to change, or to introduce the new types of analysis, like long-term threats analysis, that the University was pushing for. In this decision, then, disagreement in all its dimensions led to an overall result of low problem compatibility (see Table 6).

It is important to remember here how analyzing problem compatibility contributes to a more nuanced understanding of decisions. In the Biota decision, a frames analysis would have identified very similar frames about biodiversity and its measurement in both core partners. The problem compatibility analysis could confirm this but also complement it by making observations about very similar decision criteria and only some, workable, differences regarding methods. If we turn to the analysis of the Risk Decision, on the other hand, in this case, there was some discrepancy in the frames, with CORPOCALDAS sharing the "opportunity for innovation" frame, but also stressing the need to follow the rules set by the Ministry. The observation of decision criteria and judgments on knowledge validity that would not be included in a frames analysis, is part of a problem compatibility analysis. It makes it much easier to anticipate the lack of agreement that eventually happened, with its effects on the progress of the collaboration. This gives us another example of how problem compatibility analysis can complement frame analyses.

Table 6. Manifestations of problem compatibility in the Risk decision

Dimensions	University	CORPOCALDAS
General problem representations	An opportunity to use University-produced knowledge and models. (Chinchiná River1,04/05/2016)	An opportunity to try innovative approaches, but also an obligation to use Ministry-vetted methods as presented in official documents. (ChinchináRiver4,04/05/2016)
Relevant criteria for the decision	Risk Decision leads to a clear conclusion that, in zoning, economic activity must be limited in large areas of the basin and new settlements must be discouraged. (ChinchináRiver2, 04/05/2016) (ChinchináRiver3,04/05/2016)	Zoning cannot only be guided by Risk decisions at the scale used. It must bear in mind current economic activity in areas where it would be discouraged, as well as social realities (Project Steering Committee February 2014, ChinchináRiver4,04/05/2016)
Relevant knowledge and methods	There is conceptual confusion in the Project's Terms of Reference. Concepts like vulnerability index, damage index, and landslide impacts are unclear and should be replaced (ChinchináRiver1, 04/05/2016) Risk Decision for long-term threats is relevant. CAPRA software will allow factoring seismic hazard. (Project steering committee 6)	It is possible to work and measure using the concepts indicated, even if they are not fully adequate (ChinchináRiver4,04/05/201) Risk Decision for long-term threats not relevant due to the project's planning horizon (12 years), CAPRA software should not be used to probabilistically estimate seismic hazards (Project steering committee 6)

Leadership

In Chapter 2 we identified two different types of leadership that might be relevant for collaborative implementation. First, what we called the classical notion of leadership, where there is a psychological contract between a leader and follower directing the latter to decisions that he expects to be preferred by the leader (´t Hart, 2014). As we put it, if trusting implies a predisposition to cooperate, in bond-supported leadership following implies a predisposition to agree.

The second, potentially relevant, type of leadership is facilitative leadership (´t Hart, 2021; Ansell & Gash, 2012) where leaders devote themselves to removing obstacles

to the participation of others and work to start and maintain the collaborative process. Bond-supported leadership could foster collaborations' progress by providing a problem representation that followers could embrace. Therefore, it would be guiding their decision-making without recurring to authority. Facilitative leadership, on the other hand, can help progress by facilitating the fluid participation of the different partners.

Bond-supported leadership appears strong in the case of the Chinchiná Basin Management Plan. That is, despite the disputes about specific decisions, meeting minutes reveal that most of the time, proposals presented by one of the main partners in the collaboration were quickly accepted by the others. This is consistent with the high regard that both core partners, CORPOCALDAS and Universidad Nacional, expressed for each other's technical competence in interviews.

We must highlight that the partners involved do not see a predisposition to agree as an explanation for their behavior. "Perhaps in the case of the geographic institute's inputs," there was leadership, explains one staff member from Universidad Nacional. "We did not question their inputs, just adapted them to our reality. Other than that...no" (ChinchináRiver2,04/05/2016). Despite those words, the meeting minutes indicate a likely role of bond-supported leadership in decision-making. There are several examples of proposals that were presented in meetings and accepted on the spot, with no objections but also no commentaries, and these are consistent with the high appreciation that the core partners had for each other's competence.

Now, we go deeper into our analysis and look at the two specific decisions singled out for further study within the case: the Biota and the Risk Decisions. No testimony or meeting minutes observation is suggesting any influence of leadership in these specific decisions or any change in its presence. Therefore, the reasonable interpretation is that the predisposition to agree was present, yet it likely did not influence much the agreement in the Biota Decision or the lack of agreement in the Risk Decision.

The previous analysis suggests that bond-supported leadership was present in the project and the two specific decisions, perhaps not influencing the outcomes very much. Now, what happens if we turn our attention toward the possible role of facilitative leadership in this case? There are no indications that any of the actors devoted themselves to facilitating the participation of the others, or to guaranteeing "a leveled

playing field" as is expected from facilitative leadership. Not even ASOCARS, who monitored the progress of the collaboration and regularly organized follow-up meetings with the technical teams of the University and CORPOCALDAS, took that facilitative role for itself.

ASOCARS' role was pretty much auditing: keeping track of technical progress, and on-budget execution, but not getting involved too deeply in the process. That is as they also had a role of documenting what was going on, to then suggest adjustments to the procedures in the guidelines. Maybe they felt that intervening might alter the normal evolution of the project… (ChinchináRiver4,19/07/2021)

ASOCARS did intervene in the very last phase of the project, when delays were putting completion in danger, trying to ease tensions between the teams of CORPOCALDAS and Universidad Nacional in the role of mediator. That intervention may have been instrumental in ensuring the appropriate closure of the Chinchiná project. The overall diagnostic is of low facilitative leadership, both for the project and the two decisions analyzed.

Use of authority

In Chapter 2 we proposed that the use of authority could be one of the conditions influencing the progress of collaborative implementation since it gives some partners the possibility to impose some decisions on others. Authority helps put an end to disputes, speeding up joint decision-making. This, of course, boosts the progress of collaborative implementation, although it clearly should not be the default way of deciding in partnerships that are created to look for joint decision-making. We also identified two forms of authority that could be relevant for our research. The first is hierarchical authority, where one of the partners has a higher standing in a hierarchy and can order other organizations to follow instructions. The second is contractual authority, where one of the partners is contracting another one's services and can make its payments dependent on the obedience to its requests.

If we observe the Chinchiná subproject, we find that hierarchical authority was unclear between some partners and clear, but not in place, between partners of the Chinchiná project during most of its duration. It was in place at the end of the project, however.

The relationship between the regional environmental agencies like CORPOCALDAS and the Ministry was ambivalent, since they are part of the national environmental system (SINA, Spanish acronym) headed by the Ministry, and they are expected to implement policies defined by the Ministry -like the IWRM policy. At the same time, the Colombian Constitution defines these agencies as autonomous, and the Ministry has only one vote among many in the election of the environmental agencies' directors. On the other hand, the Ministry is hierarchically superior to the Hydrology Institute (IDEAM), whose directors are named by the Ministry, but there is no evidence that it used its authority over IDEAM during the project.

The Ministry did use its hierarchical authority, especially upon CORPOCALDAS, at the end of the project. It first used a norm -a decree- to make mandatory a series of steps in the process and a series of features of the projects for this project and for all future river basin management plans that were being piloted in this and the other pilot projects of the new IWRM policy. Then, in December 2013, it issued some guidelines detailing the instructions in the decree that, since they were built upon the normative authority in the decree itself, they were treated not as guidelines, but as mandates. The issuing of the guidelines led to disputes between CORPOCALDAS and Universidad Nacional about their interpretation, especially for Risk Decision and the methods of zoning, that lasted until the end of the project.

CORPOCALDAS, on the other hand, had contractual authority over Universidad Nacional. Although both organizations had signed an agreement to conduct the project, CORPOCALDAS and ASOCARS were the members of the steering committee that should approve the decisions proposed by the University. Yet, when CORPOCALDAS wanted Universidad Nacional to modify some deliverables with which it did not agree -notably the Risk Decision and the investment projects that would secure the changes required in the basin- the university sustained its position. Hence, CORPOCALDAS had to approve the projects to complete the project and, only then, modify those analyses on its own. Thus, it made use of its legal authority to adopt the basin management plan but was unable to force the University to do the changes.

In sum, we can affirm that authority was indeed present in the two forms addressed in this dissertation -contractual authority and hierarchical authority. In addition, the Ministry effectively used its hierarchical authority on at least one occasion, successfully, while CORPOCALDAS attempted to use it, unsuccessfully. The assessment is of high use of authority in this project.

In this case, we do find differences between the two decisions selected for comparison when we examine the use of authority in them. There is no evidence that authority was used in the Biota Decision, while the Ministry and CORPOCALDAS used their authority in the Risk Decision.

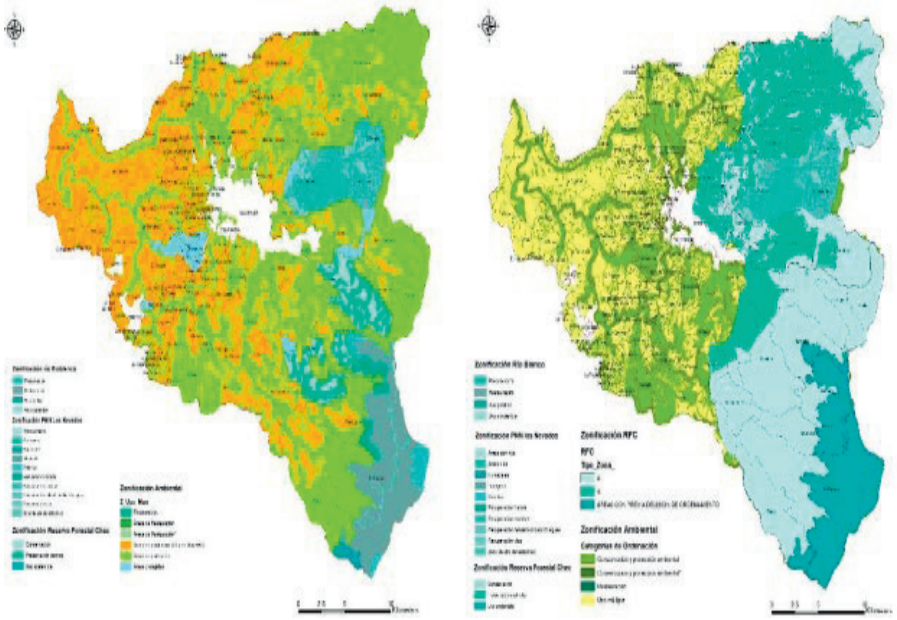
The guidelines issued by the Ministry in December 2013 are good examples of Colombia's politico-administrative tradition (see section 4.1). They were expected to incorporate learning from the implementation of The Netherlands Project projects, and indeed they benefited from insights obtained in workshops with partners in those projects. But they were imposed on those projects -especially on those like the Chinchiná River project that were devoted to river basin management, leaving little room for new learning and experimentation in them.

The guidelines were published at a moment when CORPOCALDAS was already putting pressure on the University to change its proposal for the Risk Decision. The proposal suggested limitations on economic activities in several areas of the Chinchiná River basin were particularly high risks using the University's methods. Yet neither the guidelines nor the additional pressure forced the University to change its proposals. It used the guidelines as a tool to reject CORPOCALDAS' demands for changes in the Risk Decision by claiming the analysis followed the new rules. When CORPOCALDAS replied that such compliance was not real, ASOCARS had conversations with both parties. CORPOCALDAS ended up accepting the Risk Decision with the sole goal of putting an amicable end to the collaboration with the formal conclusion of the project.

Perhaps a more interesting development was when after the project's finalization CORPOCALDAS decided to ignore the University's Risk Decision and perform its own analysis following the guidelines. They disliked their own results and obtained the Ministry's waiver to bypass the rules and make a third analysis that could identify

fewer risks. Summing up, there is no evidence that attempts to impose contractual authority (by CORPOCALDAS) and hierarchical authority (by the Ministry) in the Risk Decision improved its progress. Quite on the contrary, they are plausibly related to its extreme, a 400 percent delay, and did not change the content of the University's decision that was adopted by the project. Figure 6 (below) shows the two, very different, ways in which Universidad Nacional (up) and CORPOCALDAS (down) did the zoning, following the same guidelines.

Figure 6. The Two versions of environmental zoning for the Chinchiná River Basin



Source: The Netherlands Project' reports by Universidad Nacional and CORPOCALDAS

4.3.5 Exploring the empirical justification for the propositions

We can now assess how the four propositions built upon our heuristic of collaborative implementation presented in Chapter 2 fared in the Chinchiná Basin Management Plan case. We can also analyze the two specific decisions selected within it because of their opposing outcomes.

Our Proposition 1 was that the persistence of collaborative implementation is driven by pathways where trust, perceived interdependence, or a broad mandate are present. We found partial evidence to support this claim in these three cases since two of the three conditions led to outcomes of persistence every time they were present. Yet, the third one (broad mandate) was not present in any of the cases and therefore could not be analyzed concerning its influence.

In the Chinchiná Basin Management Plan, trust was initially high when the whole project is analyzed, but it declined during the process, with no visible effect on the persistence of the project. However, when it was constantly high -the Biota Decision- persistence was indeed achieved. Perceived interdependence, on the other hand, was present in the three cases -the project and the two specific decisions- always being associated with persistence. Finally, the broad mandate was not present in any of the cases, not allowing us to explore its empirical importance.

Our Proposition 2 stated that the progress of collaborative implementation, specified as robust progress or frail progress, with a less than 50 percent delay, is driven by pathways where problem compatibility, bond-supported leadership, facilitative leadership, or the use of authority are present. We found scant support for this claim since none of the three cases in this group reached an outcome of robust or frail progress. Despite this, three of the conditions – problem compatibility, bond-supported leadership, and use of authority- were high in at least one of them. The remaining condition, facilitative leadership, was absent in all three cases, not allowing us to empirically observe its influence.

We should notice, however, the remarkable difference between the Biota Decision and the Risk Decision in this regard. While the first one faced a very high delay -114 percent- the second experienced a catastrophe in terms of progress with a completion time 400 percent higher than expected. What could explain this difference? Not bond leadership, which seems to have been present and stable for the whole project. Also not facilitative leadership, which was absent in three cases. The use of authority may have had a role, although a negative one. It was present at the project level -with disappointing results- as well as in the specific decision with the worst performance, the Risk Decision. At the same time, it was absent in the decision that

performed relatively better, the Biota Decision. This leaves us with problem compatibility as a possible driver to better, although still low, progress in the Biota Decision compared to the Risk one.

It is also worth highlighting that our findings suggest that the use of authority might indeed be counterproductive. That is by considering the experience in the Risk Decision, the only one where it was present and the one with the worst outcome in terms of progress. Appealing to authority in a collaborative setting that is designed for horizontal exchanges might find at least some partners willing to resist. Therefore, slowing the process instead of speeding it up.

Conclusion

Following our explanation-building strategy (see section 3.1), we can now consider the findings from this second group of cases around the Chinchiná River Management Plan, together with the findings from our first group of cases that were grouped around the Cauca River Flood Control Plan, and compare them with the heuristic presented in Chapter 2.

First, just like in the first group of cases, we notice that the three conditions in the heuristic expected to drive persistence might indeed be sufficient (see section 3.5). This is for the reason that every time one of them was present the outcome was persistence. Trust, a broad mandate, and perceived interdependence are so far found to drive persistence when they are present.

The situation is different for conditions expected by the heuristic to lead to progress. While they were found to be sufficient among our first group of cases -those of *smooth collaborative implementation* —three of those conditions are not found to lead to progress in this second group of cases. Problem compatibility, bond-supported leadership, and the use of authority were all high in at least one of the cases, yet not driving robust or frail progress, but meager progress which was the worst possible outcome. The remaining condition, facilitative leadership, was absent in all three cases, not allowing us to empirically observe its influence.

Second, if we observe necessity (see section 3.5) and start with the conditions associated with persistence in our heuristic, perceived interdependence stands apart from the rest. While perceived interdependence was present every time the outcome of persistence occurred, such outcome of persistence was present in the Chinchiná case and its two specific decisions despite the absence of a broad mandate. It was also present in the Chinchiná Project and the Risk Decision within it, without the presence of trust. Here we find a contrast with the findings for the first group of cases, those of *smooth collaborative implementation* where trust and a broad mandate were found every time there was persistence. On the other hand, we do not find additional information about the necessity for the conditions related to progress in the heuristic. Although all of them were found to be necessary among cases in our first group, we cannot compare those results with those in this second group. This is because none of the outcomes in this group showed robust or even frail progress.

Third, the variation between outcomes within this group of cases around the Chinchiná River Management Plan seems to be small, since all the outcomes relate to *troubled collaborative implementation* with persistence and meager progress. It is important, in any case, to highlight the remarkable difference between a 114 percent delay in the Biota case and a 400 percent delay in the Risk case. As we noted above, this difference seems to be driven by the variation in problem compatibility between these two cases.

Finally, pathways to *troubled collaborative implementation* (see section 3.5) in this group of cases always included perceived interdependence They were a positive influence upon persistence according to our heuristic, and bond-supported leadership, with no apparent influence upon progress, contrary to what our heuristic expected. They differed in the presence of trust, problem compatibility, and the use of authority. Trust and problem compatibility were high only in the decision with a relatively better outcome in terms of progress, the Biota Decision. The use of authority was high only in the case with the worst outcome in terms of progress, the Risk Decision. These findings suggest the need for revisions in the heuristic presented in Chapter 2, which expected all the conditions to lead to the outcomes of persistence and progress every time they were present.

4.4 Failed collaborative implementation: The Basin Districts' Strategic Plan

Our third and last project in this chapter did not enable persistence or make progress in collaborative implementation. In other words, it was an outcome of *failed collaborative implementation*, which is defined by one of the partners abandoning the collaborative effort. This is the case of the Basin Districts' Strategic Plan which was expected to set the rules for economic activity in two of the most important Basin Districts in Colombia: The Magdalena- Cauca and the Caribe districts.

4.4.1 Background

Unlike the Cauca River Flood Prevention Project and the Chinchiná River Management project, the Basin Districts Project, which incorporated new ways to approach old challenges, the River Basin Districts project was Colombia's first attempt at implementing a new concept, just introduced in the country's water planning by the new IWRM policy. The Basin Districts -often called Macro-Watersheds in the Government documents of the time- were conceived as larger-order planning units. In these basin districts, fundamental governance rules and guidelines for economic and social activities, including human settlements and land use, would be agreed upon between key Government and social stakeholders. More specific decisions at specific basin levels would be left to river basin councils with lower-scale responsibilities (ASOCARS, 2011b; MADS, 2010). Basin Districts include the areas of land and sea made up of one or more neighboring river basins together with their associated groundwaters and coastal waters. Their size is, of course, much larger than the river basins already studied in this dissertation. The combined size of those two water basins -the Chinchiná River Basin and the Cauca River's Upper Valley- for example, is one fraction of the territory of the Basin District that includes them, the Magdalena-Cauca. The Chichiná River Basin includes some 3,000 square kilometers and the Cauca River Upper Valley some 40,000, while the Basin Districts spread over 269,000 square kilometers.

