Chapter 2
Explaining cross border co-operation in river management: an overview

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2.1 Introduction

In the previous chapter we explained that the aim of our research is to explain determinants of success and failure in cross border co-operation in river politics. Many authors before us have asked themselves these questions. We have therefore made a selection of authors from the broad range of literature on cross border co-operation that in our view is complementary in giving explanations for the dynamics of cross border co-operation. We arrived at our set of publications by searching catalogues with key words such as ‘cross-border co-operation’, ‘transboundary co-operation’, ‘water politics’, ‘river management’ etc. We included literature on cross border co-operation in the management of seas, but we dropped water dispute resolution literature. These choices demand some explanation. The dispute resolution literature studies the question of whether water disputes lead to conflict or even war and the conditions under which such conflicts are successfully prevented. Our focus is not on conflict management but on joint policy making by actors from two or more neighbouring countries regarding shared (water) problems. Moreover, literature on water disputes focuses too much on rivers in developing countries for our purposes.

Although the issue of cross border co-operation in river politics is one that needs qualitative understanding, we frequently borrow quantitative concepts such as (research) unit, dependent and independent variable. The concept of a ‘unit’ refers to the rivers and/or initiatives for cross border co-operation studied. The ‘dependent variable’ concept refers to the phenomenon that we would like to explain: cross border co-operation, while the ‘independent variable’ refers to the processes and structures that explain success and failure in cross border co-operation.
The ‘independent variable’ in particular is approached differently by the researchers whose work we discuss in this chapter. In section 2 we present authors who, often implicitly, base their analysis of cross border co-operation on negotiation or network approaches to policy making. In section 3 we discuss literature that is based on regime theory and in section 4 we deal with authors who use cognitive, discursive and narrative approaches to understand policy making. Finally, in section 5 we summarise and compare the conclusions of the authors discussed.

### 2.2 Analyses based on negotiation and network theories

Most of the older literature on cross border co-operation in water politics is based on an analysis of negotiation processes. The central concepts in these analyses are actors, interests and resources. In this view actors try to achieve their objectives by negotiating their resources with other actors and by forming ever-changing coalitions with these actors. Policy processes are explained by looking at the resulting negotiation processes and power relations. All authors discussed here define successful co-operation in terms of the degree of consensus that is reached among the actors involved in the decision-making process. They explain cross border co-operation mainly by looking at the distribution of interests and resources.

Le Marquand (Fox & Le Marquand, 1978; Le Marquand, 1977) is generally considered to be the first to systematically address the topic of cross border co-operation in international rivers. In his multiple case study Le Marquand puts down some basic ideas of negotiation analysis. ‘Together the hydrological sequence of the countries within a basin and the present or potential social-economic demands on the river by the basin countries create different patterns of incentives for co-operation. These patterns of riparian relationships can be usefully discussed in terms of common property of resources. The river is the medium by which effects of actions taken in one country [...] are transported to other basin countries’ (Le Marquand, 1977: 7-8). In short: to establish cross border co-operation ‘for each party the net satisfaction desired from international agreement must be greater than that associated with the national option’ (ibid: 19).

Using these assumptions Le Marquand undertakes a multiple case study of four international rivers: the Colorado, the Columbia River and the Skagit River in North America and the Rhine in Western Europe. Based on a comparative analysis of these four cases he draws conclusions about conditions that favour agreement. The most important condition is that all countries involved have something to lose if agreement is not reached. Secondly, agreements might be more readily accomplished if the chief executives of the countries involved show a commitment to resolve the issues at stake. Thirdly, agreement will only arise when a minimum level of certainty about the consequences of pursuing certain alternatives is created for decision makers.
Finally, global organisations like the United Nations or the Council of Europe can provide useful assistance, helping to promote river basin co-operation. During the 1980s and 1990s several studies were published, using more or less the same approach as Le Marquand. Generally, their conclusions are similar to Le Marquand’s. Some of these authors give a nuance to his conclusions, for example by pointing out the importance of national (internal) politics as an explanation for successful cross border co-operation (Vlachos, Webb & Murphy, 1986), by stressing that successful cross border co-operation will only come about if the stakeholders acknowledge that co-operation is a time-consuming process of small steps (Huisman, De Jong & Wieriks, 2000), or by explaining how international organisations (Schiff & Winters, 2002) or non-governmental organisations (Turnock, 2001) could encourage cross border co-operation. Saetevik (1988) takes the analysis one step further. She analyses cross border co-operation in the Paris Convention for the Prevention of Marine Pollution from Land-Based Sources. This convention was signed by eight North Sea countries and the European Community in Paris in 1974 and entered into force in 1978. Saetevik measures the extent of cross border co-operation by looking at the outcomes of the decision making process regarding the Paris Convention, more specifically the decisions regarding regulation of several contaminants. She distinguishes between binding decisions, recommendations and non-decisions. Saetevik explains the conditions that lead to each type of decision.

A large part of her analysis focuses on the influence of the distribution of interests and resources among the countries involved in the Paris Convention. She concludes that countries that produce less pollution and/or that are strongly affected by pollution were the strongest advocates of strict regulation and that the more resources a country has available, the better it is capable of influencing decision making. Important resources were the availability of knowledge, the personal qualities of the delegation members and the size of the national administration devoted to the topics discussed in the Paris Convention. Saetevik’s main contribution to the debate is the acknowledgement that negotiations do not take place in a vacuum. She especially analyses the influence of institutional constraints. Unanimity was the basis of the existing decision making procedures. As a result, the decisions of the Paris Convention reflected the preferences of the least ambitious country.

Dupont (Dupont, 1993a;1993b) pays attention to other aspects of the context in which negotiations take place, especially cultural aspects. He analyses cross border co-operation within the International Commission for the Protection of the Rhine. He investigates how the differences and similarities between the countries involved influenced negotiations. One set of differences and similarities that he investigated is related to the negotiation pattern. He concludes that countries increasingly came to regard water pollution as a shared problem that was their joint responsibility. As a result they were able to reach an agreement despite the great differences in socioeconomic interests. According to Dupont it was also important that the countries within the Rhine river basin have a common history, close geographical and communication links, and a great similarity in fundamental
norms and values. He concludes that this homogeneous cultural background helped
negotiators conduct negotiations in a more constructive way than would otherwise
have prevailed, although it was obviously not sufficient to prevent occasional friction
and misunderstandings among the parties. Finally, Dupont states that it was easier
to reach agreement in periods of close proximity in the political orientation of the
member states. Differences between the countries were relatively large regarding
five other cultural characteristics: the emotions attached to the river, the level of
environmental awareness, the institutional structures, the willingness to abandon
sovereignty, and the negotiation styles and languages used. According to Dupont this
slowed negotiations and made it more difficult to reach agreement.

Meijerink (2007, 1998) takes a much more descriptive approach to the dependent
variable than the authors discussed so far. He mainly explains which factors cause
changes during decision making without making any normative statements about
the qualities of this decision making process, nor of the products that are its results.
Meijerink is also the one of few researchers who actually uses the word ‘network’
in his analysis. He points out some specific characteristics of policy networks in
international river management. First of all, central authority is absent. Secondly, the
actors involved have different cultural backgrounds, while there may be great (legal)
differences in policy making between the countries involved. Thirdly, the hydrological
structure may cause an asymmetric distribution of interests and resources among
the actors involved in decision making. Finally, disasters, such as floods and extreme
pollution, are likely to have a great impact on decision making.