Basin Districts were considered a solution to incongruent basin-level planning, where shared goals are missing both for different water basins within the jurisdiction of the same environmental agency and for shared water basins between two environmental agencies. Also, the benefits and risks created by activities in upper areas of Basin Districts are left unacknowledged -or unaddressed- at the lower levels. Equally important, water management that could take place at this level, like using sewage waters from urban areas for irrigation districts or hydropower a few hundred kilometers away, was not taking place (ASOCARS, 2012b). They are considered the right unit of analysis for long-term forecasts of water supply and demand (EuropeanParliament, 2000).

The concept of Basin Districts, used, for example, in the European Water Framework Directive (European parliament, 2000), was rather new to Colombia. Although five Basin Districts had been identified at least a decade earlier (Amazonia, Caribe, Magdalena-Cauca, Orinoco, and Pacifico), only preliminary diagnostics of the Magdalena-Cauca Basin District had taken place when The Netherlands Project was presented.

The area covered by the project includes two large Basin Districts. First, the Magdalena-Cauca Basin District, including nineteen departments -provinces- with a combined area of over 269,000 square kilometers and a population estimated at the time at 11.7 million, or 28 percent of the country's total. Second, the Caribe -Caribbean- Basin District, binding together ten departments with a combined area of 104,000 square kilometers and an estimated population of 5.8 million around the time the case developed. We will focus our description on the Magdalena-Cauca district since it is by far the largest, the richer in biodiversity, and the most important in economic terms. As we will see below, the main events and main actors in the case are relevant for both Basin Districts.

Almost three-quarters of the area of the Magdalena-Cauca Basin District corresponds to the Magdalena River Basin. The Magdalena is Colombia's longest river, stretching over 1,528 kilometers from the mountains in Southern Colombia -at 3,600 meters above sea level- to the Caribbean Sea in the North. The remaining quarter of the district is associated with the second-largest river in the country, the Cauca, which is also born in the Southern mountains. However, it does not reach the sea in the Caribbean, since at the end of its journey it contributes its waters to the Magdalena.

There is remarkable environmental diversity in these Basin Districts. Twenty national parks -and six regional parks- are located within the jurisdiction of the Magdalena-Cauca Basin District alone, where four thermal floors are found -equatorial, monsoon, tropical savannah, warm, and semi-arid. Most of Colombia's Andean region is also located within the vast area of this Basin District, along with the Magdalena River's delta in the Caribbean, and part of the world's largest intertropical mountain: Santa Marta's Sierra Nevada.

In economic terms, the biggest markets in Colombia are in this basin. The largest cities (Bogota, Medellin, and Cali) are all within its area, where roughly 85 percent of Colombia's GDP is produced (BIBO, 2021). Seventy percent of the country's roads and highways serve it, as well as 95 percent of the railways. If we think of energy, 72 percent of the country's pipelines and other oil-carrying infrastructure are in this area, together with 70 percent of the hydropower infrastructure and 95 percent of Colombia's interconnected electrical grid. On top of that, 95 percent of the country's thermoelectricity is also produced in the area. This Colombian economic heartland accounts for 90 percent of the production of coffee -one of Colombia's main exports for most of the last century, with a much higher contribution to the country's GDP than sugar- and for 75 percent of the overall agricultural production. Ninety (90) percent of Colombia's river cargo and a similar proportion of river passenger mobilization occurs in the Magdalena River. One-half of Colombia's continental fishery takes place in the Magdalena-Cauca Basin District (Natura, 2021).

Numerous threats are affecting the natural resources and the lives of populations in this vast area, and the first of them is water scarcity. While three out of four Colombians live in this area, only one in eight gallons of the country's available water supply is found in it (IDEAM, 2019). One-third of its 105 river basins are at very high risk of water scarcity in a dry year, and one-fifth of them are at risk of scarcity even in an average year. At the same time, some areas of the river basins are at risk high of suffering from floods, like the Upper Cauca River (see section 4.3) and the La Mojana region in the northern department of Sucre are often victims of floods. And the risks of landslides in the Chinchiná basin, which is also included in the district, affect other areas within it as well. Water quality is, and was at the time of the case, a concern. One of the goals of the country's IWRM policy was to increase the number of

municipalities reporting “good” or at least “acceptable” water quality. Reducing water pollution and increasing sewage treatment were among the priorities (MADS, 2010).

The region’s biota, too, is at risk. Dozens of species of birds and fish are at risk in zones that until very recently had no legal protections, like the Zapatosa Swamp -the biggest continental wetland complex in Colombia, located in the northern department of Magdalena. The Zapatosa Swamp, alone, is home to 500 species of plants, 45 species of fish, and 30 species of mammals (MADS, 2018).

The second Basin District in the project -Caribe- was considerably less studied than the Magdalena-Cauca when it was included in this project. Its climate is highly diverse, ranging from very dry zones in the department of La Guajira, in the North-East of Colombia, to very rainy zones in the Gulf of Uraba, in the North-West.

The Gulf of Uraba is one of the economic engines within the Caribe Basin District. Most of the country’s USD 900 million in banana exports originate in this area, where frequent rains facilitate banana production. Water scarcity, on the other hand, is the norm in La Guajira, in the other extreme of the district, where several water streams are intermittent, and several communities depend on groundwaters for their supply. Also, some regions within the Basin District are rich in Biota -like the Gulf of Uraba or some areas close to the border with Venezuela. Others are less abundant in biodiversity -like the Guajira- or have their resources less documented, like the Catatumbo area close to the international border with Venezuela.

Figure 7. The Basin Districts' position in Colombia's geography

Source: (ASOCARS, 2011b)

4.4.2 The unfolding of The Netherlands Project in the Basin Districts and its key actors

Although research on the Magdalena-Cauca Basin District started at least in the 1990s (Ideam, 2001), it was the 2010 IWRM policy that set the goal of developing strategic plans for this and other four Basin Districts (Amazon, Caribbean, Orinoco, and Pacific). The goals were to improve water quality and develop rules for sustainable management (MADS, 2010). The second goal -sustainable management- reached extraordinary urgency as a result of the already-addressed Ola Invernal of 2010-2011 (see section 4.1), where some of the areas worst hit by floods and landslides were part of this Basin District. Roads, bridges, and dikes collapsed not only in the Upper Valle del Cauca -as we saw in section 4.2- but also in large swaths of the departments of Antioquia, Bolivar, and Cordoba, for example. They underwent extraordinary levels of flooding. Hundreds of thousands of hectares of crops and pastures for cattle were lost. In some places, rain levels were six times their maximum previous recorded levels (CEPAL, 2013).

The scale of the damage in the Magdalena-Cauca Basin District drew extraordinary attention and concern about the use of land in those areas, and the need to regulate it to prevent future disasters. Besides Valle del Cauca -see section 4.2- two other areas of the Magdalena-Cauca Basin District were visited by the Dutch Mission of experts that President Juan Manuel Santos invited to the country. They were La Mojana, a large area of prairies in the Lower Magdalena Basin, and the Canal del Dique -the Dike's Canal- close to the Magdalena River delta (DM, 2011). Several towns had been inundated in both regions. The Ministry of the Environment and Sustainable Development made it a priority for the new IWRM policy to deliver solutions to this problem. One way to speed up the process for the new Basin Districts' planning was to include them in The Netherlands Project, which was originally focused on the planning of four river basins and of groundwaters.

The novelty component was larger in the Basin District's project than in others within The Netherlands Project. CORPOCALDAS had experiential knowledge of implementing river basin management plans, although the Risk Decision was first added to that experience in the Chinchiná Water Basin Management Plan. CVC had

extensive experience in flood prevention in the Upper Cauca Valley through infrastructure works and even some experience with biological corridors when it started the Upper Cauca River Flood Prevention Project. It did not have experience with detention reservoirs. At the national level, however, the Magdalena-Cauca Basin District would be the first experience. There had been two preliminary diagnostics for the Magdalena-Cauca Basin, one by IDEAM in the late 1990s (IDEAM, 2001), one by one regional environmental agency, Cormagdalena, only for a section of the Cauca River Basin, in 2009-2010 (WaterDistricts7, 09/17/2021). Substantive uncertainty (Klijn & Koppenjan, 2015; Koppenjan & Klijn, 2004) was higher than in the two cases already analyzed in this chapter.

If governance and the need to take into account stakeholders' concerns were a priority for the CVC in the Cauca River Flood Control Project, they were an even higher priority in this case. The Strategic Plan would be built around a series of guidelines that would have to be agreed upon between the Ministry of the Environment, other ministries, representatives of hundreds of municipalities, governorships, and businesses active in the Basin District. The purpose was to regulate economic activities following criteria of spatial planning. This led also to a change in the prioritization of knowledge, where the technical knowledge of universities with extensive experience in engineering projects, risk analyses, or conservation was not the priority. Instead, a consortium of consulting firms with experiential knowledge in environmental impact analyses and lower-scale spatial planning, as well as connections with businesses and politicians, was chosen. In this case, the relationship was not one of an association agreement, but a more conventional consulting contract where the winner, UT Macrocuencas, outperformed four competitors.

Contract 027/2012 was signed between UT MACROCUENCAS and FIDUCIARIA DE OCCIDENTE, acting as the representative of the Kingdom of the Netherlands, in the first week of June 2012 (ASOCARS, 2012a). It had to be executed in four phases over nine months. This involved creating a baseline for the Magdalena-Cauca and Caribe Basin Districts; developing a diagnostic of the two Basin Districts; and conducting a strategic analysis and drafting guidelines for the strategic planning of the Basin Districts. The project should be completed by March 2013.

Interestingly, the contract did not specify the tasks expected from UT MACROCUENCAS, since it was a service contract, usually used in Colombia for relationships in which a certain kind of activities is expected from a party over a given period. This may have been a consequence of agreeing on the strategic plan while it was being drafted, as a way to accommodate both the limited time available and the quest for consensus. In any case, the contract clearly stated that the money came from the Dutch cooperation, through a project led by ASOCARS. In turn, it needed the Ministry's positive concept before approving UT MACROCUENCA'S work (ASOCARS, 2012a). This was, of course, a more complex kind of collaboration than the ones in the cases previously studied in this chapter. While ASOCARS had only formal authority over it, UT MACROCUENCAS would be accountable to the Ministry, which had to approve the decisions, and to the Dutch Embassy. This was different from the bilateral relations established between UNIVERSDIDAD NACIONAL and CORPOCALDAS in the Chinchiná case, and between each of the Universities and CVC, as well as between CVC and ASOCAÑA, in the Cauca River case.

ASOCARS, the Ministry, the Dutch Embassy, and UT Macrocuencas were the four main actors in this case. UT Macrocuencas and the Ministry were the two actors at the core of most decisions, with the Dutch Embassy and ASOCARS supporting the process and exerting influence in specific circumstances. Let us now explore these actors and their incentives for collaboration in more detail.

First, let us address the Ministry of the Environment. Given the scale of the Basin Districts, each one including the jurisdictions of several regional environmental agencies, it was the Ministry, with its national-level authority, the only organization with the legitimacy to organize them. The Ministry had, in this case, the same role that CVC and CORPOCALDAS had in the collaboration in the previous cases. It was the one with the capacity to legitimize its organization.

The Ministry was created in 1994 as a direct result of both the new Colombian Constitution (1991) and the increased interest in environmental issues after the Rio Conference (1992). It had, at the time of this case, a budget of some USD 27 million - that is, half of CVC's budget. This small budget was not that bad when we think of the Ministry as mostly a "brain" developing public policy, while the "arms" were in the

regional environmental agencies tasked with the implementation. That has been a dominant metaphor for Colombia's Public Administration since the decentralization movement giving more power to local and regional authorities that accompanied the 1991 Constitution (Jolly, 2009; Leyva B., 2011). In other words, the Ministry was expected to decide, not to implement its own decisions, and this meant it needed few resources to operate, although perhaps not such few resources. Like CVC and CORPOCALDAS in the previous cases, having legal authority was not enough for the Ministry to achieve its goals. It needed other actors' resources. In this case, the specialized knowledge that UT Macrocuencas had for economic modeling, the financial resources that the Dutch Embassy possessed, and, to a lesser extent, ASOCARS' administrative capacities to manage those Dutch resources and its capacities for organizing workshops and open discussions of ideas.

The second main actor, in this case, is ASOCARS, the association representing the regional environmental agencies. As we saw in the previous cases, ASOCARS is a very useful partner for organizations working with regional environmental agencies, given its fluid relations with all of them that allow for fluid information exchanges and the skills it developed over time for facilitation roles. Those links with regional environmental agencies made ASOCARS an obvious choice for the Ministry and the Dutch Embassy when looking for a partner to collaborate with CORPOCALDAS and CVC in the previous cases (see sections 4.2.2 and 4.3.2). This time, however, regional environmental agencies did not take part in decision-making and ASOCARS' skills were less relevant, with its role being mainly about monitoring the progress made by UT Macrocuencas. Its contribution to the collaboration was its capacity for monitoring, while it also had the incentive of being part of the collaboration given the opportunity it provided not only to access financial resources but to strengthen its links both with the Ministry and with the Dutch Embassy.

The third core actor, in this case, is UT Macrocuencas. Like its very name -Union Temporal Macrocuencas- suggests, this was only a temporary alliance of different firms. It was a common instrument for a group of companies, each one lacking enough personnel, knowledge, and/or financial muscle to bid for a large contract, to join forces to win and execute that specific contract. Three firms had created UT Macrocuencas to compete for the Basin Districts' contract: Optim Consult, EConcept,

and Valoracion Economica Ambiental S.A.S. Optim Consult focuses on advising businesses and governments on environmental strategies and policies (Optim Consult, 2021). EConcept, which had ceased its operation by the time this research was carried out, was a firm mostly dedicated to economic analysis and economic forecasting, with its senior consultants including at least one former Minister of Finance, a former head, and a former subhead of the National Department of Planning, and the former president of the Bogota Subway Company (EConcept, 2012). Finally, Valoracion Economica Ambiental still operates in the business of advising governments and companies on the environmental impact, social benefits, and compensation strategies of projects (ValoracionAmbiental, 2021). Together, partners in UT Macrocuencas offered an ample arrangement of specialized economic knowledge and a web of connections with the central government's main planning and finance organizations, as well as with business actors.

UT Macrocuencas had knowledge that the legitimizing actor with legal authority (the Ministry) lacked and offered it in exchange for financial resources. This was in line with the actions of knowledge partners in the previous cases. There was, however, one important difference with those experiences: UT Macrocuencas' main strengths were on environmentally related economic modeling, not exactly on environmental modeling. These were the capacities that the project requested for those in charge of drafting the strategic plan. Yet, substantive uncertainty (Klijn & Koppenjan, 2015) was higher this time about what knowledge would be required. The project's scope was still unclear after the contract was assigned for drafting to UT Macrocuencas.

Finally, the last main actor in this case is the Dutch Embassy. It had more active participation in the Basin District's case than in the Chinchiná case -where it did not intervene beyond providing funds. Or, in the Cauca River Flood Control Plan, where it helped coordinate the participation of the Arcadis-led consortium of Dutch advisors. In the Basin Districts' case, the Embassy helped organize a "mirror group" of experts providing advice on the drafting of the plan. Unlike in the case of the Cauca River Flood Control Plan, it was not received with open arms by the Colombian knowledge partners, UT Macrocuencas. The Embassy contributed to the Basin Districts' project, not only with financial resources but also with the knowledge of Dutch experts, and the credibility of Dutch water management.

The complementarity of resources between the main actors was not as complete in this case as in the previous ones. Like CORPOCALDAS in the Chinchiná River Basin Project or CVC in the Cauca River Flood Control Project, the Ministry was the only actor with the legal authority to formally adopt the strategic plan. It also lacked the necessary specialized knowledge, but it had more than one source for it. Besides UT Macrocuencas, it had the Dutch experts and even the opinions of several representatives of other high-level Colombian organizations. UT Macrocuencas, on the other hand, had specialized knowledge that the Ministry lacked, but mainly on economic modeling for environmental decision-making than on strictly environmental planning. It did have a large network of contacts that were expected to be relevant for reaching the necessary agreements with other key public and private actors. For ASOCARS, on the other hand, two of the three resources it had contributed in the previous cases -its connections with the Ministry and its ties with regional environmental agencies- were not as necessary this time. It still lacked the legal authority of the Ministry and the specialized knowledge of UT Macrocuencas. Finally, the Dutch Embassy had financial resources that were critical for the project, as well as the ability to supply experts that could complement UT Macrocuencas' knowledge. To have the desired impact, however, influencing Colombia's water management in the long run and also at the larger scales, it needed commitment from the Ministry for the project. Also, an effective administration and follow-up from ASOCARS and a successful design process led by UT Macrocuencas.

4.4.3. The decisions in the project and its challenges

Like in previous cases, we will now review the specific decisions expected in the project to gain an understanding of the challenges of successful collaborative implementation in this case.

The Basin Districts' Project had eight specific objectives:

> Analyzing, using secondary information, as well as inputs from experts and key actors from the public and private sector, the state of water and other renewable natural resources in each one of the Basin Districts.

Identifying the interrelations between the state of natural resources in the Magdalena- Cauca and Caribe Basin Districts and the situation in other Basin Districts. This involves having an emphasis on the exchanges between superficial streams and groundwaters, as well as on the effects of socioeconomic activities upon ecosystems and their conservation.

Identifying and evaluating the main variables influencing the management of water and other natural resources, using a methodology of systemic analysis.

Making an economic valuation of water-related environmental services in the two Basin Districts and their contribution to socio-economic activities in those areas.

Developing trend scenarios for the likely evolution of the Basin Districts, as well as preferred scenarios for it based upon a proposed strategy for the management of water and other renewable resources. In doing this, consider the main current and likely future economic activities, as well as conflicts associated with them.

Developing a negotiation strategy for bringing key actors to agreements on the Basin Districts' rules.

Developing large-scale environmental zoning for each of the Basin Districts.

And finally,

Formulating Strategic Planning Guidelines for each Basin District, aimed at their sustainable development with sound IWRM practices, in agreement with the main actors in each case (ASOCARS, 2012b).

The project tasks were organized into four phases. First, the creation of a baseline of information about water, other renewable resources, and their management in the Basin Districts, including present and likely future developments regarding population, economic activity, the environment, etc. This should be accompanied by a database of all main actors influencing water and other resources' management, identifying all potential water-related conflicts. This would be followed by the second phase of diagnostics, identifying the main variables influencing water management and their trends, as well as devising participation and negotiation strategies to lead the main actors to agreements. The economic valuation of water's ecosystem services should also take place in this phase.

After the first two phases, the third and fourth steps of the process focused on reaching the expected agreements with key actors and mobilizing them for the implementation of the plan. The third phase included agreeing with experts and the already-identified key stakeholders on the proposed model, and modeling three scenarios -trend, optimist, and pessimist- for each Basin District. This involved considering the key variables in each case and analyzing a series of water indicators. Finally, it meant agreeing with experts and stakeholders on the zoning of the Basin Districts, as well as on quality criteria to be used in future decision-making about the areas. The fourth phase included the formalization of agreements with experts and stakeholders, the specification of all financial, organizational, and technical details of the guidelines, and the training of key personnel in the most relevant public and private organizations about the strategy. The contractor was also expected to organize a launch event for the process, and to provide logistical and technical support to the Ministry.

In terms of pace, this project was scheduled for completion within nine and a half months. First, 45 days for creating the baseline, two months for the diagnostic; and two and a half months for the strategic analysis. Then, three and a half months for the full version of the guidelines for the strategic planning of the Basin Districts. The last milestone -the full version of the guidelines- should be complete by 30 March 2013.

In this case, however, things did not only turn out to be different than planned but the whole collaborative implementation was derailed. UT Macrocuencas' team effectively left the project in July 2013. They had only delivered the baselines for both Basin Districts, although the company's name remained in the products, which had to be finished by only two consultants. One of them had been the project's supervisor inside the Ministry, and the other one was part of ASOCARS' monitoring team. "They didn't deliver to our satisfaction, and it took a year for us to finish", as one former member of the Ministry team summarizes the situation (UmbrellaProject4,07/06/2016).

This means that there was no persistence in the collaboration since one of the members abandoned it. On the other hand, if we remember that the baselines were expected to be completed in just 45 days, the delay in this project reached 700 percent when it was completed after one year. This was the longest delay in the Decisions among the three projects considered in this investigation. The scarce progress achieved was non-

consensual, with the Ministry repeatedly forcing UT Macrocuencas to change its proposals. That is why we labeled this case failed *collaborative implementation*.

It is worth acknowledging, before analyzing how the conditions for collaborative implementation played out in this case, that simple bad planning did undoubtedly play a role. A process that had taken three years in other contexts was attempted in a quarter of that time (Basin Districts5,05/25/2017). Some key definitions, like a main variable (see the second phase), were missing, making it harder to calculate the effort required for a product's completion. Processes of consensus-building that usually stretch for years were expected to take place in three months. In the most ambitious of the projects researched in this dissertation, the times were remarkably shorter than in the other cases, even with higher uncertainties. The Caribe Basin District, in particular, was only included in the project at the last minute, in April 2012 (ASOCARS, 2012a).

The nature of the exercise, however, very likely had an influence. The large uncertainties surrounding the project led its designers to try an approach of joint fact-finding (Ansell & Gash, 2008; Emerson et al., 2012) between UT Macrocuencas, the Ministry, and other actors, including the above-mentioned experts and stakeholders to be consulted. The main requisite for the desired scenarios, the strategic lines, and the guidelines was that they had to be agreed upon. This required a collaborative implementation of the project itself, with perhaps greater needs for collaborative leadership than in the previous cases. In the following section, we will explore more in-depth how the conditions for collaborative implementation played in the only Decision in which UT Macrocuencas acted. It was the decision on the baselines that, as we addressed already, showed a 700 percent delay. This turned out to be not only the first phase of the collaborative implementation process but also its last one.

4.4.4 How the conditions for collaborative implementation played out in the Basin Districts' Strategic Plan

We have gained an understanding of the background of the Basin Districts' project, plus insights on the core actors, their interdependencies, and the type of decisions that had to be made in the project. We also know that, given its outcome, we can call this a case of *failed collaborative implementation.* That is, a situation where there is

no persistence – since at least one of the partners abandons the collaboration- and also there is no, or very slow progress. With those elements, we can address our research questions and see how this case helps us answer them, through the observations of the conditions identified in the heuristic presented in Chapter 2.

In this case, the expectation is that both at the project level and by reviewing the specific decision -the Baseline- we will find the absence of both the conditions driving persistence in our heuristic (a broad mandate, trust, and perceived interdependence). We will also find those conditions driving progress (problem compatibility, bond-supported leadership, collaborative leadership, and use of authority). Problem compatibility is expected to be low both at the project level and at the level of the specific decision on the Baseline.

After reviewing our three predictions, we can move forward to our findings regarding those predictions in the case of the Basin Districts' project. We will proceed first to analyze the presence of the conditions that should explain persistence, keeping in mind that this is the only case of *failed collaborative implementation* in our research. That is, the only one where the collaboration did not even complete its tasks because one of its members abandoned the project. In this case, the expectation would be that at least one of the conditions explaining the initiation and persistence of collaborative implementation was missing.

4.4.4.1 The conditions driving persistence

Our heuristic of collaborative implementation (see section 2.3) expects three conditions to explain the initiation and persistence of collaborative implementation: trust, perceived interdependence, and a broad mandate. The literature finds these conditions to create incentives for partners to collaborate, be it because they expect other partners will refrain from opportunistic behavior (trust); because they expect to benefit from collaborating (perceived interdependence), or because they have very much flexibility as to how to collaborate (broad mandate). We will now address how each one of those conditions influenced the Cauca River case and the two Decisions selected within it: the Biological Corridors and the Detention Reservoirs. We will start with the type of mandate, followed by trust and, finally, perceived interdependence.

Broad mandate

Our heuristic from Chapter 2 anticipates an influence of mandates upon the persistence of the collaboration. This makes it easier for partners to collaborate if they have a broad mandate giving them a broad problem space to develop joint proposals. Conversely, it makes it harder to collaborate when the tasks are already very detailed and some of their attempts to change or reinterpret them, instead of looking for agreements like a broad mandate allows.

The Basin Districts Project's mandate was one with little task specification. Aware of the novelty of the Basin Districts in Colombia, and of the very short time allocated for their implementation, the Ministry emphasized agreement with experts and stakeholders as the main goal (see section 4.4.3). The Netherlands Project's main document specified only 11 tasks and 12 products for this specific project, compared to 43 tasks and 33 products in the Chinchiná River Water Management Plan's project, for example (ASOCARS, 2011b). Almost none of the tasks specified the procedures to be followed, and when they did, they were expressed in a non-exhaustive way. For example, "elaborating a baseline of natural resources in the Basin District, including an analysis of potentialities and use-related conflicts" (ASOCARS, 2011b, p. 43)

Later in the process (May 2012), specific terms of reference for this project detailed the activities and products more, but still leaving plenty of room for the partners to jointly decide the specifics. If we keep the same example of the baseline, for instance, this activity was broken into ten components. It included the creation of a geographic information system and a database, as well as the identification of key stakeholders for the management of water and other natural resources. But no criteria were given for identifying those key stakeholders, and no method was requested for it. Also, the terms of reference from May 2012 asked for a multitemporal analysis for a period of "at least 15 years". To do this, it would be using the information at a scale of "at least 1:500.000" to evaluate the physical changes in each Basin District (ASOCARS, 2012a). Asking in this case for at least some detail and some period in the analysis sets limits of acceptability for the products that the knowledge partner could deliver. However, it does not specify the expected product enough to render further agreements unnecessary.

The conclusion here is that the mandate, in this case, was broad, consistent with the priority of reaching agreements with stakeholders (WaterDistricts6,03/15/2019) but also with the need for agreements between the partners in the project.

Trust

In Chapter 2, we anticipated that trust should help collaborative implementation to persist even if it faced severe hurdles, since trusting partners have a predisposition to cooperate with trusted ones of which they do not expect opportunistic behavior. This would also allow for better information flows and fewer guarantees required from partners than would otherwise be the case. Trust should lead to openness to learn about other actors' interests and values, facilitating the continuation of exchanges in the collaboration even when there is no agreement on decisions (see section 2.3).

Unlike in the Cauca River Project and the Chinchiná River Project, no reference to previous interactions creating a pre-history of collaboration (Ansell & Gash, 2008) was found in this case. None of the actors or documents mentions previous collaborations. When asked in interviews, however, two members of the UT Macrocuencas team -the consulting firm- and one from the ASOCARS team share the perception that trust levels were very low between key actors. Former members of the Ministry team deny that lack of trust. They describe the process, however, in a way that makes it clear that one of the main advantages of trust -an easing in restrictions for information flow- did not occur. "Information exchanges with UT Macrocuencas proceeded according to administrative standards, through exchanges of formal communications between them and us" explained one technical member of staff from the Ministry (WaterDistricts7, 09/17/2021). "There were no informal exchanges since that would have led to a validity loss in the information".

Whatever the initial levels of trust between the two core partners in this case, UT Macrocuencas, and the Ministry, representatives from other partners that were involved in the process point to a loss of trust during the process.

"I think there was a crisis in trust between the Dutch embassy, Union Temporal Macrocuencas, and likely the Ministry. And it was probably in both directions" says a former

senior staff member from the project (Basin Districts5,05/25/2017). Conversations with Ministry team members convey a much nicer picture of collaboration between all parties, at least until an advanced stage in the process. “When we did not have the final product there was not distrust, but there was discouragement,” says one Ministry team member (Basin Districts1,10/26/2017).

It is worth remembering that, in this case, only one specific decision is researched - the decision on the baseline- since it was the only one in which the original collaborative implementation partners took part. For that specific decision, it is safe to say that the other partners show, in general, trust between them, while there is some uneasiness about UT Macrocuencas. Some former ASOCARS staff point out that UT Macrocuencas was not a loyal partner for the staff there. On the other hand, at least one UT member of staff showed distrust toward the Dutch embassy (Basin Districts3,05/26/2016). Whoever is to blame, it seems clear that trust levels ended up being very low in this project. They declined during the process, especially between the Ministry and UT Macrocuencas, even if we do not know how strong they were at the beginning. Given that situation, trust could not contribute to the persistence of the collaboration as our heuristic expected.

Perceived interdependence

Let us first remember what our heuristic in Chapter 2 expected from perceived interdependence. This is expected to be one of the conditions leading to the initiation and persistence of collaborations. Hence, incentivizing collaboration between different partners interested in different resources that each one of them has: money, staff, knowledge, legal authority, and so on. Let us also remember that this interdependence is perceived. It is the actors’ perception of the importance of a given resource and the degree to which another actor can help them obtain it that drives their collaborative behavior. Finally, let us remember that, like the other conditions in our heuristic, it is expected to be a sufficient condition for persistent collaborative implementation. It is not necessary, but in the cases where it is present, we should expect an outcome of persistence.

Both the interviews and document revision support the assessment of low perceived interdependence in this project, both from core partners and from secondary ones. Some secondary partners showed low perceived interdependence from the beginning. That was, for instance, the situation of the Presidential Advisory Office for Regions and the Hydrology Institute (IDEAM), which failed to even take part in most of the meetings of an Advisory Panel created to support decision-making in the project.

In this case, however, low perceived interdependence affected the core partners as well, a situation that we did not find in the two previous cases of the Chinchiná River Water Management Project and the Cauca River Flood Control Project. One example was the continuing lack of response by the Union Temporal (UT Macrocuencas) to the Dutch embassy and the Ministry's request to incorporate some Dutch experts in the process. There are also allegations from representatives of the Ministry, ASOCARS, and even some UT team members that the heads of the UT Macrocuencas team used their prestige to win the bid for the project. However, they worked little time on it, leaving most of the tasks to less qualified colleagues. This is sadly a usual practice in consulting firms in Colombia, but this time a ministry and an embassy were on the other side of the table. Interestingly, however, a member of the Ministry's team highlights that the Ministry itself showed low perceived interdependence:

"Some negotiations, for example, were not completed because the Ministry had to be there, at a high level, and it wasn't. There has been a lack of ownership of the policy that has led to slow progress in general, including the project" (WaterDistricts7, 09/17/2021).

The general assessment of the project is of low perceived interdependence for the main partners -so much so that they decided to put an end to their collaboration. It may be, however, that this was not the situation at the very beginning when the process for this first specific decision started. At that moment, the heads of UT Macrocuencas are registered as taking part in the meetings -something that they stopped doing later. Also, the consultant firm did deliver the adjustments demanded by the Ministry to its proposals, even if with great delay. That situation changed during the process. This suggests a rather high level of perceived interdependence by UT Macrocuencas at the beginning of the project, a level that quickly faded during the process of the baseline specific decision.

The overall assessment for perceived interdependence is low, then, with the added observation that it seems to have evolved from a high level of perceived interdependence, at least from UT Macrocuencas to low levels from all partners, including UT Macrocuencas. This is also a reminder of why the perceived character of interdependence is important for the analysis of collaborative implementation. When asked about interdependence, the technical staff at the Ministry highlighted that the consulting firm had strengths in social and economic issues, while the Ministry had more knowledge on environmental issues and the Dutch experts has training on long-term planning. She thought, then, that interdependencies should be high. But they were not perceived as high by the partners.

4.4.4.2 The conditions driving progress

Our heuristic (section 2.3) expects three conditions to explain the progress of collaborative implementation: problem compatibility, leadership -be it classical or facilitative- and the use of authority. Those conditions lead to progress because they create consensus (problem compatibility); unify visions (bond-supported leadership); allow to remove obstacles (facilitative leadership) or allow for imposing decisions and moving on with collaborative processes (use of authority). We will now address how each one of those conditions acted in the Basin Districts and the specific decision on the Baseline, starting with problem compatibility, followed by leadership (classical and facilitative), and finally the use of authority.

Problem Compatibility

In Chapter 2 (section 2.3) we stated that problem compatibility was likely to be present in collaborations with smooth progress (Proposition 2). By suggesting similar decisions to partners, even if they have different problem representations, problem compatibility is expected to provide a path to consensual decision-making. It is broader than the one provided by the shared understanding that collaborative governance literature expects, with the importance of compatible criteria or similar views on knowledge validity contributing to the expanded room for agreement.

What do our observations tell us in this case? Well, there are much more observations pointing to low problem compatibility than to a high one. That is what seven of ten observations coded in the documents signal. That is, also, what interviewees affirm.

It was very common that everybody understood a different thing…. The initial idea came from the Ministry, but then when communicating with us at UT Macrocuencas there were differences. There was a need for this approach because the spatial planning tools we had at the moment were for too small areas, but hydrology happens in large spaces. Now, understanding the need did not mean understanding the how. (WaterDistricts2,09/28/2017)

To appreciate the scope of the differences in understanding what the project was about, a good example is the following discussion. It is taken from the second meeting of an Inter-Institutional Board that the Ministry created to help with the decision-making of the project:

- It is important to first agree on what a strategic plan is. Our experience shows us the need to work on two axes: conservation and development, and governance. We will have to define what the plan is while we work on it (National Hydrology Institute).

- What is more important is reaching agreements (with social actors and other policy subsystems), those may be short-term but with a vision of medium-long term (Ministry).

- Is the plan going to be binding? (UT Macrocuencas, consulting firm).

- It is (National Hydrology Institute).

- It is not, but we can turn it into a national policy (National Department of Planning).

- It is binding through the decisions of the Basin District Councils, and through its impact on basin plans and municipal land use plans (Ministry).

- There's no need for just one law. Each of us can produce norms, and also make policy recommendations for actors not represented here (Corporation for the Development of the Magdalena River) (Inter-Institutional Board Meeting 2).

Once again, the relevance of these differences is easier to understand if we look individually at each of the three dimensions of problem compatibility: general problem representations, decision criteria, and considerations of knowledge validity. To do that, we will observe the only decision that was worked in depth during the time of UT Macrocuencas in The Netherlands Project: the decision on the Baseline which was only the first phase of the project. During the full year that the project kept going with UT Macrocuencas onboard, the whole process was devoted to the Baseline Decision. We now proceed to analyze the three dimensions of problem compatibility in it.

When we focus our attention on the specific decision about the baseline, we identify a very different general representation of the problem. That means that for UT Macrocuencas this was a technical exercise about gathering and analyzing information on a group of ex-ante-defined variables. The Ministry, on the other hand, expected an exercise of goal definition for the Basin Districts, based upon proposals from UT Macrocuencas, and agreed with the main actors identified in each Basin District.

If we move past this initial difference in problem representations towards another possibility of agreement, the decision criteria, and the situation we find is no better. For UT Macrocuencas, the criteria to decide whether the baseline would be correctly formulated included defining those criteria for information selection. Plus, the definition of a methodological approach and the formulation of some preliminary hypotheses. Goal definition was up for the Ministry to decide. Nevertheless, the Ministry had a different opinion. It expected a conceptual model defining criteria for goal definition in each Basin District, and it expected proposals for such conceptual model to come from UT Macrocuencas. It must be said that the project's terms of reference were on the side of UT Macrocuencas (ASOCARS, 2012a, 2012b). There was no mention of goal setting before identifying the baseline in them. This did not make a difference, however, as it was the Ministry that had to agree with UT Macrocuencas' proposals.

Finally, things were not better for agreement regarding the third dimension of problem compatibility: agreement on knowledge and methods. Here the Ministry did not agree with the methods used by UT Macrocuencas and objected to the relevance of the information it produced. While UT Macrocuencas wanted to analyze specific conflicts with specific actors to reach conclusions about problems to be prioritized, the

Ministry preferred taxonomies of conflicts and actors in different geographic areas. What is even more important, perhaps, is that the Ministry's experts did not consider the selection of variables for analysis in geographical information systems by UT Macrocuencas to be sound. They also considered the extrapolation of observations made from cartography at different scales inadequate.

They wanted to analyze relationships between population and soil type in an area, for example, and we did not see the point. On the other hand, they wanted to reach conclusions in their analysis using information produced at different scales: some at 1.500.000, which is the scale usually used for country-level analyses, and some at 1:100.000, which was the scale usually used for basin-level analyses at that time. Some at even other scales. But there are procedures to follow if you want to do that, both for generalizing information from a smaller to a larger scale and for detailed information that was produced at a larger scale. There were observations because they didn't follow those procedures (WaterDistricts7, 09/17/2021)

The same interviewee from the Ministry acknowledges, anyway, that experience -or more exactly the lack of it- played an important role in the way problem compatibility evolved.

Since there were no precedents, we gave feedback to their work based on the theory: what was standard in other types of analysis, for example at the basin level, or what we knew happened in France or the Netherlands. They, for their part, worked on the logic of this is what we have, this is what can be done. In a water basin management plan, you know what you're expected to receive, in this case, we didn't know, and the dialogue was more difficult (WaterDistricts7, 09/17/2021)

For the experts at the Ministry, UT Macrocuencas was trying to apply its strengths in environmentally-linked economic analysis, like environmental valuation, to what was very squarely environmental analysis. And they, of course, would not go accept it. It is, finally, apparent from these observations that, unlike other conditions which evolved in time, problem compatibility in the Basin Districts' case was low from the beginning. Table 7 (below) illustrates the differences between the Ministry and UT Macrocuencas on the three dimensions of problem compatibility for the Baseline specific decision, a difference that led to an overall situation of Low Problem Compatibility.

Table 7. Manifestations of problem compatibility in the Baseline Decision

Themes	UT Macrocuencas	Ministry
General problem representation	The baseline is a detailed description of the situations in the Basin Districts regarding a series of ex-ante-defined variables. The consultant's role for the baseline is to gather and analyze relevant information (Project's steering committee 10)	The key component of the baseline is the definition of the goals for the Basin Districts. Proposing a vision and reaching agreements among key actors around it is the main role of the consultants (Project's steering committee 6)
Criteria for the decision	The definition of a baseline will include criteria for the selection of information, the methodological approach, and preliminary hypotheses about conflicts (Project steering committee 2)	A strategic definition of the Basin Districts' goals is a priority before setting criteria for information selection. A conceptual model is needed. (Project steering committee 2; Project's report to the Dutch Embassy December 2012)
Relevant knowledge and methods	Defining the Plan's goals – needed to set a baseline- demands a philosophical stand about values that should guide the study and is expected to be provided by the Ministry (Project's steering committee 10)	There is no philosophy yet to guide the formulation, developing a philosophy for the Basin Districts is one of the contributions expected from the study (Project steering committee 10)
	Important to analyze specific conflicts rather than a general taxonomy of conflicts and actor identification in the Strategic Plan's baseline (Project steering committee 2; Project's report to the Dutch Embassy December 2012)	Not important to analyze specific conflicts, very important to classify conflicts and key actors in specific geographical areas (Project steering committee 2, Project's report to the Dutch Embassy December 2012)

Leadership

It is worth remembering at this point that, in Chapter 2, we identified two forms of leadership that could be relevant for collaborative implementation: First, what we called the classical notion of leadership, where there is a psychological contract between a leader and follower directing the latter to decisions that he expects to be preferred by the leader. As we put it if trusting implies a predisposition to cooperate, in bond-supported leadership following implies a predisposition to agree, providing a problem representation that followers could embrace, thus guiding their decision-making without recurring to authority. The second, potentially relevant, type of

leadership is facilitative leadership (´t Hart, 2021; Ansell & Gash, 2012) where leaders devote themselves to removing obstacles to the participation of others and work to start and maintain the collaborative process.