Meijerink conducted a case study of conflict and co-operation in decision making
about the Scheldt River Basin. The Scheldt is a relatively small international river,
which rises in France and flows through Belgium and the Netherlands to the North
Sea. Important stakeholders in the Scheldt River Basin are the French, Belgian and
Dutch national authorities, as well as the authorities of the three Belgian regions
Wallonia, Flanders and the Brussels Capital. Major water issues in the Scheldt River
Basin were water quality and estuarine rehabilitation. Both problems were most
strongly felt within the Netherlands, the most downstream country in the river basin.
In order to put these problems on the international political agenda the Dutch had
to link both problems to other issues. From the start of negotiations, water quality
and estuarine rehabilitation were linked to the issue of maritime access to the port of
Antwerp, a very important issue for the Belgian and Flemish authorities. Later these
three issues were further linked to the issue of water quality in the river Meuse, the
other important French-Belgian-Dutch river basin, and the route of the new high-
speed railway between Paris and Amsterdam.

Two major conclusions about cross-border co-operation in water politics can
be drawn from Meijerink’s case study. First of all, in situations of heterogeneous
preference intensities across policy domains and in which the decision-making
rule is unanimity (as has always been the case in the negotiations on the water
conventions), chances for issue linkages are high. By exploiting differences amongst
negotiators, win-lose games were transformed into positive sum games [...]. It can,
however, also be learned from this case that the short-term implication of issue
linkages is a delay in the negotiations’ (Meijerink, 2007: 29). Secondly, we learn from Meijerink’s analysis that ‘transbasin and interstate linkages that redistribute the resources among users may increase the number of stakeholders and riparians who incur costs, and so may provide an incentive to oppose the agreement. [...] The linkages which the Dutch had made between the Scheldt and Meuse issues provided an incentive for the Walloon region to oppose the agreements proposed’ (Meijerink, 2006, 29-30). Meijerink (1998: 250-251) also draws some minor conclusions. First of all, the presence of different platforms where representatives of the river basin states discuss the same or comparable issues is useful. It creates multiple options to keep negotiations going. Secondly, some kind of structuring of international relations in river basins may encourage the development of international policies. International river commissions might have an encouraging effect. Finally, joint research might contribute to an agreement on the cognitive aspects of the issues at stake by reducing uncertainties.

Conclusions

The works discussed so far give an important insight into factors that may encourage cross border co-operation in water politics. The most important factor that explains cross border co-operation is the distribution of interests and resources among the actors in the river basin. It will be easier to achieve cross border co-operation if all actors have got something to gain by co-operation. If this is not the case a solution might be found in the redistribution of (financial) resources or in a process of issue linkage. Apart from the distribution of interests and resources, the total quantity of resources available to the policy network is also important; in particular, the presence of sufficient (joint) knowledge encourages cross border co-operation. Finally, it is important to pay attention to the institutional and cultural context in which negotiations take place.

2.3 Analyses based on regime theories

Young (1980) defines regimes as ‘recognised patterns of practice around which expectations converge. [...] These patterns have both a substantive and a procedural component. The substantive component consists of a collection of rights and rules, though not necessarily in an organizational framework, while the procedural component consists of recognized arrangements for resulting situations requiring social or collective choices’. In short: the concept regime refers to the principles, norms, rules and procedures that implicitly or explicitly guide interactions between actors. In a regime approach successful cross border co-operation means the establishment of a cross border regime and the solution of the problems for which the regime had been installed in the first place. These two criteria are called
regime formation and regime effectiveness, respectively (see for example Young & Osherenko, 1993).

The first publication to use the regime perspective to analyse cross border co-operation is a paper by Mingst (1981), who analyses cross border co-operation in respect of pollution of the river Rhine. Unfortunately, Mingst is very brief in explaining why the regime on pollution of the river Rhine evolved as it did. Apart from explicitly rejecting a technocratic, functionalist explanation for regime formation, she only points at ‘the political process’ without providing a comprehensive alternative explanation for regime formation. Later authors filled this gap. We discuss two approaches. The first approach is comparable to the one discussed in the previous section. It is basically an analysis of negotiations. The second approach is more typical of regime theory, in that it studies the effects of the institutional design of a regime.

**Negotiations as an explanation**

The first author we discuss is Linnerooth (1990), who describes and explains how a regime for the river Danube evolved. Linnerooth explains in extenso that sovereign states need encouragement to start co-operating. She explains that the necessary stimuli are divided unequally among the river states in the Danube river basin. In terms of both water quality and water quantity issues, the upstream countries had the advantage. Downstream countries only had an advantage in regard to navigation issues. The existing asymmetric power relations between the countries in the Danube river basin explain why regime formation proceeded only very slowly, in an incremental type of muddling through. Linnerooth mentions two possibilities by which downstream countries could accelerate regime formation: issue linkage and the encouragement of environmental awareness in the upstream countries. Both options are difficult to implement and would take some considerable time.

In a later analysis of regime formation in the Danube river basin Linnerooth (Linnerooth Bayer & Murcott, 1996) explains why regime formation was accelerated in the years after the collapse of communism in 1989. First of all, the disintegration of the Soviet Union had the effect that Austria and Yugoslavia no longer blocked expansion of the Soviet dominated regime to other areas than navigation. Secondly, a general increase of environmental awareness diminished the relevance of the upstream-downstream circumstances and enhanced interest in cross border co-operation throughout the river basin. Thirdly, because many of the Eastern European countries sought membership of the European Union, cross border co-operation became a more natural strategy for them. We could say that the existence of a complementary regime encouraged regime formation.

List (1990) analyses cross border regime formation in regard to the Baltic Sea. According to List a cross border regime had indeed developed regarding pollution of the Baltic Sea. This regime had largely been formalised within the 1974 Helsinki Convention. Subsequent to this convention, a growing number of principles,
norms, rules and procedures had steadily developed, which is the first indication of the success of the Baltic Sea regime. The second indication is that most of the recommendations of the Helsinki Commission had later been implemented in national regulations and that a joint monitoring program had been developed. List also briefly discusses the effects of this successful process of regime formation: ‘a fair but sad summary probably would be: there have been some achievements, but much more needs to be done. And, what is worse, further steps will probably be more difficult, requiring profound changes in industrial as well as agricultural production’ (List, 1990: 107-108). Finally, the regime had some consequences beyond the issue area of Baltic marine environmental protection. The regime set an example of international co-operation between states with different social and political systems that face common problems.

According to List five factors explain the successful process of regime formation in regard to Baltic marine environmental protection. First of all, pollution of the Baltic Sea was a common problem for all countries involved. All of them contributed to pollution and all of them were harmed by the consequences of this pollution. Secondly, free rider behaviour would lead to ecological damage in the free-riding country itself and to the loss of prestige within the small and intensively interacting group of states. Thirdly, a high density of interactions among oceanographers and marine biologists helped lay the epistemic foundations of the regime. Fourthly, regime formation was positively influenced by experiences from comparable processes of regime formation elsewhere. Finally, national policies played a positive role in bringing about the regime. An example is the new Ostpolitik of West Germany, which resulted in the recognition of the GDR as an independent state, thus paving the way to an international treaty signed by all Baltic Sea states, including the two German states. List also explicitly dismisses one particular explanation of regime formation: there was no hegemonic power that enforced regime formation.