We do not appreciate bond-supported leadership in the Basin Districts' case, neither at the project level nor at the specific decision level. At the project level, the first candidate to lead was UT Macrocuencas. However, as one of the former heads of that team highlighted:

The team had a technical role but also one of negotiator, and broker, between those actors. Because the idea was of a tool that would be legal, and official. It was not a very clear role but a mix of a technical expert and negotiator, besides being a facilitator. The possibility of exercising leadership was limited by the scheme we were using: the UT had been hired to negotiate (Basin Districts3,05/26/2016).

This lack of bond- leadership by UT Macrocuencas was not compensated by the leadership of some other actor. The obvious alternative candidate for that leadership role, the Ministry, which had been so influential upon CORPOCALDAS' decision-making in the Chinchiná River Water Management Project case, for example. It was also influential in this case upon the feedback that ASOCARS gave to UT Macrocuencas. However, it was also contradicted by its own Hydrology Institute -IDEAM- and, often, by UT Macrocuencas itself. We should not misunderstand this as a case of distributed leadership, where different actors may lead others regarding different themes. This was simply a case of a lack of leadership.

Contradictions between the main actors could also be observed in the Baseline specific decision that we are focusing on. This is what the only two coded events regarding leadership in the decision suggest: low leadership. Although both actors at the Ministry and UT Macrocuencas show appreciation for the technical capabilities of each other, that appreciation did not translate into a predisposition to agree. As a former representative from the Ministry puts it, "The key component was knowing about the main components of the project, and UT Macrocuencas did not have that" (WaterDistricts7, 09/17/2021).

Facilitative leadership was absent in this case, too, both at the overall case level and for the Baseline Decision, with negative consequences for the collaboration. We do not find partners taking up the roles of stewards, mediators, and catalysts as described by Ansell and Gash Ansell and Gash (2008) The additional roles of convenors and owners identified by ´t Hart (2021) are also absent.

The Ministry was, together with the Dutch Embassy, the convenor, the one convoking the other partners of the collaboration. These were the National Department of Planning, IDEAM, and other members of the Interorganizational Board advising the project, ASOCARS in its role of monitoring, and UT Macrocuencas itself. It was also, certainly, the owner of the process, providing legitimacy to the collaborative effort of designing the Basin Districts given its legal standing as the national environmental authority. It was not active in that role, however, to the extent that one of the criticisms by its staff regarding its low perceived interdependence was that it did not own the process. Also, the Ministry was not the steward building capacity and incentivizing the continuation of the process. That role of stewardship was partly taken by ASOCARS -through keeping the memory of the project- but not in a way that would be enough to incentivize the continuation of the effort. ASOCARS ensured the transparency of the process, not trying to take the role of guaranteeing its inclusiveness. It did not have the standing for granting the process's neutrality either.

The Ministry also acted in a way that contradicted the role of the catalyst -a seat that was left empty by other partners. The catalyst is supposed to implement new ways of doing things jointly. Although the Ministry worked jointly with IDEAM, the National Department of Planning, the Dutch Embassy, and others, it adopted a very traditional approach towards the work with the other core partner in the collaboration. In this case, its knowledge partner, UT Macrocuencas. Perhaps because of the Ministry's other roles of convening and owning the process, no other partner took that empty seat of the catalyst in the collaboration with UT Macrocuencas. Some participants would point to ASOCARS for this role (WaterDistricts7, 09/17/2021). What ASOCARS did, trying to sit partners together for debate and decision-making, was small compared to the scale of the needs. It did not try to define the nature of the collaboration.

Finally, a last critical role that was largely left unattended was that of the mediator, who should promote empathy, work the relationships, and pace the work (´t Hart,

2021). A partner with that role could have built bridges between UT Macrocuencas and the Ministry. Yet, those bridges were not built and the relationship between both organizations rapidly became tense, up to the point that UT Macrocuencas' original managers quit their posts only a few months after starting the project.

If the lack of bond-supported leadership deprived the collaboration of a possible pathway to an agreement in joint decision-making, the lack of facilitative leadership left it without a way to manage disagreement. If we recall our description of facilitative leadership from Chapter 2, in this case, there was no one "helping others to make things happen". Or at least, not helping enough.

Use of Authority

The last condition for progress, according to our heuristic, is the use of authority. It is expected to be a sufficient condition, like leadership or problem compatibility, not required for smooth progress to happen, but leading to it when it is present.

Authority was more present in the Basin Districts than in other projects in this research. After all, this was the only case in which the two main partners -the Ministry and UT Macrocuencas- were tied by a service contract. They were not tied by an association agreement, as it happened between CVC and its partners in the Cauca River case, and between CORPOCALDAS and Universidad Nacional in the Chinchiná River case. The relationship should be expected to be less horizontal in this case, although the previous cases also taught us that a level of expected verticality can be overcome when partners effectively realize their interdependencies like it happened when CVC worked together with the universities in the Cauca case, as well as when CORPOCALDAS desisted from forcing Universidad Nacional's to change its proposals in the Chinchiná case.

In this case, the evidence shows us that contractual authority was used at the project level. It was used by the Ministry to withhold payments from UT Macrocuencas and force it to rework products several times. The specific way contractual authority was used in the case – by requesting changes to UT Macrocuencas proposals after they were delivered- made the process more complex, and possibly longer. We should

remember that this style of communication was preferred by the Ministry to preserve the formality of the process.

If we now analyze the Baseline specific decision, we find evidence that both the Ministry and the Dutch embassy used the contract signed between ASOCARS and UT Macrocuencas to exercise their authority upon the consulting firm, knowing that, on one hand, ASOCARS would follow their recommendations and, on the other hand, the Dutch embassy would be directly contributing the resources that ASOCARS managed. They explicitly made payments dependent on the making of "adjustments" to the proposals they disagreed with (Project's steering committee 10, 14 November 2012).

It is important to remember that the Ministry considered the formality of the process -including the communication via letters with UT Macrocuencas- an advantage to protect the validity of the process.

The Ministry also saw its reactions to UT Macrocuencas' proposals as safeguarding the quality of the process:

> We were very much like the Police. "It has to be this way, match at least this scope, use at least this information". And we had the backing of the contract's supervision regarding its technical component. (WaterDistricts7, 09/17/2021).

If we consider hierarchical authority now, there are no examples of its use in the project, be it at the project level or for the specific Baseline Decision. Within the structure of the Colombian state, the Ministry is head of the environmental sector, hierarchically superior to the Hydrology Institute (IDEAM). Despite this, there are no reports of IDEAM conforming its own opinion to that of the Ministry in the project's Interinstitutional Board, while there are examples of IDEAM contradicting the Ministry. There were no other relationships of hierarchical authority between partners in the project.

4.4.5. Exploring the empirical justification for the propositions

We can now assess how the two propositions presented in Chapter 2 fared in the Basin Districts case and the only specific decision that could be analyzed within it, the Baseline Decision.

Our Proposition 1 was that the persistence of collaborative implementation is driven by pathways where trust, perceived interdependence, or a broad mandate are present. We found scarce evidence to support the proposition since the outcome of persistence was not reached and only one of the three conditions expected to lead to it, a broad mandate, was present. At the same time, the other two conditions, trust and perceived interdependence, were absent, making us unable to explore their empirical influence in these cases.

It is interesting to observe the difference between the influence of the broad mandate in these cases vis-à-vis its effects in cases of *smooth collaborative implementation*, where it was associated with persistence. There may be a theoretical explanation for this difference. A broad mandate is an opportunity for joint fact-finding and consensus-building that may prevent conflict in collaborations. However, it may demand some conditions to work, like trust and perceived interdependence, that were present in the cases of Smooth Collaborative Interdependence, but not in these. It also may need to work in tandem with some levels of problem compatibility to allow the joint fact-finding to occur within a given, even if minimal, common framework of reference.

It is also worth addressing at this point the variation that seems to have occurred over time in perceived interdependence, especially by UT Macrocuencas. This is because our data suggest that it was low from the beginning on the part of the Ministry. Although this research does not provide an answer to why they emerged, these changes emerged after low problem compatibility between the main partners was noticeable. It was at a point where it is also likely that low trust and the Ministry's use of authority were building up. It is plausible that, just as perceived interdependence can increase along a collaborative process, it can also decrease. It is also probable that changes in perceived interdependence are linked to the evolution of other conditions that have a less direct effect upon persistence than perceived interdependence has, but that can influence the sensemaking of individuals or organizations in a way that would change such perceived interdependence. This is a point we will elaborate on in Chapter 5.

Our Proposition 2 stated that the progress of collaborative implementation is driven by pathways where problem compatibility, bond-supported leadership, facilitative leadership, or the use of authority are present. We found little additional evidence about the

empirical justification of the claims about three of the four conditions in these cases, since problem compatibility, bond-supported leadership, and facilitative leadership were all absent. Nonetheless, we did find additional evidence to reject the claim about the positive influence of the use of authority on progress. Authority, and especially contractual authority, was used in the two cases of this group, the Basin Districts Project and the Baseline Decision, leading in both cases to meager progress.

We may have an explanation of why using authority did not lead to smooth progress, but perhaps to its opposite. The Ministry combined its exercise of authority over UT Macrocuencas with a style of interaction where it did not work together with its partner. In other words, facilitative leadership, like CVC did with its partners in the Cauca River case. Instead, it adopted a distant approach of very formal exchanges that was both slower and also more frustrating for the main partner, in this case, UT Macrocuencas. This is only an exploratory explanation, however, needing new research to find empirical justification.

The specific mechanism aside, the outcome, in this case, weakens the case for considering the use of authority as a sufficient condition for smooth progress in collaborative implementation. The evidence from this case suggests the opposite: that the use of authority may inhibit progress in what has been designed as collaborative settings.

This case is also a good example of how the analysis of problem compatibility helps us explain differences in decision progress in collaborative implementation. Normally, it would perhaps be harder to anticipate with methods like the analysis of frames. Analysts could have anticipated problems for the specific Baseline Decision just based on frame analyses. The general problem representations of the Ministry and UT Macrocuencas about what should be done, that frame analyses would capture, were widely different: gathering information versus proposing a vision. Yet the scale of the difficulties becomes easier to understand when we also take into consideration the criteria for deciding and, perhaps more important in this case, the considerations about knowledge validity. These very technical considerations were fundamental for the objections of the Ministry to UT Macrocuencas' products, and perhaps to the loss of trust between the two partners. If we once again recall our explanation-building strategy, we can remember that disagreements about knowledge validity were also present in the Chinchiná case, but they were smaller than the ones in the Basin Districts case. In this

latter case, the Ministry simply considered that some of UT Macrocuencas' methods and analyses were irrelevant and/or carelessly carried out. Therefore, the knowledge provided by the knowledge partner was not relevant and could not lead to reassessing positions, or even to new ways of approaching the problems. In this case, analyzing problem compatibility helped us expand and nuance the observations we would have made with a frame analysis.

Conclusion

Following our explanation-building strategy (see section 3.1), we can now consider the findings from this third group of cases around the Basin Districts Plan, together with the findings from the previous groups of cases.

First, if we observe the sufficiency of the conditions (see section 3.5) and start with those expected to drive persistence, we confirm that a broad mandate is not sufficient, probably for the reasons explained above in this section. Trust was absent in both cases, but if we look at its influence in the eight cases, we find that it is indeed sufficient for persistence. Every time it was present -three times in all within these eight cases- it led to persistence. Perceived interdependence was not present in these cases, and therefore we don´t receive additional information on its sufficiency.

If we now move to observe sufficiency among the four conditions expected to lead to progress in our heuristic, only one of them -facilitative leadership- was found to be sufficient, driving progress every time it was present. Problem Compatibility led to robust progress two out of three times it was present, although it drove consensus every time it was present. Bond-supported leadership led to progress, either robust or frail, half the time it was present, while not driving progress the other times. As for the use of authority, it did not lead to the outcome expected in any of the two cases where it was employed.

If we now turn to analyses of necessity (see section 3.5), and start again with the conditions necessary for persistence, we find perceived interdependence to be the only necessary condition for persistence in collaborative implementation in these cases Every time the outcome of persistence took place, perceived interdependence

was present. The situation was different for trust. Although it led to persistence every time it was present, the outcome of persistence also occurred in its absence. This occurred in the cases of the Detention Reservoirs, within the Cauca River group, as well as the Chinchiná River Project and the Risk Decision, within the Chinchiná River group. It was only present in half the cases where persistence occurred. The same situation was true for the broad mandate: while persistence occurred in six cases, it was only present in three of them. Now, turning to the necessary conditions for progress, there was also only one necessary condition: facilitative leadership, which was present every time there was robust or frail progress. In the cases of the Cauca River Plan, the Biological Corridors Decision, and the Detention Reservoirs, it was present. Bond-supported leadership was trivially necessary since it was present every time robust or frail progress were present but was also present in three different cases where the outcome was absent. The cases were the Chinchiná River Project, the Biota Decision, and the Risk Decision. Problem Compatibility was found not to be necessary, since it was present in the two cases with robust progress, but also in one case with meager progress, the Biota Decision. Finally, the use of authority is found to be not necessary since it was absent every time the outcomes of robust or frail progress were present. It was present in the two cases of *failed collaborative implementation*, none of which showed robust or frail progress. Finally, we should note that only two conditions were sufficient and necessary for achieving outcomes of consensus: problem compatibility and trust.

If we observe the pathways in this last group of cases around the Basin Districts Project (see section 3.5), we find that they always included a broad mandate and the use of authority. However, they never included trust, perceived interdependence, problem compatibility, bond-supported leadership, or facilitative leadership. We explained above in this section that a broad mandate is no longer expected to drive persistence by itself and why the use of authority is likely to be counterproductive for progress. Besides, since both pathways led to *failed collaborative implementation*, they suggest that the use of authority to impose decisions that are present in them may negatively influence collaborative implementation, instead of helping it, and that a broad mandate may not drive *smooth collaborative implementation* by itself, but only when combined with other conditions.

4.5 Implications for the heuristic on collaborative implementation

The empirical exploration of the propositions developed in Chapter 2 showed us the need to review those propositions but also left us with a number of observations enriching our understanding of collaborative implementation.

First, the role of trust: although we expected it to contribute to persistence, our findings suggest a more relevant influence on progress. If we take the Risk Decision, for example, where trust declined, was delayed well above the average of an already very delayed project. In contrast, progress was higher in other specific decisions where trust was present, like the Biological Corridors and the Biota Decision. In the Detention Reservoirs Decision, where trust was low and progress was relatively smooth, it was not as smooth as in the case of the Biological Corridors, where Trust seems to have been higher. In general, then, trust was found to be more relevant to explaining progress than persistence in collaborative implementation, at least in these specific decisions. At the same time, there are some indications that trust may be influenced by problem compatibility. Reading the cases, we find that trust declines in the Detention Reservoirs' Decision (section 4.2) and the Risk Analysis (section 4.3) occurred after repeated differences in decisions.

Second, some observations on the use of authority. We found two types of authority in these cases, and evidence that one of those types of authority, contractual authority, failed because it created resistance. On the two occasions where it was used, contractual authority led to bad results regarding progress, be it frail progress -in the Risk Decisions- or meager progress -in the Baseline Decision. In the Risk Decision, it was resisted by Universidad Nacional, leading to a stalemate that was only solved when CORPOCALDAS reversed its position and accepted the University's proposals to complete the project. In the Baseline Decision, continuous requests for changes in its proposals by the Ministry to UT Macrocuencas increased the time required to complete the Decision. Also, it perhaps contributed to UT Macrocuencas deciding to abandon the collaboration. Interestingly, however, hierarchical authority did not lead to a backlash in the only situation where it was used: when the Ministry requested all

parts of The Netherlands Project, including CORPACALDAS, to abide by the new Guidelines, affecting the decision on risk. CORPACALDAS did not try to resist this request from the Ministry, but only to make Universidad Nacional -using contractual authority- adopt a given interpretation of it. We are left, then, with no evidence of either positive or negative effects of hierarchical authority upon progress, while we do have evidence that attempts to use contractual authority backfired in two specific decisions within The Netherlands Project. One way to interpret these findings is by observing that hierarchical authority translates into higher levels of perceived interdependence -at least for the partners lower in the hierarchy- than contractual authority, which is relevant only to the contract it refers to. This is a very preliminary observation needing confirmation from further research.

Third, the remarkable within-group variations, both for the cases around the Cauca River project and those around the Chinchiná River Management Plan. In the Cauca River case, a subcase of *smooth collaborative implementation*, in which the specific decision was agreed upon, is found together with one subcase of *troubled collaborative implementation*, where agreement was lacking and the decision was highly contested, within the same project. In the Chinchiná River case, both subcases are examples of *troubled collaborative implementation* with meager progress, but they differ. This is because (1) one was consensual, with an agreement between the main partners -the Biota Decision- while the other was not consensual -the Risk Decision. (2) the Biota Decision, suffered a significantly smaller delay than the other, the Risk Decision. Although they were selected precisely because of these contrasts, the magnitude of the differences draws our attention.

Intermediate outcomes of consensus seem to be especially linked to the presence of problem compatibility and trust, which were sufficient and necessary for them to occur in these cases. They are also associated with abstention from the use of authority. We should notice that they were not always associated with the best intermediate outcomes regarding progress but, at least once, to a case with meager progress. We should not expect, then, that consensus will always drive robust, fast progress, if anything because of case-specific factors like the ones that seem to have been at play in the Chinchiná River case. It will likely drive the results that are comparatively better in terms of progress within the same case as it did in the Chichiná River.

At this point, we have sufficient new insights to reformulate the propositions on the conditions driving persistence and progress and the heuristic which reflects our understanding of how those dimensions are influenced and how they drive *smooth, troubled*, or *failed collaborative implementation*. Let us start with the propositions. They could be reformulated as follows:

Proposition 1: The persistence of collaborative implementation is empirically driven by pathways in which perceived interdependence is present.

Proposition 2: The progress of collaborative implementation, specified as robust or frail progress, is empirically driven by pathways in which facilitative leadership is necessary and the use of authority is absent.

The necessary presence of perceived interdependence for the persistence of collaborative implementation reflected in Proposition 1 is hardly surprising, given several findings of extant research in the same direction (see Chapter 5). The sufficient, yet not necessary contribution of trust, may be not so anticipated.

Looking at Proposition 2, the contribution of facilitative leadership is again anticipated by previous research. Au contraire, the negative effects of the use of authority may draw more interest given previous research highlighting the importance of the vertical dimension of governance (here, too, see Chapter 5). It will be important to consider the differences found between the use of contractual authority -with seemingly negative influences- and the application, on only one occasion, of hierarchical authority (see section 4.4.5).

It is important to note that problem compatibility does not show the influence that was expected from it over the progress of collaborative implementation when progress is measured as delays lower than 50 percent. Our findings do not suggest that it is sufficient or necessary to reach those levels of delay, and the variation noted between the 114 percent delay in the Biota Decision. The 400 percent delay in the Risk Decision, which has differences in problem compatibility as a very likely driver, is not visible when we compare both specific decisions to a 50 percent delay threshold. It is also important to remark that it did show the influence that was expected upon consensus.

We can learn more by observing the pathways to the different outcomes of collaborative implementation. We will go back to those pathways in the opposite order in which we observed them before, i.e., starting with the ones farther away from our goal of smoothness.

Pathways driving *failed collaborative implementation* in these cases (see section 4.4.5) included a broad mandate and the use of authority, while never including trust, perceived interdependence, problem compatibility, bond-supported leadership, or facilitative leadership. If we inform our understanding of these pathways with our findings about the drivers of persistence and progress, that should be absent in *failed collaborative implementation*, we observe that they are mainly driven by low levels of perceived interdependence and low levels of facilitative leadership. A broad mandate and bond-supported leadership are compatible with these outcomes. Trust and problem compatibility should be absent since they are only found in cases where there is persistence, which would prevent failure.

Pathways to *troubled collaborative implementation*, the most frequent outcome in our cases, varied, although they always included perceived interdependence that, according to our findings, was the main driver for persistence. They also included bond-supported leadership, although we did not find that it particularly influenced the interviews or the review of documents. In one case, they also included facilitative leadership. Only the worst outcome, the Risk Decision, included the use of authority. Two conditions, trust and problem compatibility, stand apart since they are only high in the only case where decision-making was consensual in this group: the Biota Decision. If we inform our understanding of these pathways with our findings about the drivers of persistence and progress, we observe that they are mainly driven by the presence of perceived interdependence while trust, a broad mandate, problem compatibility, facilitative leadership, and bond-supported leadership are compatible with them.

Finally, pathways to *smooth collaborative implementation* in the two cases where it was found in this research included six of our seven conditions, with the only exception being the use of contractual authority. The main drivers seem to be perceived interdependence (for persistence) and facilitative leadership (for progress). Our findings suggest that pathways to *smooth collaborative implementation* include

perceived interdependence, facilitative leadership, problem compatibility, and trust, while a broad mandate and bond-supported leadership are compatible with them, and the use of contractual authority should not be present (see Table 8).

Table 8. Summary of the configurations (pathways) found in the empirical exploration in this study.

Consequences	**---Intermediate outcomes---**			**Conditions**						
(*Projects* and decisions)	**Persistence**	**Progress**	**Consensus**	**Broad mandate**	**Trust**	**Perceived interdependence**	**Problem compatibility**	**Bond-leadership**	**Facilitative leadership**	**Use of authority**
Smooth Collaborative Implementation										
Cauca River	Yes	Robust	Yes	High	High	High	High	High	High	Low
-Biological	Yes	Robust	Yes	High	High	High	High	High	High	Low
Corridors										
Troubled Collaborative Implementation										
-Detention	Yes	Frail	No	High	Low	High	Low	High	High	Low
Reservoirs										
Chinchina	Yes	Meager	No	Now	Low	High	Low	High	Now	High
-Risk	Yes	Meager	No	Low	Low	High	Low	High	Low	High
-Biota	Yes	Meager	Yes	Low	High	High	High	High	Low	Low
Failed Collaborative Implementation										
Basin Districts	No	Meager	No	Yes	Low	Low	Low	Low	Low	High
-Baseline	No	Meager	No	Yes	Low	Low	Low	Low	Low	High

CHAPTER 5

Conclusions

The chapter is divided into six sections: In the first one, we review the construction of the dissertation up to this moment: the research problem, research question, review of the extant research, propositions, methods, cases researched, and main findings. In the second section, we present a refined heuristic, improved by the observations made in the empirical exploration of our propositions. The third section is devoted to acknowledging the limitations of our research, while the fourth one shares a possible agenda for new research that can also compensate for some of the limitations of this dissertation. The fifth section suggests some lessons that might be useful for practitioners of collaborative implementation and, finally, the sixth section reflects briefly on the challenges of collaborative governance and collaborative implementation in the present World situation.

5.1 Taking stock of our observations

This dissertation aimed to improve our understanding of collaborative implementation. It intended to find answers for the paradox that collaborative endeavors, like the search for answers to climate change and many other challenges, both global and local, persist while being "slow to produce output or uncomfortably conflict-ridden" (Vangen & Huxham, 2010). To improve our understanding and make sense of this paradox, we formulated the following research question: How do different conditions influence the persistence and progress of collaborative implementation?

We looked for answers in the analysis of the implementation of an IWRM policy in Colombia. The setting was a series of projects where State actors -the Ministry of the Environment and regional environmental agencies- made joint decisions with non-State actors -universities, sugarcane growers, and consultants. The decisions included tools to tackle flooding (Cauca River), measures for risk reduction (Chin-

chiná River), and rules for water governance (Basin Districts). We soon found that decision-making had not been adequately explored when analyzing Policy Implementation -despite the existence of literature highlighting how decision-making happens across the policy process (Hupe & Hill, 2016; Lindblom & Woodhouse, 1993; Simon, 1957). Even when decision-making in implementation has been addressed (Torenvlied & Thomson, 2003), the assumption has been that the subject of decisions is the same as it was during the previous phases of the policy process. Studying implementation through the analysis of decisions derived from the previous mandate has remained a subject for future research, until now. We found a similar problem within collaborative governance research. Although collaborative governance is defined as joint decision-making (Ansell & Gash, 2008), or the processes and structures of public policy decision-making (Emerson et al., 2012), this research approach does not address the decisions themselves.

On the other hand, our review of the literature, shared in Chapter 2, showed that despite a deficit of explicit analyses of decision-making in them, both implementation research and collaborative governance literatures have addressed the importance of perspectives (Pressman & Wildavsky, 1973). Also of understanding (Ansell & Gash, 2008), or knowledge (Emerson et al., 2012) in their areas. Scant attention to decisions, however, has led to a limited interest in problems and their structures (Ackoff, 1962; Dunn, 2015; Hoppe, 2011; Ordóñez-Matamoros et al., 2013; Simon, 1973). It has also led to the expectation that only shared perspectives, shared understanding, or shared knowledge would drive agreement, despite earlier observations in Political Science (Lijphart, 1975), and Policy Analysis (Schon & Rein, 1994) that this is not always the case. We concluded that understanding collaborative implementation would require some additional tools, including conceptual developments to help explain why shared perspectives may be necessary to explain consensus in decision-making and a heuristic to guide our exploration, keeping it as simple as possible.

In Chapter 2 we presented the first version of such a heuristic. It was informed by the literature review, which found some conditions more closely associated with collaborative implementation's persistence -trust, perceived interdependence, and a broad mandate. Additionally, some other conditions more associated with progress like problem compatibility, and bond-supported leadership. facilitative leadership and the use of authority. This would allow us to explore the challenges of performance (Gerlak et al.,

2013; Vangen & Huxham, 2010) described by analyzing separately those conditions driving persistence from those more closely associated with performance. We also presented two propositions on the role of the different conditions in driving outcomes of persistence or progress in projects executed through collaborative implementation.

a. Proposition 1: the persistence of collaborative implementation in projects is driven by pathways where trust, perceived interdependence, or a broad mandate should be present.

b. Proposition 2: the progress of collaborative implementation in projects is driven by pathways where problem compatibility, bond-supported leadership, facilitative leadership, or the use of authority should be present.

In Chapter 3, we explained how case selection and data collection took place, as well as the methods for data processing and data analysis. We detailed how theoretical replication and explanation-building would inform our work.

In Chapter 4, the analysis of the different cases and the specific decisions within them took place, leading us to partly confirm, and partly modify our propositions. Using theoretical replication led us to robust conclusions despite the small number of cases analyzed.

Finally, in this chapter, we take stock of our findings to present the more general insights and reflections that our research left us. We start with a revised version of our heuristic on collaborative implementation that summarizes how our theory-building has improved. The new heuristic confirms, and at the same time nuances, the important role of problem compatibility in the progress of collaborative implementation, a role that involves trust to reach the optimum outcome of smooth collaborative implementation. It also reflects the need to nurture the perceptions of interdependence, on which the very continuation of collaborations depends.

5.2 An improved heuristic of collaborative implementation

The findings of our preliminary, in-depth study of the cases in this dissertation (presented in Chapter 4) led us to adjust our heuristic of collaborative implementation. Contrary to our expectations, not all three conditions listed as sufficient for achieving persistence drove that outcome, and improved interdependence was found to be the only necessary condition for persistence. The positive influence of a broad mandate was found to be tied to the simultaneous presence of problem compatibility. As regards progress, our findings suggest that facilitative leadership can impulse it significantly, while the combination of problem compatibility and trust drives the most robust form of it: consensual progress. Bond-supported leadership is not found to have a great influence on progress and, very interestingly, we found a condition that should be avoided to have a good performance regarding persistence and progress in collaborative implementation: the use of contractual authority.

5.2.1 An adjusted understanding of our conditions

It is useful to sum up at this point how the empirical exploration of our cases led to refinements of our initial theory, starting with adjustments to our understanding of the conditions driving persistence and progress. Regarding persistence, we found an even more relevant role for perceived interdependence than initially expected. We also found different influences of trust than those we expected, and important limitations to the role of broad mandates as drivers of conflict resolution through joint fact-finding. As for progress, our empirical exploration left us with an improved understanding of problem compatibility, not as the main explanation for progress but as a very relevant driver of consensual, more stable, progress, when working together with trust, and likely an important influence upon trust at the same time. We also observed very important repercussions of facilitative leadership, and what might turn out to be a critical influence of one of its roles -the catalyst- in collaborative implementation. Finally, our empirical exploration led us to call for caution on the use of vertical governance mechanisms to stir collaborative implementation.

Persistence

The necessary presence of perceived interdependence for collaborative implementation to persist is consistent with findings by other authors (Douglas et al., 2020b). It is perhaps going beyond the roles of asymmetries and incentives as starting conditions, and the steady build-up of "mutual recognition of interdependence" in the model by Ansell and Gash (2008, pp. 550, 559). Our findings suggest that perceived interdependence is the only condition without which the collaborative implementation process cannot be sustained. It must be present in every step of the collaborative implementation process for it to survive. It is possible, however, that the repeated failure to reach the expected benefits of collaborative implementation, because of the lack of progress in it, may lead at some point to the decline in perceived interdependence that we observed in two of our cases. Medium-N research on collaborative governance has also found a lack of progress as one of the reasons for the termination of collaborative governance regimes (Ulibarri et al., 2020).

Our findings also suggest that perceived interdependence might be at least partly autonomous from trust. It is not always trust-building that leads to it, and it can even outlast trust as we found in one of our cases -this is consistent with findings by Ansell and Gash (2008, p. 563) although not clearly reflected in their model. Indeed, one interesting finding of this dissertation is the possibility that low problem compatibility may drive a loss of both trust and perceived interdependence, leading to low levels of them as we found in two of our cases. The exact mechanism for this to occur could include the non-materialization of expected access to resources, be them from partners through synergies, or from third parties that were targeted by the collaborative effort. Such a mechanism, however, is not researched in this dissertation.

Our empirical exploration of trust also deserves a more profound discussion. Our initial understanding of trust was that this predisposition to collaborate would drive persistence, always giving partners reasons to keep working together (see section 2.3). It was considered likely that it could drive the perception of interdependence, as Ansell and Gash (2008) propose. After reviewing our cases, it seems that we may have misread what previous research on trust suggested. The exchange of information and knowledge that trust allows (Klijn et al., 2016) might be more influential

in adopting decisions within the collaboration than upon the continuation of the collaborative effort. The suspension of risk that allows for a reduction in controls (Oomsels et al., 2016), albeit with limitations (Connelly, 2007), is also more a driver for a good pace of decisions, agreements, and negotiations than for their existence. If trust reduces the need for elaborated contractual clauses to defend partners in collaborations from future uncertainties (Koppenjan & Klijn, 2004, p. 84) its more direct effect is speeding up the collaboration. Such effects on progress may have a cascading effect, more indirect, on persistence as well. It seems sensible, then, to study trust as a condition mainly driving the pace of collaborative implementation -its progress- rather than its existence. Also concerning trust, previous research shows how it can be built through participation in collaborations (Ansell & Gash, 2008) and, more generally, embeddedness in networks (Akkerman et al., 2012). This research suggests that trust can also be diminished by participating in collaborations, depending on how the interactions between partners play out. In any case, trust and perceived interdependence seem to be somehow intertwined, and research into mechanisms explaining the evolution of one could also clarify the evolution of the other.

Reflecting on our findings about the influence of the type of mandate, which is the most concrete contribution of the literature on implementation to this research, is also in order. We expected that, just like narrow, unambiguous mandates were deemed useful for top-down implementation (e.g. Sabatier & Mazmanian, 1980) a broad mandate would be important for collaborative implementation. It would enable partners to avoid conflict through joint problem-solving and joint fact-finding (Emerson et al., 2012; Ulibarri et al., 2020). The observation of empirical processes, in these cases, only confirmed these positive effects of broad mandates for cases where they are accompanied by high problem compatibility and trust. When that was not the case, a broad mandate was only a source for a broader spectrum of conflicts. Previous research has found that joint fact-finding is rare in externally-initiated collaborations (Ulibarri et al., 2020). Our preliminary findings from the exploration of empirical processes in these cases suggest that, even if attempted, it may require not only a broad mandate to enable it but also problem compatibility and trust.

Progress

The study of empirical processes in these cases nuanced our understanding of the conditions driving progress in collaborative implementation as well. Having privileged the exploration of decision-making in collaborative implementation, our heuristic expected that problem compatibility would drive progress by leading to consensus. Findings from this empirical exploration suggest problem compatibility is not necessary or sufficient to drive progress, or at least frail progress, which can be achieved through facilitative leadership. Facilitative leadership, especially through the role of the mediator in these cases, helps avoid or overcome stalemates, allowing partners to move on towards the next decisions needed in the collaborative process. Problem compatibility is found, however, to be sufficient and necessary for consensual decision-making. This is important because our findings suggest that, although non-consensual, frail, progress can be achieved, problematic reductions in trust can come with it. Those reductions could be expected to further deteriorate the possibilities for progress in future decisions, given the role that our research finds for trust as a driver of progress.

This empirical exploration finds a role for problem compatibility as a driver of consensual -robust- progress. Also, likely as a driver for trust and perceived interdependence, like the cases of the Detention Reservoirs Decision, the Risk Decision, and the Baseline Decision suggests. It goes beyond what the collaborative governance literature expected from the influence of a shared meta-strategy (Huxham, 1993) shared understanding (Ansell & Gash, 2008), or shared knowledge (Emerson et al., 2012). A simple explanation for the importance of problem compatibility is that the progress of collaborative implementation rests on multiple specific decisions that must be made. The more those decisions are reached through consensus, the faster the collaboration will progress and the sooner small wins (Ansell & Gash, 2008; Warner, 2006) will be achieved. But even if negotiations are needed, they will be smoother if problem representations, criteria, or at least appreciations of knowledge validity are compatible. These findings are also consistent with those on the importance of policy preferences on specific problems, beyond the sharing of larger-order policy beliefs, to explaining decision-making and policy change from the perspective of the Advocacy Coalitions Framework (Leifeld, 2013). If there is growing evidence of the influence of similar beliefs in the formation of collaborations (Karimo et al., 2022), this research adds to it that similar decision criteria

and judgments on knowledge validity influencing policy preferences may be relevant to understanding collaborative performance.

One question for which this research lacks an answer is whether problem compatibility would need some previous levels of trust or perceived interdependence to emerge like it is the expectation about shared understanding in the model by Ansell and Gash (2008, p. 560). The three cases studied in the present dissertation research show that problem compatibility is not automatically produced when trust or perceived interdependence are present, and they also suggest that it can be present even in a context of eroding trust. Also, a lack of problem compatibility could drive the erosion of trust. We lack examples, however, showing the emergence of problem compatibility in situations where trust or perceived interdependence are low from the beginning. This is despite previous research on political coalitions (Lijphart, 1975) suggesting that it could occur. Our preliminary findings which suggest an influence of problem compatibility upon trust -and, in turn, an influence of trust upon perceived interdependence- are worth additional exploration.

We can now address what we learned about the roles of bond-supported leadership and facilitative leadership in collaborative implementation. We expected each of them to be a relevant driver for progress, but that was not confirmed by these cases. Bond-supported leadership was expected to influence collaborative implementation through a causal mechanism where some partners -the followers- would agree on a decision because some other partners-the leaders- preferred it. We were even open to the possibility of finding distributed leadership (Brown & Gioia, 2002; Spillane, 2005) in these cases, with different partners leading for different types of decisions. Our exploration of empirical processes did not uncover such influences, however. In cases where bond-supported leadership was present, it did not drive increased consensus on specific decisions. It is also not obvious that bond-supported leadership was a driver for the persistence of the collaborative effort. This apparent lack of effects of bond-supported leadership should come as no surprise to those who, perhaps with the “heroic man” (´t Hart, 2014, p. 20; Sims & Manz, 1991) image of leadership in mind, expect no role for bond-supported leadership in collaborative contexts. In our view, that role is possible given the relational notion of leadership, untied from positions of authority. Either way, our exploration of these empirical processes

did not find an impact of bond-supported leadership upon progress in these cases, and it remains to be seen whether further research shows an influence.

Facilitative leadership, on the other hand, was expected to influence progress in collaborative implementation through different mechanisms, in line with collaborative governance research (Ansell & Gash, 2012; Crosby et al., 2017; Torfing et al., 2020). Our exploration of these cases found, indeed, a positive influence of facilitative leadership as a driver for progress. Our findings suggest that it, mainly through the role of the mediator, helped maintain the collaboration in the Risk Decision. Also, a steward role helped the collaboration persist in the Detention Reservoirs' Decision.

It is remarkable, however, that one key role in facilitative leadership is missing in almost all our cases: that of the catalyst, that is expected to lead in the challenging of conventions (´t Hart, 2021; Torfing et al., 2020), advance systems-thinking and identify new opportunities for value creation. Only in one of our specific decisions was this role taken up by a partner, but not in all its interactions. Importantly, this is the role that has a more direct relationship with the expected joint fact-finding that, for the most part, is missing in these cases. Also, the role that was most present, the mediator (Ansell & Gash, 2012; Torfing et al., 2020) was not associated with situations where conflicts were resolved or innovation spurred, but more with outcomes where the failure of collaboration was averted or if it happened, it was amicable. Conveners/stewards did not behave as expected in these cases: in the case of an externally-initiated collaboration (Ulibarri et al., 2020), the conveners acted more as mediators than as actual guardians of the process. For the two internally initiated collaborations, only in one of the cases did the convener act as a steward of the collaboration. Further exploration of the different roles of facilitative leadership in specific cases may help us improve our understanding of their contributions.