Dieperink (1997; 2002), who analyses regime formation in regard to pollution of the river Rhine, distinguishes six periods in regime formation, each of which is characterised by a significant change. They are: the first international contacts (pre-1950), international problem finding (1950-1963), pollution on the public agenda (1963-1972), treaties for the river Rhine (1972-1976), deadlocks in negotiations (1976-1986), towards ecological revival (1986-1994). The extent of the regime increased in all periods distinguished, apart from the period between 1976 and 1986, which was characterised by deadlocked negotiations.

In his analysis Dieperink tries to explain which characteristic of the negotiation process is responsible for the observed regime changes. His conclusion is that three characteristics are necessary conditions for regime formation: the possibilities for trade-offs during negotiations, the size of negotiating delegations and regular formulation of new ideas and initiatives. All three characteristics greatly ease negotiations. In fact, the only period of stagnation in regime formation (1976-1986) was characterised by reduced possibilities for trade-offs and a lack of new initiatives. Most of the other independent variables turned out not to be necessary conditions for regime formation, but nevertheless had an encouraging influence. Important
factors include the level of symmetry between interests of the countries in the river basin, positive involvement of politicians, the level of environmental awareness, the ‘negotiation qualities’ of the delegations, the availability of technical knowledge, the experiences with negotiations on comparable issues and the quality of the river basin organisation. Two variables are irrelevant according to Dieperink: informal relations between delegations and the existence of a facilitating third party.

Lindemann (2006) has formulated several hypotheses about the determinants of water regime formation in cross border settings. He distinguishes power-based, interest-based, knowledge-based and context-based hypotheses. The power-based hypothesis states that the presence of a downstream hegemon is a necessary condition for water regime formation along international rivers. The interest-based hypothesis states that it will be easier to establish cross border co-operation when the problem at hand is seen as a collective problem by all countries in the river basin. If this is not the case the bargaining process might be advanced using strategies like side payments or issue linkages. Knowledge-based hypotheses stress the role of the diffusion of innovative practices among several river basins as well as the role of an epistemic community that develops a shared understanding of the problem at hand. Context-based hypotheses refer to the important role played by national and international events that are seemingly unrelated to the issue under consideration in determining if and when an international water regime is established.

Lindemann tests these hypotheses for regime formation in the Rhine and Elbe river basins. He sets power-based hypotheses aside as they cannot explain regime formation adequately. In the Rhine river basin, for example, the downstream country, the Netherlands, definitely did not operate as a hegemon. Interest-based hypotheses provide more insight into the formation of the water regime, but only in the Rhine river basin. As expected, it was easier to establish cross border co-operation in the Rhine river basin for chemical pollution than for chloride pollution, as the costs of chemical pollution were more symmetrically distributed among the countries in the basin. Regarding chloride pollution the problem was solved by making use of side payments. In the Elbe river basin, on the other hand, the upstream Czech Republic has engaged in costly international water co-operation without receiving adequate financial compensation from Germany. In accordance with the knowledge-based hypothesis, the case of the Rhine river basin illustrates the importance of epistemic communities that develop a shared understanding of the problem at hand, while in the Elbe river the German idea of establishing an International Commission for the Protection of the Elbe was based on the experiences within the International Commission for the Protection of the Rhine.

Context-based hypotheses provide an important additional explanation of the establishment of cross border co-operation in both river basins. The first important contextual factor is the European integration process. In the Rhine river basin it encouraged cross border co-operation because countries were already tied together by a complex, dense web of linkages and because it allowed the Dutch government the option of establishing the threat of legal sanctions against upstream polluters. On the other hand, Germany was only willing to formalise standards for chemical
pollution after a consensus on similar standards had been reached among the EU member states. A second contextual factor is the occurrence of disasters. The Sandoz spill of 1986 in particular helped to overcome disparities in upstream-downstream conditions in the Rhine river basin and turned the river into an international public good. Similarly, the collapse of communism in 1989 provided a unique window of opportunity for the development of the Elbe water regime.

The main question posed by Bressers and Kuks (2004) is: which conditions lead to regime shifts towards sustainable regional water resource regimes? They conducted a quantitative analysis of regime formation in 12 regional water regimes, all of them dealing with water quality issues.\textsuperscript{10} Statistics were used to describe regime changes. Bressers and Kuks conclude that most of the 12 regimes changed significantly in the research period. All of them became more complex; they came to include more water uses and water users. Most regimes also became more integrated; they became more coherent in terms of the level of interaction between actors, the number of shared resources and the extent to which the interdependencies in the water system were reflected within regulation.

Bressers and Kuks also calculated correlations between regime change and sustainability. They conclude that there is only weak support for the expectation that an increased complexity contributes to a more sustainable regime. There is stronger support for the expectation that an increased integration contributes to a more sustainable regime. However, regimes turned out to be most sustainable if they became both more complex as well as more integrated.

Finally, Bressers and Kuks analysed correlations between several ‘conditions’ and regime change. They conclude that attempts to change regimes into a more integrated status will have relatively more success when there is a relatively long, pre-existing tradition of co-operation in the water management sector, when there is a common understanding that the effects of non-integrated water management harm sustainability, when there is a notion of possible ‘win-win situations’, when there is a credible threat of a dominant actor accumulating power and altering the public governance pattern in his interest when no solution is reached, and when there are well functioning institutional interfaces (Bressers & Kuks, 2004: 14). They conclude that, taken together, these five conditions correlate closely with regime change.\textsuperscript{11} Of the separate conditions the existence of a possible win-win situation and the existence of institutional interfaces turned out to be most important.

Conclusions on regime formation and change

What we learn from the works discussed in this section does not differ much from what we learned from the network analyses discussed in the previous section. The main difference is that the use of the regime concept offers a better focus on the dependent variable. It also improves the analysis when we distinguish between the level of co-operation as such and the level of problem solving. Regarding the independent variable we see, again, that the recognition that the problem at hand
is a joint problem is the most important explanation for successful cross border co-operation. An important new insight concerns the fact that the presence of a hegemonic power will probably not have an effect on the establishment of cross border co-operation. Another new insight is the relevance of the frequent production of new ideas and initiatives. We also find some new relevant aspects in the context of the network or regime, namely the institutional interfaces mentioned by Bressers and Kuks, the learning processes and co-operation between scientists mentioned by both List and Lindemann, and the wider European political context mentioned by both Linnerooth and Lindemann.

**Institutional design as an explanation**

In this section we discuss two authors who stress the importance of the institutional design of a regime: Marty (2001) and Skjaerseth (2000). Marty conducted a case study of cross border co-operation in five cases: the regulation of the Alpine Rhine (Austria, Switzerland), the Rio Grande rectification project (United States, Mexico), the Pancheshwar multipurpose project on the Mahakali River (India, Nepal), the Colorado River salinity problem (United States, Mexico) and the sanitation problem in the Tijuana River Basin (United States, Mexico).

Marty concludes that, as expected, the configuration of incentives and interests is a significant determinant of the regime formation process. If countries are mutually affected by the problem, the chances for regime formation are higher. A good example is the case of the Rio Grande. Problem pressure did not differ greatly between the United States’ and the Mexican side of the river. Accordingly, Americans and Mexicans had just about the same incentives to improve river conditions. However, agreement on the collective nature of the water issue at hand is not a sufficient condition for the establishment of cross border co-operation. The case of the Alpine Rhine for example showed that that the Swiss and Austrian governments did agree on the collective nature of the flooding problem, but nevertheless they could not agree easily on the preferred solution. Marty also points at the domestic dimension of riparian problems. In general, a dichotomy of incentives and resources between local level stakeholders and the political leadership at higher levels of government may obstruct cross border co-operation. This happened in the Tijuana case, for example.