Finally, if we review our findings for the use of authority, they might suggest being cautious about calls for increased use of vertical power (Weber & Khademian, 2008) in collaborative governance. The use of authority was expected to influence collaborative implementation through the ability of those partners in superior positions within hierarchies to impose decisions on others, as part of an inclusive, legitimate decision process, to avoid decision-making stalemates (Ansell & Gash, 2008, p. 557). The

results observed were mixed, however. In one specific decision, the use of hierarchical authority by the owner of the collaborative process was accepted by other partners without contestation. In two other specific decisions, however, the use of contractual authority was either contested or seemingly conducive to the failure of the collaborative implementation.

This empirical exploration suggests that the use of authority -or at least certain ways to use it, especially contractual authority- may be detrimental to the internal legitimacy (Mosley & Wong, 2020) of the collaborative process. Partners may feel that the legitimacy of their network is low because their voices are not given equal importance. Recent research shows that most of the literature expects that collaborative governance regimes will usually evolve in the direction of more stability. Nevertheless, it is often the case that even successful collaborations will either decline in their membership and in the ambition of goals or change that membership and those ambitions in time (Ulibarri et al., 2020). Loses in legitimacy due to the use of authority might be a cause, in some cases, for that decline.

5.2.2 An adjusted understanding of the pathways

The empirical exploration of our cases also led us to simplify our understanding of the pathways leading to smooth, troubled, or *failed collaborative implementation*. Our empirical exploration suggests that only one of our conditions must be present to lead to persistence and, therefore, avoid failed collaborative implementation. That condition is perceived interdependence. Other three conditions -problem compatibility, trust, and facilitative leadership- drive progress and, therefore, help reach smooth, or at least *troubled collaborative implementation*, while a broad mandate can contribute to such outcomes only if problem compatibility is also present. Our exploration suggests that bond-supported leadership may not really have a role in collaborative implementation and that the use of authority in collaborative implementation should be very thoughtfully considered.

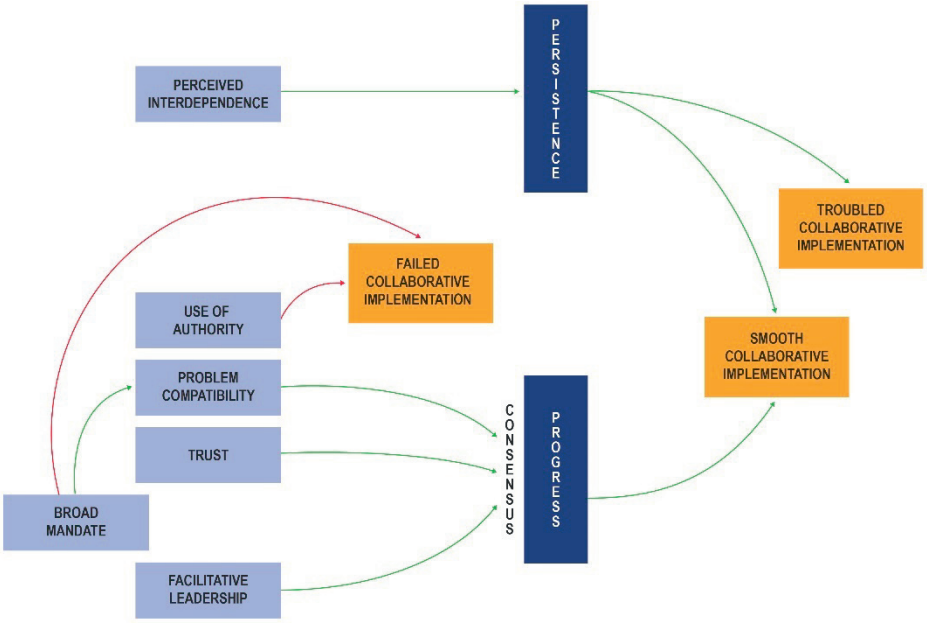
The pathways

Figure 8 presents the revised heuristic of collaborative implementation, building on the discussion shared in section 4.5. In this new heuristic pathways to *smooth collaborative implementation* may be multiple but should always include perceived interdependence as the main driver for persistence. Additionally, they should include the union of problem compatibility and trust as the main drivers for consensus and, through consensus, robust progress. We should not expect the use of contractual authority to be included in these pathways.

Pathways to *troubled collaborative implementation*, on the other hand, can be multiple, but always include perceived interdependence, which keeps partners working together despite their differences. Also, we could find the trust-problem compatibility duo, and the consensus they bring with them, leading to intermediate outcomes of progress that, being frail or even meager, are still consensual and therefore more likely to be sustainable. Facilitative leadership could also be present, aiding the sustainment of the collaboration and fostering progress. Finally, pathways to *failed collaborative implementation* will always include low perceived interdependence, since only the absence of this perception that they need others to reach their own goals will lead partners to stop trying to collaborate. The combination of a broad mandate and use of authority can contribute to this outcome when problem compatibility is absent, likely by leading to conflict and reducing perceived interdependence. On the other hand, a broad mandate might drive *smooth collaborative implementation* in empirical processes if it is combined with high problem compatibility, perhaps opening the windows to joint fact-finding, although finding the exact mechanism needs further research.

Additionally, the figure shows how facilitative leadership can help collaborative implementation persist, even if weakened by a lack of consensus and losses in truth. The possibility that some of the conditions are missing is represented by the black lines cutting the grey pathways which communicate the conditions with the intermediate outcomes.

Figure 8. The revised heuristic of Collaborative Implementation



5.2.3 The updated propositions and the answer to our research question

In Chapter 4 we showed how findings in our empirical exploration of cases led us to adjust our propositions. Those changes in propositions reflected a different answer to our research question, i.e., how do different conditions influence the persistence and progress of collaborative implementation?

The original propositions, derived from our literature review, broadly identified three conditions -trust, perceived interdependence, and a broad mandate- as drivers of persistence in collaborative implementation, and another four conditions – problem compatibility, bond-supported leadership, facilitative leadership, and the use of authority- as drivers of progress. Our understanding of the literature did not lead us to expect any of these conditions to be necessary, while all of them could be sufficient for their outcomes. We expected problem compatibility to be an important influence upon progress, likely because it influenced consensus, but we did not know the exact mechanisms for such influence to act.

Our empirical exploration allowed us to improve those answers, nuancing some of them while making others more authoritative. Our evidence suggests more clearly than before the necessity of perceived interdependence for persistence, while also suggesting that no other condition is necessary for it. We also nuanced our expectations about problem compatibility, which was not found to be necessary for progress, but was found necessary for robust, consensual progress. We can also better differentiate between the influences of bond-supported leadership and those of facilitative leadership, as well as between the influences of different roles within facilitative leadership. Finally, we gathered observations suggesting that some conditions could be less relevant than we expected in contexts of collaborative implementation (bond-supported leadership). They were limited in their influence depending on their combination with another, very specific condition (broad mandate and problem compatibility on joint fact-finding, trust, and problem compatibility on consensus) or simply harmful for collaborative implementation (the use of authority).

More than big changes in our answer to our research question, our adjusted propositions reflect those nuances achieved through the initial testing of our propositions in these cases. Our refined heuristic reflects an enhanced understanding of collaborative implementation shedding some light on the reasons for collaborative inertia. That is, persistence can be guaranteed only by keeping perceived interdependence strong -through incentives, evaluation, or other mechanisms that lead partners to perceive they are better off collaborating. However, reaching the progress expected from collaborative implementation is more demanding. Besides trust or the skillful management of facilitative leadership, it requires problem compatibility helping complex processes to advance, one decision at a time.

5.3 Methodological limitations

A strategy of theoretical replication (Yin, 2009) allowed us to make the most of the comparison of a few in-depth case studies in the quest of building theory about the different dimensions combined to produce the outcomes of collaborative implementation. In-depth research of only three projects and five specific decisions within them,

explained in Chapter 3, made it possible to identify different configurations of conditions (Ragin et al., 1984; Rihoux & Ragin, 2009), i.e, the pathways, with plausible causal mechanisms linking them to specific intermediate outcomes and final consequences.

Being a useful and robust exercise of theory-building (George & Bennett, 2005), however, ours was of course only one among several paths that were possible. It was one that implied at least five limitations that we are aware of: a small number of cases, research of a homogenous group of cases, all from a country in the Global South, and all related to IWRM. Moreover, a possible bias toward the observation of some conditions, a limited set of tools to observe intertemporal variations, a lack of theoretical guidance for calibration, and unequal access to the information of different cases.

First, the number of cases researched: This research reaches conclusions by observing the conditions and outcomes present in three projects and five specific decisions within them, for a total of eight cases. This, of course, limits the variation in outcomes -for example, there is only one case of *smooth collaborative implementation* at the specific decision level, and one at the project level. The strategy of theoretical replication helped us reach strong conclusions by selecting specifically one case representing each of the collaborative implementation types at the project level, and the extreme outcomes within it at the decision level, for research. However, conclusions could be more compelling if they could have been built upon a larger base of evidence. Our reasoning for avoiding this, as explained in Chapter 3 (see section 3.5), was that the number of cases required was beyond reach. The standards for the use of QCA, and the method that has evolved from the formalization of the Boolean Analysis applied in this dissertation (Ragin et al., 1984) dictate that the number of cases should be K^3 -the number of conditions powered 3 times (Rihoux & Ragin, 2009; Schneider & Wagemann, 2010; Schneider & Wagemann, 2012). For our seven conditions, that would have meant 343 cases. This is particularly challenging when the analysis requires qualitative exploration of documents. One alternative was reducing the number of conditions researched -then quitting the goal of finding a comprehensive understanding of collaborative implementation. Another was attempting the research of a very large set of cases by perhaps adapting the operationalization of our conditions in a radical way. Instead, we chose to observe a relatively large number of conditions with a rather small number of cases, as a theory-building exercise that allows for follow-up with different techniques.

A related choice was, of course, that of conducting qualitative research. Qualitative methods are time-demanding for interpretation to be reliable (Miles et al., 2013). Quantitative methods allow for the analysis of larger datasets in shorter periods.

On the other hand, qualitative methods are particularly fit for understanding interactions and their conditions like trust, leadership, or the compatibility of problem representations addressed here. Interdependence, for example, could have been measured quantitatively, analyzing the number of previous interactions between partners or the amounts of contracts between them compared to the whole picture of their contracting, for instance, but that strategy should not have captured its perceived nature. This explains why so many previous studies on collaboration (e.g. Hardy, 1998; Heikkila & Gerlak, 2016; Huxham, 1993; Keast & Mandell, 2014) and collaborative governance (Ansell & Torfing, 2015; Gieske & van Buuren, 2015; Zurbriggen & Sierra, 2017) have also adopted qualitative research strategies before.

A second limitation, also discussed in Chapter 3 (section 3.6), is the selection of only Colombian cases, all related to projects implementing IWRM. These choices reduce the possibility of generalizing from our findings, although they also increase their internal validity by focusing on observing variation within the same contexts. A similar strategy was followed by Ulibarri et al. (2020) in their cases, focusing the analysis on cases from "the Western, developed context" (p.3). Although we explain in section 3.6 how the explicit discussion of Colombian politico-administrative tradition and its implications for the condition of use of authority in facts helps the generalization of findings, further research into collaborative implementation would benefit from a greater diversity of contexts, perhaps looking first to Latin America, then to other regions, cultures, and politico-administrative traditions in the world.

A third limitation, also related to validity, could come from the use of text analysis and coding from meeting minutes as one of the two main methods for data analysis. The use of meeting minutes as the source of observations for coding may create a bias of the method in favor of observations on problem compatibility. This could also influence observations of leadership and authority, conditions that are more readily observable in transcripts of interactions than those like trust and interdependence, for example. On the other hand, coding was made by only one coder -the researcher himself- without the opportunity for testing inter-coder reliability (Miles et al., 2013).

It is appropriate to make two notes on this limitation, however. First, triangulation with the results from interviews was made precisely to secure a more robust diagnosis of the cases. In some cases, where observations of a condition based on the documents were too few or inexistent for a case, interviews became the dominant source of evidence. Second, the very reason for this possible bias may be another signal of the inescapable reality that the conditions affecting each specific decision may be of greater importance for the research of collaboration than so far acknowledged. The more obvious of those conditions is precisely the compatibility of problem representations that can so easily be identified through the analysis of meeting minutes. Also, the analysis of meetings can contribute information to the assessment of conditions like trust or leadership that is complementary to what interviewees remember, perhaps a long time after events take place.

A fourth limitation could come from the cross-sectional nature of most of the analysis, which was not initially designed to capture changes in conditions over time. This type of analysis was incorporated after getting to know its utility for this type of cross-case analysis in the collaborative governance Case Database (Douglas et al., 2020a). Although time milestones were incorporated later, leading to interesting observations about the evolution of conditions, findings could likely have been more complete had this technique been adopted earlier.

A fifth limitation was the lack of theoretical guidance to set thresholds in the analysis. Theoretical guidance is essential for both case analysis in general (Yin, 2009) and for Boolean Analysis in particular, where calibration is a very important step. At some point in the research, it became palpable that relative smoothness might be useful researching. Also, the 114 percent delay in the completion of the Biota Decision or the very small delay in the completion of the Detention Reservoirs decision could be telling us as much about other themes - as about the conditions for collaborative implementation between the partners. For example, on the quality of planning in the respective organizations. Outcome assessment on progress should be contextual, comparing the differences in progress between different projects and different decisions within the same organizations. This is why we sought organizations within the same country, the same policy domain, executing similar projects at the same time. The lack of a tool to define non-arbitrary contextual thresholds, however, prevented us from attempting this kind of analysis. A useful alternative would have been using

fuzzy-sets QCA, instead of the version of a "crisp" comparison that we used, since it would have allowed us to better reflect the diversity in cases that we labeled as just *smooth, troubled*, or *failed collaborative implementation*, but doing that would need many more cases than those available.

A sixth and final limitation of this research was unequal access to information in all cases. The Chinchiná River Project was the obvious choice among four cases of *troubled collaborative implementation* in part because access to information was better. This is explained in section 3.2 when we address convenience sampling. In the Basin Districts case, which we used to explore empirical processes of *failed collaborative implementation*, access to documentation was extensive, but access to interviews was more restricted. This was due, perhaps, to anxiety from the likely interviewees that research on a case would lead to an adverse outcome, looking at their mistakes and not the conditions for collaborative implementation to work.

In the Colombian context, the other side of the coin of the Napoleonic tradition is that public servants are often exposed not only to criticism but to administrative sanctions for a broad range of reasons including plain poor judgment. This possibility of sanctions creates incentives for them to avoid discussing their interventions in cases with unfavorable results. One strategy to mitigate those fears was the anonymization of respondents, providing only some guidance about their responsibilities (see section 3.6). A more diverse set of cases in future research would aid in the mitigation of this limitation.

5.4 An agenda for future research

This dissertation initiated a journey looking for answers to the collaborative inertia (Vangen & Huxham, 2010) that makes collaborative efforts emerge and persist while they are slow at reaching their goals or conflict-ridden. With a focus on understanding how collaborative efforts are expected to reach outcomes, we identified a group of conditions mainly driving persistence, while others are more influential upon progress. We also identified, albeit preliminarily, pathways for those conditions to drive different outcomes. Some lessons emerged, although preliminary as well, on what should be stimulated and what should be avoided to advance in the direction of *smooth*

collaborative implementation with consensus and good levels of progress. More needs to be done, however, to give good advice to policymakers and policy implementers as to what to do to improve the prospects of *smooth collaborative implementation.* Work is needed simultaneously on the application of the heuristic to different cases in different contexts, to confirm its external validity, as well as on the more detailed understanding of the mechanisms driving different outcomes. Both avenues for research are good opportunities to overcome the limitations of this dissertation.

To start with the application of the heuristic to new cases, two possibilities are the analysis of new cases, like new research on the collaborative governance of climate change adaptation, perhaps including cases from other Latin American contexts, or new analyses of already documented cases, like those in the collaborative governance Case Database (Douglas et al., 2020a). The option of cross-case analyses also allows for improvements in external validity, overcoming the limits of a small number of cases, all situated in the same country and within the same policy subsystem.

A first research strategy would be a new cross-case analysis (Gerring, 2006; Miles et al., 2013; Yin, 2009) of a few of the conditions in our heuristic. This would include just the three conditions related to persistence or the four conditions linked to progress, for example- leading to a cross-case synthesis (Yin, 2009, p. 156). A different path, focused on enhancing our understanding of what seems to be the coevolution of some of these conditions, would be a new small-N research project using process tracing (Collier, 2011; George & Bennett, 2005) to observe how those conditions, especially problem compatibility, trust, and perceived interdependence, effectively coevolve. Research could proceed on the relationship between this co-evolution and the emergence, or not, of small wins (Ansell & Gash, 2008; Warner, 2006). Such research could shed light on the relationship between perceived interdependencies, effective flows of resources, and the progress of collaborative implementation.

To address limitations related to a bias in favor of information on some conditions, one option, especially for the small-N research with process tracing, is the use of narrative interviews to inform the analysis even at the project level. These would provide more granular observations than the questionnaires used in this research to inform on conditions regarding projects. This may be particularly useful for the analysis of new cases in the Colombian context.

The analysis dedicated to enhancing our understanding could overcome the scarcity of longitudinal data in this research by introducing carefully selected cut-off points where changes in conditions could be expected. These could include initiation, middle, and end, or formulation, implementation, and end. It would also involve analyzing what happens in those cutting points (see for exampleUlibarri et al., 2020; Valdiviesso-Cervera & Sandoval, 2021).

The lack of theoretical guidance for setting thresholds cannot be easily addressed. This is especially true for the analysis of progress since it demands a theory that is still lacking in a very specific section of intensely researched fields that has not yet been thoroughly researched itself. One way to tackle this problem is by identifying, for instance, average delay times for different types of policy-related projects in specific contexts -like Flyvbjerg et al. (2004) did with cost overruns for large infrastructure projects- and comparing the cases analyzed with our heuristic to those averages. Identifying those average relative delay times is itself challenging, however, at least in the Colombian context. It was attempted, unsuccessfully, in the first stages of this research, when we found that the type of information we looked for was unavailable in the Government's databases. A more suitable strategy would be to expand the universe of comparable cases to those implementing a similar policy with similar steps, beyond a few pilot projects.

Finally, broader sets of cases with additional strategies of anonymization may help reduce the negative effects of fear by participants in cases to openly discuss challenges and setbacks.

5.5 Lessons for practice

Besides its scientific contribution, this dissertation has sought insights that could help policymakers make practical decisions about the creation and/or management of social problems. This includes water management or climate change adaptation where solutions are needed within a few years-time and multiple, innovative approaches will need to be tried. Time is running out for collaborative inertia in those policy

domains. Some ideas below might be helpful even beyond the Colombian and Latin American contexts.

Research on collaborative governance -and, in this case, on collaborative implementation- can contribute to practice by addressing those conditions allowing collaborative processes to persist. Also, by addressing those driving progress and, whenever it is possible, consensual progress.

For persistence, the empirical exploration in this research supports previous findings (Douglas et al., 2020b) that perceived interdependence is the most relevant condition to explain not only the initiation of collaborative processes but also their persistence. Making sure that partners in collaborative implementation processes perceive themselves as interdependent is a priority task for policymakers seeking the collaborative advantage. On a more proactive note, one way to foster perceptions of interdependence is through evaluation: measuring organizations, hopefully beyond Governmental ones, by their capacity to achieve their collaborative goals.

For progress, on the other hand, our findings on the influence of problem compatibility suggest the need for a careful selection of partners both for policymakers designing mandated collaborations and for managers considering embracing them. This would involve considering the sources of compatibility for many possible decisions, as well as procedures to anticipate the compatibility issues that may arise in the different specific decisions, and working with partners to identify alternatives to reach consensus. Policy analysts already have several tools to look for consensus by working with partners' problem representations: re-framing (Rein & Schon, 1996; Schon & Rein, 1994), the identification of metanarratives (Roe, 1994), and problem structuring (Hoppe, 2011) for example. More complete tools, however, might be needed to include the search for compatibility regarding decision criteria and judgments on knowledge validity.

Policymakers and managers would benefit from looking for consensual decision-making, which seems to be consequential for reaching *smooth collaborative implementation*. To that end, it seems wise to foster problem compatibility as well as trust, while so far efforts have been concentrated on the latter. Consensual decision-making may not always drive excellent progress, but our findings suggest it would drive the best outcomes in progress for a given context.

On the other hand, attention to facilitative leadership, and particularly to the role of the catalyst, may need to be increased. This role, which this empirical exploration suggests is an important driver for progress, was barely present in the cases studied in this research, and it is likely to be absent in many other collaborative implementation and collaborative governance processes unless individual attention is given to its inclusion. We should also be aware of the limitations of facilitative leadership in leading, through trust creation, to greater information sharing, and to accelerated implementation (Connelly, 2007).

In countries like Colombia, most current policies are being designed for collaborative, or at least coordinated implementation by different Government organizations and non-State actors. This creates a growing need for designing collaborations beyond the definition of rules and the creation of spaces for deliberation by partners in institutional design (Torfing et al., 2020). Working on problem compatibility, on facilitative leadership, and on the relationship between the goals and the type of mandate, to mention a few themes, may greatly improve the chances for a more successful collaborative implementation. This is even if we admit that other, fundamental weaknesses of the State continue to reduce its ability to deliver (Cejudo et al., 2019). Taking note of the risks of attempting vertical governance by using the authority of some members of the collaborations upon others is also important. This may be a frequent temptation for State partners in collaborations in countries in Latin America, but also in Western Europe, with politico-administrative traditions similar to the Colombian one.

We should also remember that collaborations are sometimes formed with explicit goals regarding innovation. In those cases, a broad mandate is more important as a support mechanism for the joint fact-finding on which partners will need to embark. Our exploration suggests that high levels of trust and some agreements upon minimums on problem compatibility will be important. Partners should know whether they agree on the problem, the criteria for choosing solutions or at least what evidence is acceptable before they start trying to make decisions together.

Finally, this research should remind policymakers how easy it is for implementation to get derailed in projects which are strictly time-bound and have resources attached

to expected implementation times. If the decision is made at a higher level to opt for collaborative implementation as the way to turn policy into reality, as was the case with IWRM in Colombia in these cases, it is good advice to avoid doing it through projects (see Allan, 2012) or at least change the way those projects are designed (Boer & Bressers, 2011). Usually, projects are linear, demanding high certainty about the tasks to be performed and the resources that need to be allocated, which makes them strictly time-bound and too vulnerable to derail due to delays that affect the synergies expected and the perceived interdependence of partners. In the words of Ansell and Gash Ansell and Gash (2008, p. 563), "consensus building…requires time and cannot be rushed". Very time- specific projects, then, should not be the tool of choice for implementing collaborative policies, especially if they are innovative (Flyvbjerg & Budzier, 2011) because innovative approaches are more exposed to uncertainty and different problem representations. These risks, our research suggests, could be mitigated by broad mandates with less specified tasks, but only if problem compatibility is high or it can be improved by a very active partner with the role of catalyst. In any case, these limitations of projects should be borne in mind when considering the appropriate tools for policy implementation.

The stakes are formidable for concrete policy sectors like water management or climate change. Colombia's water management sector, for instance, faces numerous challenges, exacerbated by the threats of climate change, including a lack of capacities (Rubio Goyes, 2019) and low political priority. Well-designed collaborative approaches could be a useful tool to address these challenges and should not become a cause of concern.

5.6 Final words

Collaborative governance, and collaborative implementation with it, are perhaps more needed than ever given new global realities like climate change and the rise of automation, that demand legitimate, long-term responses with high social consensus and global articulation.

To rise to the challenge, though, collaborative governance requires solving the tension that Vangen and Huxham (2010) highlighted between its promise and its often scarce, slow results. This dissertation aims to be a step in the direction of solving that tension, by focusing not only on one dimension of the collaborations -their persistence in time- but also on a second dimension, their progress towards goals, and on the conditions that are important to understand both dimensions. This research provides some answers, although preliminary ones, to the challenges of collaborative inertia and the need for the Collaborative Advantage to make good on its promises. Time is scarce in many policy areas for collaborative approaches to produce life-changing outcomes.

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ANNEXES

Annex 1: List of Interviews

Sub-project	Organization	Role in Project Netherlands	Interview Code	Type of interview
Umbrella Project	ASOCARS	Project's General Director	UmbrellaProject1,03/15/2019	Narrative
Umbrella Project	ASOCARS	Project's Direction Technical staff-ASOCARS	UmbrellaProject2,03/30/2016	Narrative (notes)
Umbrella Project	ASOCARS	Project's Direction Technical Coordination-ASOCARS	UmbrellaProject3,04/14/2018	Narrative
Umbrella Project/ Macrocuencas	Ministry of the Environment	Project's Direction/Ministry	UmbrellaProject4,07/06/2016	Semi-structured
Cauca River	ASOCARS	ASOCARS-CVC expert-Landscape management	CaucaRiver1,09/19/2016	Narrative
Cauca River	CVC	Director of the Rio Cauca Sub-project-CVC	CaucaRiver2,03/23/2017	Narrative
Cauca River	CVC	ASOCARS_CVC social worker	CaucaRiver3,12/21/2016	Narrative
Cauca River	Asocaña	Legal advisor	CaucaRiver4,09/20/2016	Narrative
Cauca River	ICESI	Project Coordinator	CaucaRiver5,09/20/2016	Narrative
Cauca River	Univalle	Project Coordinator	CaucaRiver6,09/19/2016	
Cauca River	Dutch consultants-Arcadis	Deputy Director of the Cauca River Sub-project	CaucaRiver7,09/27/2016	Narrative
Cauca River	Dutch consultants-Arcadis	Water expert-Arcadis-Dutch Water Authorities	CaucaRiver8,09/28/2016	Narrative
Chinchiná River	Universidad Nacional	Project Coordinator	Chinchiná River1,04/05/2016	Semi-structured
Chinchiná River	Universidad Nacional	Hydrologist	ChinchináRiver2,04/05/2016	Semi-structured
Chinchiná River	CORPOCALDAS	Deputy Director of Planning	ChinchináRiver3,04/05/2016	Semi-structured
Chinchiná River	CORPOCALDAS	Officer in charge of the project	ChinchináRiver4,04/05/2016	Semi-structured
Chinchiná River	Universidad Nacional	IDEA coordinator	ChinchináRiver5,04/05/2016	Semi-structured
Water Districts	UT Macrocuencas	Hydrologist	WaterDistricts2,09/28/2017	Narrative
Water Districts	UT Macrocuencas	Project Coordinator	Water Districts3,05/26/2016	Narrative
Water Districts	Dutch Embassy	Water Specialist	WaterDistricts4,12/09/2014	Explorative
Water Districts	National Department of Planning	Representative of the National Department of Planning	Water Districts5,05/25/2017	Narrative
Water Districts	ASOCARS	Project's General Director	WaterDistricts6,03/15/2019	Narrative
Water Districts	Ministry of the Environment	Information System's Specialist	WaterDistricts7, 09/17/2021	Narrative

* Several interviewees were contacted at least an additional time to ask for clarifications of their answers or for comments on interpretation.

Annex 2 Main documents analyzed

2A- Project documents analyzed

Case	Document	Date
Cauca River	CVC-ASOCARS meeting	2/23/2012
Cauca River	Internal CVC meeting	3/10/2012
Cauca River	CVC-ASOCARS meeting	4/13/2012
Cauca River	Internal CVC meeting	5/7/2012
Cauca River	Internal CVC meeting	5/12/2012
Cauca River	CVC-ASOCARS-MADS meeting	6/19/2012
Cauca River	Internal CVC meeting	6/21/2012
Cauca River	CVC-CRC-ICESI project design meeting	6/28/2012
Cauca River	ASOCARS-CVC meeting	8/11/2012
Cauca River	Internal CVC meeting	8/23/2012
Cauca River	IGAC-CVC-ASOCARS meeting	9/19/2012
Cauca River	Internal CVC meeting	9/26/2012
Cauca River	Internal CVC meeting	10/17/2012
Cauca River	Internal CVC meeting	10/31/2012
Cauca River	Internal CVC meeting	11/14/2012
Cauca River	Internal CVC meeting	11/28/2012
Cauca River	Internal CVC meeting	12/8/2012
Cauca River	Internal CVC meeting	12/12/2012
Cauca River	Internal CVC meeting	12/19/2012
Cauca River	Internal CVC meeting	12/26/2012
Cauca River	CVC-Univalle-ASOCARS meeting	1/10/2013
Cauca River	Internal CVC meeting	1/16/2013
Cauca River	ASOCARS-CVC meeting	1/23/2013
Cauca River	CVC-Univalle-ASOCARS meeting	2/9/2013
Cauca River	Internal CVC meeting	2/9/2013
Cauca River	Internal CVC meeting	2/10/2013

Case	Document	Date
Cauca River	Internal CVC meeting	2/13/2013
Cauca River	Internal CVC meeting	3/9/2013
Cauca River	CVC-Univalle meeting	3/9/2013
Cauca River	CVC-Univalle meeting	3/10/2013
Cauca River	Internal CVC meeting	3/13/2013
Cauca River	Internal CVC meeting	4/9/2013
Cauca River	Internal CVC meeting	4/24/2013
Cauca River	Internal CVC meeting	5/15/2013
Cauca River	Internal CVC meeting	5/22/2013
Cauca River	CVC-CRC meeting	5/29/2013
Cauca River	Internal CVC meeting	6/2/2013
Cauca River	CVC-Univalle meeting	6/14/2013
Cauca River	Internal CVC meeting	6/19/2013
Cauca River	Internal CVC meeting	6/26/2013
Cauca River	CVC-Univalle meeting	6/27/2013
Cauca River	CVC-Univalle meeting	6/30/2013
Cauca River	Internal CVC meeting	7/17/2013
Cauca River	CVC-ASOCARS-Cenicaña-Asocaña-CRC-Univalle	7/24/2013
Cauca River	Internal CVC meeting	8/5/2013
Cauca River	CVC-Univalle meeting	8/5/2013
Cauca River	CVC-Univalle meeting	8/10/2013
Cauca River	Internal CVC meeting	8/14/2013
Cauca River	Internal CVC meeting	8/21/2013
Cauca River	Internal CVC meeting	8/22/2013
Cauca River	Internal CVC meeting	8/28/2013
Cauca River	Internal CVC meeting	9/1/2013
Cauca River	CVC-Univalle meeting	9/7/2013
Cauca River	Internal CVC meeting	9/10/2013
Cauca River	Internal CVC meeting	9/25/2013

Case	Document	Date
Cauca River	Internal CVC meeting	10/4/2013
Cauca River	Internal CVC meeting	10/7/2013
Cauca River	Internal CVC meeting	10/16/2013
Cauca River	Internal CVC meeting	10/30/2013
Cauca River	CVC-IGEI(Asocaña)-Cenicaña meeting	10/30/2013
Cauca River	CVC-Univalle-IGEI(Asocaña) meeting	11/10/2013
Cauca River	Internal CVC meeting	11/13/2013
Cauca River	CVC-ASOCARS-Cenicaña-Asocaña-CRC-Univalle-CARDER	11/27/2013
Cauca River	Internal CVC meeting	12/6/2013
Cauca River	CVC-ASOCARS meeting	12/8/2013
Cauca River	Internal CVC meeting	12/9/2013
Cauca River	Internal CVC meeting	1/15/2014
Cauca River	Internal CVC meeting	1/29/2014
Cauca River	ASOCARS-CVC-MADS-Dutch Embassy-CARDER meeting	2/26/2014
Cauca River	Internal CVC meeting	3/26/2014
Cauca River	Internal CVC meeting	5/2/2014
Cauca River	Internal CVC meeting	5/11/2014
Cauca River	Internal CVC meeting	8/1/2014
Cauca River	Internal CVC meeting	11/19/2014
Cauca River	Internal CVC meeting	12/11/2014
Cauca River	Agreement termination act	9/17/2015
Cauca River	CVC-ASOCARS meeting	2/23/2012
Cauca River	Internal CVC meeting	3/10/2012
Cauca River	CVC-ASOCARS meeting	4/13/2012
Cauca River	Internal CVC meeting	5/7/2012
Cauca River	Internal CVC meeting	5/12/2012
Cauca River	CVC-ASOCARS-MADS meeting	6/19/2012
Cauca River	Internal CVC meeting	6/21/2012
Cauca River	CVC-CRC-ICESI project design meeting	6/28/2012

Case	Document	Date
Cauca River	ASOCARS-CVC meeting	8/11/2012
Cauca River	Internal CVC meeting	8/23/2012
Cauca River	IGAC-CVC-ASOCARS meeting	9/19/2012
Cauca River	Internal CVC meeting	9/26/2012
Cauca River	Internal CVC meeting	10/17/2012
Cauca River	Internal CVC meeting	10/31/2012
Cauca River	Internal CVC meeting	11/14/2012
Cauca River	Internal CVC meeting	11/28/2012
Cauca River	Internal CVC meeting	12/8/2012
Cauca River	Internal CVC meeting	12/12/2012
Cauca River	Internal CVC meeting	12/19/2012
Cauca River	Internal CVC meeting	12/26/2012
Cauca River	CVC-Univalle-ASOCARS meeting	1/10/2013
Cauca River	Internal CVC meeting	1/16/2013
Cauca River	ASOCARS-CVC meeting	1/23/2013
Cauca River	CVC-Univalle-ASOCARS meeting	2/9/2013
Cauca River	Internal CVC meeting	2/9/2013
Cauca River	Internal CVC meeting	2/10/2013
Cauca River	Internal CVC meeting	2/13/2013
Cauca River	Internal CVC meeting	3/9/2013
Cauca River	CVC-Univalle meeting	3/9/2013
Cauca River	CVC-Univalle meeting	3/10/2013
Cauca River	Internal CVC meeting	3/13/2013
Cauca River	Internal CVC meeting	4/9/2013
Cauca River	Internal CVC meeting	4/24/2013
Cauca River	Internal CVC meeting	5/15/2013
Cauca River	Internal CVC meeting	5/22/2013
Cauca River	CVC-CRC meeting	5/29/2013
Cauca River	Internal CVC meeting	6/2/2013

Case	Document	Date
Cauca River	CVC-Univalle meeting	6/14/2013
Cauca River	Internal CVC meeting	6/19/2013
Cauca River	Internal CVC meeting	6/26/2013
Cauca River	CVC-Univalle meeting	6/27/2013
Cauca River	CVC-Univalle meeting	6/30/2013
Cauca River	Internal CVC meeting	7/17/2013
Cauca River	CVC-ASOCARS-Cenicaña-Asocaña-CRC-Univalle	7/24/2013
Cauca River	Internal CVC meeting	8/5/2013
Cauca River	CVC-Univalle meeting	8/5/2013
Cauca River	CVC-Univalle meeting	8/10/2013
Cauca River	Internal CVC meeting	8/14/2013
Cauca River	Internal CVC meeting	8/21/2013
Cauca River	Internal CVC meeting	8/22/2013
Cauca River	Internal CVC meeting	8/28/2013
Cauca River	Internal CVC meeting	9/1/2013
Cauca River	CVC-Univalle meeting	9/7/2013
Cauca River	Internal CVC meeting	9/10/2013
Cauca River	Internal CVC meeting	9/25/2013
Cauca River	Internal CVC meeting	10/4/2013
Cauca River	Internal CVC meeting	10/7/2013
Cauca River	Internal CVC meeting	10/16/2013
Cauca River	Internal CVC meeting	10/30/2013
Cauca River	CVC-IGEI(Asocaña)-Cenicaña meeting	10/30/2013
Cauca River	CVC-Univalle-IGEI(Asocaña) meeting	11/10/2013
Cauca River	Internal CVC meeting	11/13/2013
Cauca River	CVC-ASOCARS-Cenicaña-Asocaña-CRC-Univalle-CARDER	11/27/2013
Cauca River	Internal CVC meeting	12/6/2013
Cauca River	CVC-ASOCARS meeting	12/8/2013
Cauca River	Internal CVC meeting	12/9/2013

Case	Document	Date
Cauca River	Internal CVC meeting	1/15/2014
Cauca River	Internal CVC meeting	1/29/2014
Cauca River	ASOCARS-CVC-MADS-Dutch Embassy-CARDER meeting	2/26/2014
Cauca River	Internal CVC meeting	3/26/2014
Cauca River	Internal CVC meeting	5/2/2014
Cauca River	Internal CVC meeting	5/11/2014
Cauca River	Internal CVC meeting	8/1/2014
Cauca River	Internal CVC meeting	11/19/2014
Cauca River	Internal CVC meeting	12/11/2014
Cauca River	Agreement termination act	9/17/2015

Case	Document Type	Date
Chinchiná River	Universidad Nacional-CORPOCALDAS-ASOCARS meeting	2/28/2012
Chinchiná River	CORPOCALDAS-ASOCARS meeting	3/14/2012
Chinchiná River	Universidad Nacional-CORPOCALDAS-ASOCARS meeting	4/9/2012
Chinchiná River	Universidad Nacional-CORPOCALDAS-ASOCARS meeting	5/9/2012
Chinchiná River	Universidad Nacional-CORPOCALDAS-ASOCARS meeting	7/23/2012
Chinchiná River	Universidad Nacional-CORPOCALDAS-ASOCARS meeting	10/16/2012
Chinchiná River	Universidad Nacional-CORPOCALDAS meeting	12/15/2012
Chinchiná River	Universidad Nacional-CORPOCALDAS-ASOCARS meeting	12/20/2012
Chinchiná River	Universidad Nacional-CORPOCALDAS-ASOCARS meeting	2/22/2013
Chinchiná River	Universidad Nacional-CORPOCALDAS-ASOCARS meeting	4/16/2013
Chinchiná River	Universidad Nacional-CORPOCALDAS-ASOCARS meeting	10/4/2013
Chinchiná River	Universidad Nacional-CORPOCALDAS-ASOCARS meeting	12/5/2013
Chinchiná River	Universidad Nacional-CORPOCALDAS-ASOCARS meeting	6/17/2014
Chinchiná River	Project progress report	12/2/2014

Case	Document Type	Date
Basin Districts	Project kickoff act	6/19/2012
Basin Districts	Strategic Planning Board (MADS, DNP, ASOCARS, IDEAM, High Counselor for the Regions, Cormagdalena, UT Macrocuencas)	7/2/2012
Basin Districts	Strategic Planning Board meeting	8/2/2012
Basin Districts	UT Macrocuencas letter to ASOCARS	8/2/2012
Basin Districts	Strategic Planning Board meeting	9/11/2012
Basin Districts	UT Macrocuencas-ASOCARS-MADS-DNP-Dutch Embassy meeting	9/14/2012
Basin Districts	UT Macrocuencas- MADS meeting	9/18/2012
Basin Districts	UT Macrocuencas-MADS-ASOCARS meeting	10/9/2012
Basin Districts	Strategic Planning Board meeting	10/24/2012
Basin Districts	Strategic Planning Board meeting	10/26/2012
Basin Districts	Strategic Planning Board meeting	11/7/2012
Basin Districts	UT Macrocuencas-MADS-Cormagdalena-ASOCARS meeting	11/14/2012
Basin Districts	UT Macrocuencas-ASOCARS meeting	11/15/2012
Basin Districts	Dutch Embassy-MADS-ASOCARS meeting	7/4/2013