Differences in incentives for cross border co-operation might be resolved by changing the incentive structure. The best way of doing this would be directly. ‘If those who are requested to change their behaviour in a particular direction perceive this as inflicting significant welfare costs on them, those who request behavioural changes must have strong incentives at hand to effect the desired changes or there will probably be no alternative way for them other than to contribute themselves to the cost of problem solving if they are really keen on solving the problem’ (Marty, 2001: 355). This is exactly what happened in both the Tijuana and the Colorado River case. In both cases the US government paid for the solution of problems that were caused in Mexico. Using political pressure to resolve the problem of an asymmetric incentive
structure is a less successful strategy. The only successful example described by Marty is the Colorado River case, where the Mexican leadership threatened to seek international arbitration in order to arrive at the final solution of the salinity problem.

Apart from the incentive structure, another important factor that sometimes hampers cross border co-operation is transaction costs – the costs of the development of riparian institutions. According to Marty uncertainty about the behaviour of other countries is the most important factor underlying high transaction costs. Marty distinguishes several strategies to reduce transaction costs, such as the strategy of internalising benefits, third party consultation and realising the commitment of high-level political authority. This last strategy is important because local level actors do not usually have the financial means or the authority to become active internationally.

Marty also investigates regime effectiveness. According to him, riparians can significantly increase the effectiveness of river basin institutions by the way they are designed. First, institutions should be specific. After signing the (not very specific) preliminary agreement of 1872 between Austria and Switzerland in the case of the Alpine Rhine, for example, it took 20 years before all the details were settled and the final treaty could be signed! Secondly, regimes should be feasible. If resources are not adequate to achieve the objectives, more resources must be made available or the objectives must be amended so they fall in line with the resources available. Thirdly, institutions should be flexible. In practice this means that regulations should include general objectives, but they should not stipulate how these objectives must be achieved. Fourthly, the success of an institutional arrangement is significantly determined by the quality of the actors charged with executing the substantive provisions of the arrangement.

Marty finishes his analysis by stressing the importance of three contextual factors. First of all, in all cases a sudden rise in problem pressure forced a breakthrough in the problem-solving process. Secondly, using existing institutions frequently improves the resolution of new problems. Thirdly, the involvement of a few firmly committed individuals helps to bring the development of institutions to a successful close.

Like Marty, Skjaerseth (2000) explicitly uses institutional explanations for cross border co-operation, in this case co-operation regarding pollution of the North Sea. Cross border co-operation is understood by Skjaerseth to consist of two phases: development of international commitments and domestic implementation. Development of international commitments is considered to be more successful when international commitments have more stringent goals, cover a wider range of issues and are more specific. Domestic implementation is considered to be more successful when the contents of international commitments have been explicitly included in domestic policy goals and when these goals have actually been attained. Using these criteria, cross border co-operation regarding the North Sea can be rated as relatively successful. Especially since the establishment of an annual International North Sea Conference in 1984, the commitments of the North Sea regime have grown in stringency, have become more specific and nowadays affect a wide range of sectors. Domestic implementation is investigated by Skjaerseth in three countries: Norway, the Netherlands and the UK. The Netherlands have generally adopted
domestic goals and plans that are more ambitious than those required internationally, in Norway they are in line with international obligations and in the UK goals and plans have been in line with international targets in some fields and have been less ambitious in others. Even though Norway’s ambitions were more modest than those of the Netherlands, Norway scores higher on goal attainment. Norway shows improvements for all pollutants (and even overachievement for some). The Netherlands show improvements for some pollutants, but less change than required for others. The UK, finally, achieved less in comparison to the Netherlands.

Skjaerseth uses two models to explain why the North Sea regime developed as it did. The first is called the rational actor model. The core idea in this model is that regime development could be explained by examining the interests of the national states in terms of the pollution they cause and the pollution damage with which they are confronted. The rational actor model is not able to explain the major breakthroughs that were achieved in the 1987 International North Sea Conference as the problem-related interests of the states concerned did not really change. Skjaerseth also dismisses the influence of domestic demand for pollution protection. The green wave in Western societies occurred mainly after the 1987 breakthroughs. The rational actor model is not very strong in explaining domestic implementation either. Governments depend on the co-operation of three actor groups: agriculture, industry and municipalities. The incentives for implementation did not differ strongly between the actor groups industry and agriculture. Nevertheless, the level of implementation turned out to be much higher for industry than for agriculture.

Skjaerseth offers an alternative model for the explanation of cross border co-operation. This second one is called the institutional model. Institutions are politically or legally binding sets of explicit procedures and rules that regulate the behaviour of actors. Skjaerseth distinguishes international and domestic institutions. He explains that international institutions encouraged the development of a North Sea regime in three ways. First, international institutions created common norms and values as a result of the existence of formal forums, very frequent meetings and the existence of permanent administrative and scientific bodies. Secondly, international institutions encouraged the aggregation and integration of the interests of the countries involved. They created clarity about the objectives of the countries involved and they installed majority-vote decision-making procedures that prevented stalemates. Finally, international institutions influenced the implementation behaviour of states. Commitments were legally binding, clear and transparent, and provided for an enforcement system.

Domestic institutions influenced domestic implementation. First, horizontal and vertical fragmentation within government tends to increase discrepancies between national goals and the adoption of measures needed to implement them. According to Skjaerseth the high level of fragmentation in the Netherlands explains why this country scored relatively poorly on the criterion of goal attainment. Secondly, the available policy tools are important, especially national preferences for voluntary agreements or command and control policy tools. The Dutch preference for voluntary agreements offers a good explanation of the mismatch between Dutch goals and actual results.
Skjaerseth also briefly reflects on the way institutions are created that encourage cross-border co-operation. He especially pays attention to the origin of successful institutions at the international level. Two explanations are offered. The first focuses on the existence of two twin-institutions: the International North Sea Conference and the Oslo and Paris Commissions, which provided mutually complementary functions in the same issue area. The second explanation focuses on the history of regime formation. Skjaerseth observes that early successes in regime formation regarding a few substances later resulted in agreement on phasing out discharges of all anthropogenic hazardous substances within 25 years.

Conclusions on institutional design

The two authors discussed in this section give valuable additional insights into the factors that influence cross border co-operation, especially the importance of the institutional context within which co-operation evolves. Marty mainly focuses on the design of international agreements within which regime formation results. According to Marty a regime should be specific, feasible and flexible. Moreover, the quality of the actors charged with executing the regime is of importance. According to Skjaerseth international regimes should create common norms and values and encourage the aggregation and integration of the interests of the countries involved. Although formulated on a higher level of abstraction, Skjaerseth’s conclusions do not contradict Marty’s. Flexibility, for example, is a condition for the integration of interests, while the existence of a central actor might encourage common norms and values. Moreover, both authors stress that institutions develop slowly and can only be understood against their historical background. Skjaerseth stresses the importance of domestic implementation. Although Marty does state that characteristics of national policy making are important in explaining regime ineffectiveness, domestic implementation is no issue in his analysis of cross border co-operation. A difference between the two authors is the level of attention they devote to more traditional explanations of cross border co-operation. According to Marty the distribution of interests and resources can still be a vital explanation of cross border co-operation, while Skjaerseth states that such explanations fail to provide explanations. In our opinion Skjaerseth dismisses traditional variables such as interests, resources and interdependencies too readily.