2B- Policy documents analyzed

Year	Document	Author
2019	National Water Survey, 2018	National Hydrology and Meteorology Institute (IDEAM)
2016	Directive Plan	Regional Environmental Agency of the department of Valle del Cauca (CVC)
2014	Structural alternatives for the Upper Cauca River flood management	University of the Valle del Cauca (Univalle)
2013	Losses assessment: Colombia's Winter Wave (2010-2011)	UN Economic Commission for Latin America/Latin American Development Bank
2011	Pilot Project for the implementation of Colombia's Integrated Water Management Policy	Regional Environmental Agencies' Association (ASOCARS)
2015	National Water Survey, 2014	National Hydrology and Meteorology Institute (IDEAM)
1992	The Dublin statement on water and sustainable development	International Conference on Water and the Environment
2006	Plan Nacional de Desarrollo Estado Comunitario: Desarrollo para Todos, Tomo 1	Colombia's National Department of Planning (DNP)
2005	Colombia´s Water Act (draft bill)	Ministry of the Environment and Sustainable Development
2012	Terms of Reference for a contract for the formulation of the Magdalena-Cauca and Caribe Basin Districts' Strategic Plans	Regional Environmental Agencies' Association (ASOCARS)
2012	Action Plan, 2012	Regional Environmental Agency of the department of Valle del Cauca (CVC)
2012	Service contract 027/2012 for UT Macrocuencas	Regional Environmental Agencies' Association (ASOCARS)
2011	Pilot Project for the Cauca River's Hydrographic Zone	Regional Environmental Agency of the department of Valle del Cauca (CVC)
2011	Convenio 079/2011 entre CVC and ASOCARS	Regional Environmental Agency of the department of Valle del Cauca (CVC)
2010	Colombia´s Integrated Water Management Policy	Ministry of the Environment and Sustainable Development

Annex 3: Condition Coding Protocol

Condition	Coding	Examples
Mandate A set of intentions or goals of a policy or a given policy instrument, and a series of instruments or means to achieve those intentions (May, 1993).	A **broad mandate** is coded for a project or specific decision when the project's terms of reference indicate that the number of mandatory tasks in the project or specific decision within it is relatively low when compared to other cases or subcases analyzed. Goals are specified but partners are free to decide on the instruments to reach them A **narrow mandate** is coded for a project or specific decision when project documents, meeting minutes, or interviews indicate that the number of mandatory tasks is relatively high in the project or specific decision when compared to other cases or subcases analyzed. Goals and instruments to reach them are highly specific and partners have little freedom to make choices about them	The Cauca River Flood Control Project had a rather broad mandate, with the project specifying 23 tasks in terms of goals, not regarding the procedure, and only 7 products The Chinchiná Basin Management Plan had a narrow mandate, specifying no less than 43 activities and sub-activities, as well as 33 products described in detail
Trust Actors' more or less stable, positive perception of the intentions of other actors; that is, the perception that other actors will refrain from opportunistic behavior (Klijn et al., 2016)	**High trust** is coded when meeting records or interviews show that partners express confidence in the others' motives regarding the project or specific decision researched **High trust** is considered to prevail in a project or specific decision when observations of it outnumber those of low trust, or when they refer to clearly more consequential choices **Low trust** is coded when meeting records or interviews show that partners have a suspicion about the others' motives regarding the project or specific decision researched, or that a partner's behavior is scrutinized by others to test fulfillment of a commitment **Low trust** is considered to prevail in a project or specific decision when observations of it outnumber those or high trust, or when they refer to clearly more consequential choices	*-It was not the classic client-supplier relationship. It was a very strong interaction, where there was trust* (a representative from Univalle, see section 4.2) At the end of the collaboration for the Chinchiná Basin Water Management Plan, CORPOCALDAS accused the university of filtering information to members of the basin's main city council (Manizales) so that they could pressure the environmental agency to align with the university's preferred course of action There were two observations of low trust at the project level in the Chinchiná River case, compared to none of high trust. Interviewees report that trust declined during the collaboration.
Perceived interdependence Actors must expect to achieve benefits offsetting the costs that are anticipated in a collaboration. Therefore, they are better off collaborating (Huxham & Vangen, 2004)	**High perceived interdependence** is coded when meeting records or interviews show that partners participate in the collaboration's meetings, and systematically deliver what is asked of them. Also, when in meeting records and/or interviews partners convey perceptions about the high importance of their relationships with other partners in the collaboration **High perceived interdependence** is considered to prevail in a project or specific decision when observations of it outnumber those of low perceived interdependence, or when they refer to clearly more consequential choices **Low perceived interdependence** is coded when meeting records or interviews show that partners do not participate in the collaboration's meetings, or when they systematically fail to deliver what is asked of them. Also, when in meeting records and/or interviews, partners convey perceptions about the low importance of their relationships with other partners or the low importance of the collaboration **Low perceived interdependence** is considered to prevail for a project or specific decision when observations of it outnumber, or refer to more consequential choices than, observations of high perceived interdependence	Interviewed on the Chinchiná Basin Management Plan, one university researcher affirmed: *"There are several relationships because almost everyone working at CORPOCALDAS studied here. We work very often for CORPOCALDAS, so much so that there is a framework agreement (between both organizations). We work for, because of, and against CORPOCALDAS, and the Chinchiná water management plan was not the first and will not be the last project"* (see section 4.3) In the Basin Districts project, some secondary partners failed to even take part in most of the meetings of an Advisory Panel created to support decision-making. Also, "some negotiations, for example, were not completed because the Ministry had to be there, at a high level, and it wasn't" (see Chapter 4)

Condition	Coding	Examples
Problem compatibility Compatibility between partners regarding either the general representation of a problem, the decision criteria considered relevant, or their judgments about knowledge validity (what knowledge or methods are relevant)	**High problem compatibility** is coded for a project or specific decision when meeting records or interviews show situations when reacting to a statement, the dominant reaction of partners is agreement. Also, when meeting records or interviews show that partners relevant to performing a task agree on how to proceed **High problem compatibility** is considered to prevail in a project when observations of it outnumber, or refer to more consequential choices than, observations of low problem compatibility. **Low problem compatibility** is coded for a project when meeting records or interviews show situations when reacting to a statement, the dominant reaction of partners is disagreement. Also, when meeting records or interviews show that partners relevant to performing a task disagree on how to proceed **Low problem compatibility** is considered to prevail in a project when observations of it outnumber, or refer to more consequential choices than, observations of high problem compatibility	Problem compatibility is considered high for the Biological Corridor decision in the Cauca River case: although problem representations were different between Asocaña and CVC, decision criteria were similar and previous experiences were considered key by both main partners to judge relevant knowledge and methods. Although observations of high problem compatibility at the project level were only half those of low problem compatibility in the Cauca River case (9 vs. 19), this is the highest ratio of the three cases analyzed, where examples of low problem compatibility always prevailed. Also, the interviewees considered that it was overall high. The following statement from one of the actors in the Basin Districts case was coded as low problem compatibility at the project level: *It was very common that everybody understood a different thing. The initial idea came from the Ministry, but then when communicating with us at UT Macrocuencas there were differences. There was a need for this approach because the spatial planning tools we had at the moment were for too small areas, but hydrology happens in large spaces. Now, understanding the need did not mean understanding the how* (see section 4.4) There were 21 observations of low problem compatibility in the Basin District's meeting minutes, compared to 3 of high problem compatibility
Bond-supported leadership Psychological contract linking leaders and followers (Paul ´t Hart, 2014), who expect leaders to guide them down a right path.	**High Bond-supported leadership** is coded when meeting records or interviews identify a partner being asked to present ideas, mentioned as an example of good results, or receiving support to its proposals. **High bond-supported leadership** is considered to prevail in a project or specific decision when observations of it outnumber, or refer to more consequential choices than, observations of low bond-supported leadership. **Low bond- leadership** is coded when meeting records or interviews identify a partner being contradicted when presenting ideas, mentioned as an example of bad results, or having her proposals clearly rejected **Low bond-supported leadership** is considered to prevail in a project or specific decision when observations of it outnumber, or refer to more consequential choices than, observations of high bond-supported leadership	In the Cauca River Flood Control Plan, the CVC team leader highlighted that "although there were discussions, CVC's technical capacity has always been respected, and that was a good starting point for all the interactions" (see section 4.2). In a meeting during the fifth month of the project, the representative from the Ministry tells the representative from UT Macrocuencas that their plan must not be "just another study, like the one by Cormagdalena" (doc.41, meeting records from 11/14/2012) There was the same number of observations of high and low bond-supported leadership in the Basin Districts case (1), but interviews suggest a diagnostic of low bond-supported leadership

Condition	Coding	Examples
Facilitative leadership Leadership work that helps others make things happen (Christopher Ansell & Gash, 2012) through the roles of convener, owner, catalyst, mediator, or steward (Paul ´t Hart, 2021)	**High facilitative leadership** is coded when meeting records or interviews identify partners playing the roles of catalyst, mediator, or steward in the collaborative endeavor. Coding demands the observation of these specific behaviors. **High facilitative leadership** is considered to prevail in a project or specific decision when observations of it outnumber, or refer to more consequential choices than, observations of low facilitative leadership **Low facilitative leadership** is coded when meeting records or interviews identify the absence of any partner playing the roles of catalyst, mediator, or steward in the collaborative endeavor **Low facilitative leadership** is considered to prevail in a project or specific decision when observations of it outnumber, or refer to more consequential choices than, observations of high facilitative leadership	"I guess collaborative leadership is very much our modus operandi" (CVC team leader). " There were inputs, and often good inputs, from CVC" (representative from Univalle) All observations on facilitative leadership in the Cauca River case are of high facilitative leadership In the Chinchiná River Water Management Plan, according to an interviewee: Asocar's role was pretty much auditing. Keeping track of technical progress, keeping track of on-budget execution, but not getting involved too deeply in the process, since they also had a role of documenting what was going on, to then suggest adjustments to the procedures in the guidelines. Maybe they felt that intervening might alter the normal evolution of the project… (see section 4.3)
Use of authority Partners who are hierarchically or contractually superior in the collaboration impose at least some of their decisions.	**High use of authority** is coded when meeting records or interviews identify partners using their hierarchical or contractual superiority to settle differences by imposing their choices **High use of authority** is considered to prevail in a project or specific decision when observations of it outnumber, or refer to more consequential choices than, observations of low use of authority. **Low use of authority** is coded when meeting records or interviews identify partners of hierarchical or contractual superiority looking for agreements with others in horizontal interactions **Low use of authority** is considered to prevail in a project or specific decision when observations of it outnumber, or refer to more consequential choices than, observations of high use of authority	In the Chinchiná River case, the Ministry of the Environment first issued a decree (1640, August 2012) and then mandatory "guidelines" for the formulation of Basin Management Plans, exerting hierarchical authority over partners in the Chinchiná Basin Management Plan. There are only observations of high use of authority in the Chinchiná River case In the Cauca River case, although there was a contractual relationship between CVC and ASOCARS, the relationship was horizontal and the decisions were made jointly There are only observations of low use of authority in the Cauca River case

Annex 4: Interview Protocol for Semi-Structured Interviews (used for analysis at the project level)

(Questions were Asked in Spanish)

Name: **Organization:**

Sub-project: **Date:**

*** **Question 1:** In implementation, things often do not happen as expected, several unexpected events happen, and adaptation is needed. In the (specific subproject case), which ones were those external factors or unforeseen events?

*** **Question 2:** Were there not-planned tasks that were executed anyway?

*** **Question 3:** Were there some planned-for tasks that were not executed in the end?

* **Question 4:** What role did cooperation play in this project? (Not international cooperation, but the degree to which different actors worked together in the project)

Question 5: What role did leadership play? How often did other actors do something or accept an idea mainly because of the actor proposing the idea, independently of the power of that actor?

Question 6: What role did perceived interdependence play? Did all actors give the same importance to the Project? Did it seem to be more important to some of them than to others?

Question 7: What role did trust play? By "trust" I mean the sensation that "this or that actor is not going to cheat"?

** **Question 8:** What role did problem compatibility play? -this is an agreement on what the problems were. How much agreement there was on what needed to be solved?

Notes:

* The keyword used in Spanish for the research at the time was Cooperacion (cooperation). Colombia has been a recipient of international cooperation for decades. It was noticed in the first two interviews that interviewees associated a question on the role of cooperation with the role of *international cooperation* in their project. That fact made the clarification reasonable.

** The question on problem compatibility was left for the end of the interview in an effort to avoid bias.

*** At the beginning of the research task variation was considered a relevant dimension to observe in Implementation. However, the observations of task variation were abundant and the reasons for it very diverse -additional money was received, or on the contrary, the budget had to be cut, or the Ministry issued the Guidelines forcing the projects to re-do some tasks, for example- leading to its dismissal. Therefore, questions 1, 2, and 3 were not included in further analyses.

Annex 5: Protocol for narrative interviews used to understand specific decisions

(Questions asked in Spanish)

Name: **Organization:**

Sub-project: **Date:**

1. Introduction (remind the interviewee of the interview goals, and the narrative format to be used)
2. Invitation to narrate
3. Interviewee narration
4. Questions to clarify specific statements
5. Final question: Are you satisfied with the narration? Do you want to add something else?
6. Conclusion

SAMENVATTING

In de afgelopen decennia is samenwerkend (collaboratief) bestuur een belangrijk wetenschappelijk onderzoeksobject geworden. Het is bestuursvorm zijn die geschikt zou zijn om complexe en urgente problemen aan te pakken, waaronder de impact van klimaatverandering en waterveiligheid. Samenwerkend bestuur wordt niet alleen gezien als een bestuursvorm die de uitkomsten van gezamenlijke inspanningen van diverse actoren kan verbeteren, maar ook als een bestuursvorm die publieke besluitvorming legitimeert. Samenwerkend bestuur is daarbij niet alleen een relevante bestuursvorm voor geïndustrialiseerde landen—waaruit deze benadering is voortgekomen—maar kan ook relevantie hebben voor openbaar bestuur in andere delen van de wereld, zoals Latijns-Amerika.

Naast al het optimisme over samenwerking bestaat er in de wetenschap en professionele praktijk ook een zekere bezorgdheid over het gevaar van collaboratieve inertie. Een dergelijke inertie manifesteert zich, onder meer, in de gebrekkige implementatie van gezamenlijke inspanningen. Een gebrekkige implementatie vertaalt zich in beperkte resultaten en soms aanzienlijke conflicten in de uitvoering. We zien dit zelfs gebeuren wanneer het samenwerkende bestuur binnen beloofde termijnen met maatregelen komt. Dit proefschrift probeert een verklaring te bieden voor de inertie die optreedt tijdens de implementatie van uitkomsten van bestuurlijke samenwerkingsverbanden en, daarnaast, condities te identificeren die een succesvolle implementatie bevorderen dan wel in de weg staan.

Dit proefschrift beoogt twee innovaties te bewerkstelligen in het onderzoek naar samenwerkend bestuur en implementatie. In de eerste plaats probeert het om de voorwaarden te identificeren die enerzijds de besluitvorming binnen samenwerkingsverbanden bevorderen, en anderzijds het doorzetten van besluiten bevorderen – met het oog op een voorspoedig verloop van het implementatieproces. De tweede innovatie betreft de conceptualisering van samenwerkende uitvoering als specifieke

beslissingen binnen samenwerkingsprocessen waarbij de rol van frames, beslissingscriteria en oordelen over kennisvaliditeit centraal staan. De frames, beslissings-criteria en oordelen over kennisvaliditeit leiden al dan niet tot consensus binnen het implementatieproces.

De empirische context van het proefschrift betreft drie casestudies naar de implementatie van drie proefprojecten op het gebied van nieuw beleid voor geïntegreerd waterbeheer in Colombia. In drie casestudies staan specifieke beslissingen in de implementatie centraal. Het blijkt dat er tussen de drie onderzochte implementatieprocessen belangrijke verschillen bestaan in de mate van 'persistentie' en 'voortgang' van de collaboratieve implementatie. Om deze verschillen te verklaren, wordt het theoretische concept van probleemcomptabiliteit geïntroduceerd. Probleemcompatibiliteit brengt verschillende probleemframes, beslissingscriteria en oordelen over kennisvaliditeit samen. Door middel van een kwalitatieve configuratieanalyse is vervolgens onderzocht hoe verschillende kenmerken van het implementatieproces leiden tot vergelijkbare en verschillende uitkomsten in de onderzochte gevallen en beslissingen. Het blijkt dat de aangetroffen verschillen in persistentie en voortgang worden verklaard door variatie in het vertrouwen tussen betrokken actoren, hun gepercipieerde onderlinge afhankelijkheid en het type van mandaat dat zij hebben gekregen binnen het samenwerkende implementatienetwerk. Daarnaast zijn ook de aanwezigheid van faciliterend leiderschap, verbindend leiderschap, het gebruik van autoriteit en probleemcompatibiliteit van invloed op persistentie en voortgang van implementatie. De administratieve tradities van Colombia blijken van invloed te zijn op het gebruik van autoriteit en, daarmee indirect, op de persistentie en voortgang van collaboratieve implementatie.

Het onderhavige proefschrift heeft tot doel om bij te dragen aan de ontwikkeling van onderzoek naar samenwerkend bestuur ('collaborative governance') door de integratie van een heuristiek om samenwerkende implementatie beter te begrijpen. Daarmee draagt het onderzoek tevens bij aan een beter begrip van beleidsimplementatie. Het onderzoek laat daarbij zien hoe verschillen in probleemframes, beslissingscriteria en oordelen over kennisvaliditeit–via het concept "probleemcompatibiliteit"–de besluitvorming beïnvloeden. Deze benadering biedt daarmee een nieuwe, inhoudelijke invulling van het concept van 'boundary spanning'. Voor

publieke managers die beleid implementeren in samenwerkingsverbanden bieden de conclusies aanknopingspunten voor een oproep tot voorzichtigheid bij het gebruik van één specifieke strategie in gezamenlijke besluitvorming. Vasthouden aan één strategie kan een succesvolle gezamenlijke implementatie onder druk zetten. Publieke managers dienen hun gepercipieerde onderlinge afhankelijkheid te versterken en daarbij voortdurend hun probleemcompatibiliteit te monitoren. Het monitoren van afhankelijkheid/ probleemcompatibiliteit is niet alleen belangrijk bij de besluitvorming over beleid in algemene zin, maar ook bij de vele afgeleide implementatiebeslissingen. Een dergelijke monitoring maakt uiteindelijk het verschil bij het voorkomen van collaboratieve inertie in collaboratieve implementatie..

PATHWAYS TO COLLABORATIVE IMPLEMENTATION

Problems, decisions, persistence, progress, and consensus in collaborative implementation, studied through projects for Integrated Water Resources Management in Colombia

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