Analyses based on cognitive and discursive theories

Recently we have been able to witness the rise of a new approach in the literature on cross border co-operation in water politics. In this new approach the focus shifts from the organisational dimension of policy making to the contents dimension. Cognitive and discursive approaches stress that the extent of co-operation, as well as the direction in which it evolves, is strongly influenced by the concepts that actors
use to give meaning to the problems with which they are confronted. Cognitive and discursive analysts want to find out which beliefs are held by the policy making actors, how these beliefs come about and how these beliefs influence cross border policy making. In contrast to network and regime theories, cognitive and discursive theories have not yet developed into a coherent theoretical framework. Therefore, the discussion in this section are a little more fragmented than the discussion in the previous sections.

The work by Haas (1990) is the earliest example of the use of a discursive approach to the explanation of cross border co-operation in water politics. Haas analyses the extent to which co-operation regarding environmental pollution of the Mediterranean Sea can be explained using two traditional stances within the study of international relations: (neo-) realism and historical materialism. Both approaches stress the conflicting nature of international relations and in both approaches the distribution of power among the actors involved is the most important factor that explains the extent to which and the way in which cross border co-operation evolves. Haas rejects such explanations of cross border co-operation in the Mediterranean Sea. He points to the fact that the so-called MedPlan hardly reflected the interests of France, the dominant country in the region, nor did it strengthen the position of France and the other European countries in the region. Furthermore, the Mediterranean countries were willing to transfer much more of their national authority than the two traditional approaches would hypothesise.

According to Haas the rise of a transnational alliance of scientists offers a better explanation for cross border co-operation in the Mediterranean Sea. ‘Members of this community staffed UNEP and served in the administration of several Mediterranean countries. They shared common beliefs about causes of pollution which informed their policy advice and action in the issue area. They also shared common political objectives in reorganizing and creating new governmental and intergovernmental institutions that would be responsible for more comprehensive forms of environmental protection. [...] They all considered themselves ecologists. They all believed in the need to protect the human environment. They believed that the Mediterranean was endangered from a number of different sources of pollution’ (Haas, 1990: 217). Domestically, the epistemic community penetrated policy making as well. Its members served on delegations to MedPlan meetings and staffed environmental ministries. Finally, the fact that the epistemic community took ecology as their main stance is important. Ecology is a broad discipline, so it was able to incorporate a variety of concerns. The broad nature of ecology also prevented the prevalence of one particular interpretation of pollution. Other important features of the Mediterranean negotiations were also important, such as a technically capable secretariat and belief in the data it submitted.

A second author to use a cognitive approach to arrive at an understanding of cross border co-operation in water politics is Meijerink (2007). We have already discussed his network analysis of cross border co-operation in the Scheldt River Basin in section 2. Here we discuss his analysis using the so-called Advocacy Coalition Framework. According to this perspective antagonistic advocacy coalitions compete
Advocacy coalitions are composed of persons in various positions that share a specific belief system. Such belief systems consist of policy core beliefs and secondary beliefs. Policy core beliefs are sets of fundamental values, causative hypotheses and problem perceptions. Learning processes within and across advocacy coalitions may account for (incremental) policy change.

According to Meijerink (2007) three advocacy coalitions existed in the Scheldt River Basin. The Antwerp or pro-development coalition consists inter alia of officials of the port of Antwerp, the City of Antwerp local authority and the Flemish Ministry of Infrastructure and Sea Affairs. The core policy belief of this coalition concerned maritime access to the port of Antwerp and the idea that the Dutch are unwilling to improve this maritime access. The environmentalist coalition is a cross-border coalition consisting of representatives of a large number of environmental NGOs, regional action groups, researchers in several research institutes and representatives of various Dutch governmental organisations. The core policy belief of this coalition was that the Scheldt estuary is a unique ecosystem, which needs to be preserved and which should be managed collectively. The third advocacy coalition is a coalition of farmers, farmers’ organisations and individual residents in the Dutch province of Zeeland. This advocacy coalition mainly opposed the idea of compensating for nature losses by returning to the sea land which has been reclaimed from the Scheldt estuary in previous centuries. This idea was a major part of the final agreement on the Scheldt River (see section 2).

Meijerink’s analysis using the Advocacy Coalition Framework explains why the Scheldt estuary was increasingly perceived as a shared water system. ‘The environmentalist coalition was a cross-border coalition which was strongly tied to an epistemic community of ecologists. This coalition tried to shape a policy image of the Scheldt estuary as a unique ecosystem, which needs to be preserved. Only after the Dutch decision to unlink the bilateral and multilateral Scheldt issues, after which the level of conflict was reduced, did learning across the pro-development and environmentalist coalition start to develop, and the Antwerp coalition incorporated some elements of the environmentalist coalitions in its belief system. This cross-coalition learning may account for the changed strategies and techniques for dredging and dumping sediments, the development of plans for compensating for nature losses caused by the dredging works, and partly for the development of water quality policies in the Flemish region’ (Meijerink, 2007: 30-31).

Recently, the discursive approach has taken off thanks to the work of Blatter (2001), who investigates cross border co-operation around Lake Constance, which is located in the Upper Rhine and is bordered by Germany, Austria and Switzerland. In his case study Blatter focuses on the regulation of motorboats on the Lake. This cross border co-operation would appear to be a success. With the establishment of emission standards for boats, an incentive now exists for the production of cleaner, quieter motors for boats.

Blatter starts his analysis of the degree of success of cross border co-operation around Lake Constance with the following observation: ‘Transboundary co-operation
at Lake Constance is not well explained by the existence of “problematic situations” in which actors attempt to avoid negative externalities and capture positive externalities’ (Blatter, 2001: 90). Blatter explains that the damage caused by motor boats arises mostly through the landing docks and the transport of people and boats to the lake. Therefore, the damage can readily be assigned to a specific jurisdiction. Thus, the distribution of interests and objectives is not a sufficient explanation for the successful arrival of cross border co-operation around Lake Constance.

Instead, Blatter argues that this problem, being put forward by an international cross border coalition of environmental protectionists, offered the existing political cross border institutions a field of activity with high symbolic value which these institutions could use to emphasise the importance of their existence. Secondly, Blatter draws the importance of integration discourses to our attention. In periods when the discourse is encouraging cross border co-operation, such as the period preceding the signature of the Maastricht Treaty in 1992, it is easier to take major steps in the establishment of cross border co-operation. Finally, the then dominating discourse in western politics explains why so much attention was devoted to pleasure boating although pleasure boats are only responsible for approximately half of the pollution caused by boats in Lake Constance. As the owners of the motor boats were predominantly wealthy individuals, restricting boating fitted into a politics of redistribution, which the favoured working classes over the more affluent.

The work of Blatter also holds an important warning. He explains that the establishment of cross border co-operation, more specifically cross border communication, does not always lead to swift policy making. Lake Constance had two advocacy coalitions in the 1970s, which opposed each other intensely. The environmentalist coalition believed that a significant presence of boats on Lake Constance represented a danger to the natural and cultural heritage of the area. The counter-coalition, on the other hand, dismissed the calculated chemical pollution of the lake as a statistical artifice. The stalemate was only tackled after the involvement of the Swiss, German and Austrian governments, which were able to negotiate an agreement.

Conclusions

The works of Haas, Meijerink and Blatter give us some additional insights into factors that may encourage cross border co-operation in water politics. First of all, the three authors stress the importance of cross border agreement on the main characteristics of the problem and on the available solutions. Secondly, it is important that all actors involved perceive the cross border problem as a shared problem. Thirdly, if a general discourse exists that either encourages the problem’s resolution or encourages stimuliates cross border co-operation, cross border co-operation will be more easily established. Finally, cross border co-operation is more easily achieved when there is a group of professionals with a shared vision of the problem area. In some situations the existence of a cross border discourse is more likely to obstruct than to encourage cross border co-operation. This happens when a stalemate between two cross border ‘advocacy coalitions’ occurs.
2.4 Comparing the approaches

In this chapter we have discussed several authors who have investigated cross border co-operation in water politics. We find wide differences between the approaches used and conclusions drawn by these authors. Throughout this chapter we have used three concepts to explain what these studies are about: research units (the cases studied), dependent variable (the operationalisation of successful cross border co-operation) and independent variable (the factors that influence cross border co-operation). Tables 2.1, 2.2 and 2.3 summarise these aspects. We have sometimes rephrased the terminology used by the authors to make the survey consistent. In this section we explain these three tables in greater detail.

Research units

The researchers investigate different types of cases. We can distinguish authors who investigated sea co-operation, authors who investigate river basin co-operation and authors who investigated regional co-operation. We can also distinguish between different types of water related issues, such as water quality issues, flooding or navigation.

It is not hard to imagine that other factors will play a role during cross border co-operation between national states than during co-operation between regions. Similarly, in water quality issues other factors will influence cross border co-operation than in flooding or navigation issues. Nevertheless, so far the debate seems to have been biased towards cross border co-operation between nation states and cross border co-operation on water quality issues. None of the authors takes issue with these differences.

Dependent variables

When we compare the approach that the authors take to the measurement of the dependent variable we can distinguish two major approaches: a descriptive approach and a normative one. The descriptive approach only describes the changes that occur during processes of negotiation and regime formation, without making a normative statement about these negotiations and their outcomes. Not surprisingly, this approach dominates the discursive and cognitive analyses. Furthermore, we also find this approach in the work of Dieperink (1997).
<table>
<thead>
<tr>
<th>Name</th>
<th>Waters included</th>
<th>Spatial scope</th>
<th>Water related issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Le Marquand</td>
<td>Colorado River, Columbia River, Skagit River, Rhine River</td>
<td>Whole river basin</td>
<td>Water quality, Flooding</td>
</tr>
<tr>
<td>Saetevik</td>
<td>North Sea</td>
<td>Sea</td>
<td>Water quality</td>
</tr>
<tr>
<td>Dupont</td>
<td>Rhine River</td>
<td>Whole river basin</td>
<td>Water quality</td>
</tr>
<tr>
<td>Meijerink</td>
<td>Scheldt River</td>
<td>Whole river basin, with focus on estuary</td>
<td>Water quality, Navigation, Estuarine rehabilitation, Several linked issues</td>
</tr>
<tr>
<td>Dieperink</td>
<td>Rhine River</td>
<td>Whole river basin</td>
<td>Water quality</td>
</tr>
<tr>
<td>Linnerooth</td>
<td>Danube River</td>
<td>Whole river basin</td>
<td>Water quality, Flooding, Navigation</td>
</tr>
<tr>
<td>List</td>
<td>Baltic Sea</td>
<td>Sea</td>
<td>Water quality</td>
</tr>
<tr>
<td>Lindemann</td>
<td>Rhine River, Elbe River</td>
<td>Whole river basin</td>
<td>Water quality</td>
</tr>
<tr>
<td>Bressers and Kuks</td>
<td>Twelve international rivers</td>
<td>Regional section of river basin</td>
<td>Water quality</td>
</tr>
<tr>
<td>Marty</td>
<td>Rhine River (Alpine section), Rio Grande, Mahakali River, Colorado River, Tijuana River Basin</td>
<td>Regional section of river basin</td>
<td>Water quality, Flooding, Hydroelectric power, Irrigation</td>
</tr>
<tr>
<td>Skjaerseth</td>
<td>North Sea</td>
<td>Sea</td>
<td>Water quality</td>
</tr>
<tr>
<td>Haas</td>
<td>Mediterranean Sea</td>
<td>Sea</td>
<td>Water quality</td>
</tr>
<tr>
<td>Blatter</td>
<td>Lake Constance</td>
<td>Regional section of river basin</td>
<td>Damage by boating</td>
</tr>
</tbody>
</table>
### Table 2.2: Overview of Operationalisation of the Dependent Variable

<table>
<thead>
<tr>
<th></th>
<th>Descriptive approaches</th>
<th>Normative approaches</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Co-operation formation</td>
<td>Co-operation effectiveness</td>
</tr>
<tr>
<td>Le Marquand</td>
<td>Agreement among actors</td>
<td></td>
</tr>
<tr>
<td>Saetevik</td>
<td>Agreement among actors, Type of agreement: binding decisions, recommendations, non-decisions</td>
<td></td>
</tr>
<tr>
<td>Dupont</td>
<td>Agreement among actors</td>
<td></td>
</tr>
<tr>
<td>Meijerink</td>
<td>Negotiations</td>
<td></td>
</tr>
<tr>
<td>Dieperink</td>
<td>Establishement of a set of rules</td>
<td></td>
</tr>
<tr>
<td>Linerooth</td>
<td>Establishement of a set of rules</td>
<td>Implementation of rules, State of the environment (related to objectives), Effects on other co-operation processes</td>
</tr>
<tr>
<td>List</td>
<td>Establishement of a set of rules</td>
<td></td>
</tr>
<tr>
<td>Lindemann</td>
<td>Establishement of a set of rules</td>
<td></td>
</tr>
<tr>
<td>Bressers and Kuks</td>
<td>Establishement of a rules that cover many water uses and water users, Establishement of a coherent set of rules</td>
<td>Degradation of water resources, Protection of the ecological functions of water resources</td>
</tr>
<tr>
<td>Marty</td>
<td>Establishement of a set of rules</td>
<td>State of the environment (related to objectives)</td>
</tr>
<tr>
<td>Skjaersest</td>
<td>Establishement of a set of rules</td>
<td>Implementation of rules, State of the environment (related to objectives)</td>
</tr>
<tr>
<td>Haas</td>
<td>Establishement of a set of rules</td>
<td></td>
</tr>
<tr>
<td>Blatter</td>
<td>Establishement of a set of rules</td>
<td></td>
</tr>
<tr>
<td>Table 2.3</td>
<td>Overview of independent variables</td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>-----------------------------------</td>
<td></td>
</tr>
<tr>
<td><strong>Actors/resources</strong></td>
<td><strong>Rules of the game</strong></td>
<td><strong>Discourses</strong></td>
</tr>
<tr>
<td>Le Marquand</td>
<td>Distribution of interests and resources, Involvement of politicians, Availability of knowledge, Third party assistance</td>
<td>Majority voting (in stead of unanimity)</td>
</tr>
<tr>
<td>Saetevik</td>
<td>Distribution of interests and resources, Availability of knowledge, Quality of delegations</td>
<td>Comparable institutional structures, Comparable negotiation styles</td>
</tr>
<tr>
<td>Dupont</td>
<td>Distribution of interests and resources</td>
<td></td>
</tr>
<tr>
<td>Meijerink</td>
<td>Distribution of interests and resources, Issue linkage and redistribution of resources, Availability of knowledge, Third party assistance</td>
<td>Perception/framing of (joint) problems, Existence of an epistemic community (contacts between scientists)</td>
</tr>
<tr>
<td>Dieperink</td>
<td>Issue linkage (necessary condition), Quality of delegations (necessary condition), Distribution of interests and resources, Involvement of politicians, Availability of knowledge, Experiences during other negotiations, Quality of international secretariat</td>
<td>Production of new ideas (necessary condition), Level of environmental awareness</td>
</tr>
<tr>
<td>Linnerooth</td>
<td>Distribution of interests and resources, Issue linkage</td>
<td>Level of environmental awareness</td>
</tr>
<tr>
<td>List</td>
<td>Distribution of interests and resources, National policies</td>
<td>Existence of an epistemic community (contacts between scientists)</td>
</tr>
<tr>
<td>Author</td>
<td>Key Elements</td>
<td>Complementary Initiatives</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------</td>
</tr>
<tr>
<td>Lindemann</td>
<td>Distribution of interests and resources</td>
<td>Similar initiatives, Complementary initiatives (European Union)</td>
</tr>
<tr>
<td>Bressers and Kuks</td>
<td>Issue linkage and redistribution of resources</td>
<td>Existing initiatives</td>
</tr>
<tr>
<td>Marty</td>
<td>Distribution of interests and resources within countries, Issue linkage, redistribution of resources and internalization of benefits, Availability of knowledge (especially about other actors), Third party assistance, Involvement of politicians, Quality of international secretariat</td>
<td>Existing initiatives</td>
</tr>
<tr>
<td>Skjaerseth</td>
<td>Quality of international secretariat</td>
<td>Complementary initiatives, Existing initiatives</td>
</tr>
<tr>
<td>Haas</td>
<td>Existence of formal fora and frequent meetings, Procedures that stimulate clarity on objectives, Majority voting (instead of unanimity), Bindingness, clarity and transparency of international commitments, Fragmentation within national governments, National preference for command and control policy tools</td>
<td></td>
</tr>
<tr>
<td>Blatter</td>
<td>Perception/framing of (joint) problems (esp after disasters)</td>
<td></td>
</tr>
</tbody>
</table>
The other authors do want to make a statement about the quality of cross border co-operation. Among them we find two main sets of indicators which strongly resemble what we called ‘co-operation formation’ and ‘co-operation effectiveness’ in the previous chapter.77 Regarding co-operation formation, network theorists tend to stress the establishment of agreement as the main success criterion, while regime theorists focus on the rules and procedures in which those agreements result. Regarding co-operation formation, most authors focus on problem solving as such, but List (1990) and Skjaerseth (2000) show that it may be more sensible to focus on the level of implementation of the decisions that were taken during co-operation formation.

From the use of these indicators, it becomes clear that up till now the debate seems to overlook the fact that not all co-operation necessarily aims at joint policy making. In fact, the only publication we found that is not about joint policy making is a rather descriptive paper by Darakas (2002) on cross border co-operation on the Nestos River between researchers from a Greek and a Bulgarian university.

Independent variables

Our main focus has been to explain the conditions under which successful cross border co-operation arises. Traditionally the focus has been on negotiations as explanatory factors for successful cross border co-operation. Most authors focus on the negotiations that constitute the process of co-operation. The main conclusion is that cross border co-operation is more easily established when the distribution of interests and resources is such that all countries have something to gain in the establishment of cross border co-operation. When this is not the case, a solution might be found in issue linkage or in the redistribution of resources. Meijerink (2007) justly warns us that issue linkage might slow down the process of co-operation formation. Another condition that could help to overcome an adverse distribution of interests and resources is the existence of a hegemonic actor. However, all authors who investigate it dismiss the effectiveness of this condition (Haas, 1990; List, 1990; Lindemann, 2006).

The analysis of negotiations also provides some insight into other factors that stimulate successful cross border co-operation. Cross border co-operation is more easily established when sufficient knowledge is available, when the quality of the delegations and of the international secretariat is high, and when particular actors are involved, most notably politicians. There is some disagreement about the involvement of third parties that facilitate the process of cross border co-operation. Le Marquand (1977), Marty (2001) and Meijerink (1998) claim that third-party assistance will positively influence the establishment of cross border co-operation, while List (1990) and Dieperink (2002) claim that it will not.

The distribution of interests and resources does not always explain the establishment of successful cross border co-operation. Skjaerseth (2000) explains that a regime was established in the North Sea without any changes in the distri-
bution of interests and resources, while Blatter (2001) observes that in the Lake Constance case, cross border co-operation evolved around an issue that could easily have been dealt with at a national level. In such cases other approaches than the analysis of negotiations might explain successful cross border co-operation.

One such approach pays attention to the rules of the game. Cross border co-operation is more easily established when procedures for decision making encourage clarity about the objectives of the actors involved, when they are flexible enough to cope with changing circumstances, and when they are based on majority voting. Later on, the implementation of cross border regulation will be more successful when these commitments are binding, clear, transparent and feasible.

Another approach focuses on discursive and cognitive processes. Cross border co-operation is more easily established when the problem at hand is framed as a joint problem, when the problem and/or its solution are perceived in similar terms by all actors, when an epistemic community of professionals exists, and when a general discourse exists that either encourages solving the problem at hand or encourages cross border co-operation in general. It is not clear to what extent higher levels of environmental awareness explain cross border co-operation. According to Skjaerseth (2000) it does not, while according to Dieperink (1997) and Linnerooth (1990) it does.

All independent variables discussed so far focus on the cross border level itself. Some authors stress the influence of national policy making and politics. List (1990), for example, explains how the West German Ostpolitik paved the way for cross border co-operation in the Baltic Sea. Two authors have actually elaborated this type of analysis. Marty (2001) analyses the effects of national negotiations, concluding that the absence of involvement of national authorities may seriously hamper the establishment of cross border co-operation at a regional level. Skjaerseth (2000) analyses the effects of national institutions, explaining that a high level of integration within national governments as well as a national preference for command and control policy tools will positively influence the implementation of cross border regulation.

Yet another way of analysing cross border co-operation has been used by Dupont (1993b), who shows that we might understand cross border co-operation better if we look at the cultural differences among the countries in the river basin. Cross border co-operation is more easily established when these differences are small. In our view, this way of analysing can be broadened, e.g. by looking at differences and similarities between national legal frameworks.

Finally, several authors explain the effect of other initiatives for cross border co-operation. Cross border co-operation is more easily established when the actors involved can build on previous work done within the same regime, when comparable regimes exist within the same river basin, and when actors can learn from experiences in other river basins. Particularly in the Western European context, the process of European integration seems to provide a great stimulus to cross border co-operation on river basins.
Although some of the issues mentioned may play a role in cross border co-operation in general, some seem to be specific to cross border co-operation on river management. First, the relation between upstream and downstream countries strongly influences the distribution of interests and resources among the countries in the river basin. In general, downstream countries seem to have more interest in co-operation than upstream countries when water quality or flooding issues are at stake, but upstream countries seem to have more interest in co-operation when navigation issues are involved. Secondly, river management is traditionally a rather technical area of policy. As a result, both the amount of knowledge that is available and the existence of an epistemic community that constructs this knowledge will probably play a greater role in encouraging cross border co-operation than might be the case in other policy fields.

2.5 Discussion

This chapter has surveyed authors who have investigated issues of cross border co-operation on river politics. We have seen that there is a great deal of knowledge about the determinants of successful cross border co-operation; one may even wonder why we believe that additional research is necessary.

A first reason to add to this impressive amount of literature concerns case selection. Hitherto, the investigations have been biased towards cross border co-operation between nation states, water quality problems and co-operation aimed at joint policy making. In our study we focus on regional cross border co-operation and we aim at a balanced case selection in terms of the types of water-related problems and the phases in our model for the development of cross border co-operation.

A second reason concerns the operationalisation of the dependent variable. In the previous chapter we explained some of the problems related to the co-operation formation criterion. Our main consideration was that cross border co-operation does not always focus on joint policy making. We explained that other types of co-operation also exist and, moreover, that the existence of such types of co-operation is often a pre-requisite for the establishment of joint policy making. We elaborated these ideas in a model for the development of cross border co-operation (chapter 1). In our view, we provide for a more precise operationalisation of the dependent variable.

A final reason concerns our frame of analysis. When we compare all approaches to analysing the independent variable we get a three-by-three matrix with nine possible approaches (see table 2.4). Strikingly, a large majority of the works discussed are located in one cell of the matrix. Some cells are still empty. For example, none of the researchers discussed analyses the effect of national discourses on cross border co-operation. We believe that such an analysis might provide additional value. Therefore, the frame of analysis that we described in the previous chapter tries to do justice to all nine cells of the matrix. This reflects a more comprehensive idea of possible explanatory variables, focussing on the different dimensions of actors, interest and coalitions, resources, rules of the game, and discourse.
## Table 2.4  Overview of approaches towards the independent variable

<table>
<thead>
<tr>
<th></th>
<th>Negotiations approaches</th>
<th>Institutional approaches</th>
<th>Discursive approaches</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross-border level</td>
<td>Le Marquand</td>
<td>Saetevik</td>
<td>Lindemann</td>
</tr>
<tr>
<td></td>
<td>Saetevik</td>
<td>Marty</td>
<td>Meijerink</td>
</tr>
<tr>
<td></td>
<td>Meijerink</td>
<td>Skjaerseth</td>
<td>Haas</td>
</tr>
<tr>
<td></td>
<td>Dieperink</td>
<td></td>
<td>Blatter</td>
</tr>
<tr>
<td></td>
<td>Linneroorth</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>List</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lindemann</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bressers and Kuks</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Marty</td>
<td></td>
<td></td>
</tr>
<tr>
<td>National policy making</td>
<td>Marty</td>
<td>Skjaerseth</td>
<td></td>
</tr>
<tr>
<td>Comparing countries</td>
<td>Dupont</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Notes

1. The author wishes to thank Sander Meijerink for his comments on a previous version of this chapter.

2. We found two literature reviews. The one by Bernauer (2002) only compares three works, while that by Dieperink (1997) is in Dutch, fails to provide a theoretical reflection. Some of the literature we encountered did not explain cross border cooperation, but only gave descriptions. Some of the literature was too technical, obsolete, brief or superficial for our purposes.

3. Of course the distinction between water dispute resolution literature and water cooperation literature is sometimes arbitrary. The existence of cooperation does not automatically mean the absence of conflict, for example. Nevertheless, the terminologies used as well as the kind of cases studied are generally good indicators of the field of thought to which a particular work belongs.

4. When this debate started most authors were convinced that water, especially river water, would become a major cause of armed conflict in the near future, for example Bullock and Darwish (1993), Gleick (1993) or Homer-Dixon (1994). Recently, some authors have put forward arguments against the plausibility of future water wars, e.g.: Wolf (1998) or Kalpakian (2004). Wolf (1998: 261) concludes that war over water is ‘neither strategically rational, hydrographically effective, nor economically viable’.

5. Interesting works regarding this issue are Turton and Ashton (2003), who analyse dispute resolution in the Okavango river basin; Blatter and Ingram (2001), who use discursive approaches to analyse cooperation in several river basins throughout the world; Dinar and Dinar (2000), who edited a special issue on international negotiation on cross border cooperation in developing countries; Beach (2000) who gives a theoretical overview as well as several case studies of dispute resolution; Biswas (1997), who edited a special issue on management of international waters; Wolf (1997), who undertakes a quantitative analysis of conditions that contribute to conflict resolution; Rangeley et al. (1994), who give an overview of river basin organisation in sub-Saharan Africa; and Lowi (1993), who analyses disputes in the Jordan river basin.

6. Some of the authors that we discuss do pay some attention to cross border cooperation in non-Western settings, namely Marty (2001) and Schiff and Winters (2002).

7. For more information on network theories see Marsh and Rhodes (1992). For an application of network theories on water politics see Bressers, O’Toole et al. (1995).

8. Estuarine rehabilitation refers to the negative impacts of human activities on the geomorphologic processes in the estuary.

9. For more information on regime theories see Young (1999), Kahler et al. (1993) or Keohane and Nye (1989).

10. Not all these are cross border regimes. Nevertheless, the conclusions of Bressers and Kuks on regime formation in water politics are very interesting for our scope.

11. Correlations between all the conditions taken together and the different variables related to the concept regime change range from tau .469 (p = .005) to as high as tau .749 (p = .000) (Bressers and Kuks, 2004: 60).

12. Marty also extensively analyses the conditions under which regimes arise that are specific, feasible, flexible, open, and provide for effective organisations. Unfortunately, we do not have sufficient space here to go into all details of Marty’s analysis. For more information we refer to the original work by Marty (2001).
Explaining cross border co-operation in river management: an overview

13 For an application of narrative analysis on water politics see Dicke (2001).
14 United Nations Environment Programme. UNEP was a strong advocate of international environmental policy making regarding pollution of the Mediterranean Sea.
15 For more information on the Advocacy Coalition Framework see Sabatier and Jenkins-Smith (1993) and Sabatier (1998).
16 Lake Constance is known in German as the Bodensee. This section is based on Blatter (2001). See Blatter (2004) for more information on cross border co-operation on Lake Constance.
17 Note the analogy with the concepts regime formation and regime effectiveness.
18 We did not search extensively for literature about cross border co-operation in other policy fields. However, during our search for literature on cross border co-operation in river management we did find some examples. Church and Reid (1996) analyse cross border co-operation in economic politics in the Channel; De Jong (1999) describes the problems caused by social-cognitive differences between Dutch and German nature politics; Post and Stal (2001) analyse cross border co-operation between the Netherlands and Belgium regarding urgent medical assistance; Beerkens (2002) analyses cross border co-operation in higher education politics; Gallagher (2003) analyses cross border co-operation between English and French police officials; Macrory and Turner (2003) analyse cross border co-operation in environmental politics in Europe; Van Oudenhoven en Van der Zee (2002) analyse cross border co-operation between companies; and finally, some authors analyse general cross border co-operation in particular regions, such as the Upper Adriatic (Bufon, 2003), the German-Polish border area (Grix & Knowles, 2003) or the Baltic Sea Region (Scott, 2003).
References


