

## **Understanding across-coalition learning**

Interdependency and learning across three advocacy coalitions in the Western Scheldt  
policy subsystem 1990-2010

PAPER PREPARED FOR THE ACF WORKSHOP,  
20-23 SEPTEMBER 2010, UC DAVIS, USA

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### **ABSTRACT**

Several policy scientists have combined the use of the Advocacy Coalition Framework (ACF) with the Policy Network Approach (PNA), either by comparing the explanatory power of these frameworks or by incorporating PNA-insights into the ACF. These contributions contend that next to belief systems interdependency is relevant to understanding coalition behavior and interactions between members of different coalitions. This paper focuses on the relationship between interdependency and across-coalition learning. Based on a long term analysis of policy dynamics in the policy subsystem of the Western Scheldt in which three advocacy coalitions try to influence decision making on the improvement of the navigation channel to the Belgian port of Antwerp and nature restoration, it is argued that the probability of across-coalition

learning is higher in case of symbiotic interdependency between belief coalitions than in cases of competitive interdependency or independence.

## **KEY WORDS**

Advocacy coalition, across-coalition learning, interdependency, water management

## **INTRODUCTION**

Many policy scientists have used the Advocacy Coalition Framework (ACF) in combination with other frameworks to explore their explanatory power, test rival hypothesis or to trace possibilities for integrating parts of other frameworks into the ACF. Examples of frameworks that were used in combination with the ACF are the Institutional Analysis and Development Framework (Schlager, 1995), the Multiple Streams Model (Mintrom and Vergari, 1996; Meijerink, 2005) and Punctuated-Equilibrium Theory (Dudley and Richardson, 1996; Meijerink, 2008). Still others have used parts of the ACF and other theories of the policy process as building stones for new, synthetic, explanatory frameworks (John, 1998; Real-Dato, 2009).

In this paper we aim to enrich the part of the ACF which deals with conditions for across-coalition learning with insights from Policy Network Analysis (PNA). The central argument of the ACF is that advocacy coalitions are based on shared policy core beliefs, or, in other words, that shared beliefs form the glue binding coalitions. Several authors have used the ACF in combination with PNA to demonstrate the relevance of interdependency, next to shared beliefs, for understanding coalition formation and

coalition behavior (Smith, 2000; Fenger and Klok, 2001; Kim and Roh, 2008). Fenger and Klok (2001) have made the probably most advanced theoretical contribution by distinguishing between symbiotic, independent and competitive dependency and predicting coalition behavior based on belief congruence and interdependency. This paper builds on this theoretical refinement of the ACF by extending the discussion on the relevance of interdependency for understanding coalition formation and behavior to its relevance for understanding across-coalition learning.

The Advocacy Coalition Framework (ACF) is the only integrative policy framework which explicitly addresses the role of technical information and learning in the policy process (John, 1998; Sabatier and Weible, 2007; Weible et al., 2009). Given the political nature of belief coalitions, it is argued that coalition members are generally keen to learn how to realize their core objectives, but tend to ignore or resist any scientific evidence which would affect their policy core beliefs (Sabatier, 1998). As a consequence, learning within coalitions is hypothesized to occur more frequently than learning across different belief coalitions. The ACF contains a set of hypotheses on the probability of across-coalition learning. These hypotheses address the level of conflict between belief coalitions, the analytical tractability of the issues at stake and the presence and nature of the professional forums where these issues are being discussed (Sabatier, 1998; Sabatier and Weible, 2007; Weible et al., 2009). Neither of these hypotheses addresses the relevance of interdependency for understanding across-coalition learning. Building on the theoretical argument which was developed by Fenger and Klok (2001), we hypothesize in this paper that if the relationship between members of opposing advocacy coalitions is

characterized by symbiotic interdependency the probability of across-coalition learning is higher than in cases where this relationship is characterized by independence or competitive interdependency.

This hypothesis is illustrated with a case study on long term policy continuity and change in the policy subsystem of the Western Scheldt. This case study is based on a reinterpretation of earlier in depth (qualitative) research into policy continuity and change in this policy subsystem (Meijerink, 1999, 2008), along with various other accounts of decision making on policies for the Western Scheldt (van Buuren, 2006; Gerrits, 2008; van den Hurk, 2010). Two main issues that have been discussed intensively in this subsystem over the past decades are the dredging of several bars in the navigation channel to improve and maintain the maritime access to the Port of Antwerp, and the development of plans for nature restoration, most notably plans for the removal of polders (in Dutch: *ontpolderen*). *Ontpolderen* means that land that was reclaimed in the past is given back to the estuary to increase the tidal volume and to restore natural processes of erosion and sedimentation in the estuary.

The three advocacy coalitions in this policy subsystem are the ‘Antwerp coalition’ advocating the growth of the port of Antwerp, the coalition of environmentalists advocating the preservation and restoration of the unique ecological values of the estuary, and a farmers coalition which strongly opposes any plan for giving back reclaimed land to the estuary. Although all three coalitions have different policy core beliefs, a considerable degree of across-coalition learning has developed between the

Antwerp-coalition and the coalition of environmentalist. The relationship between these coalitions is characterized by symbiotic interdependency: whereas the Antwerp coalition needs the support of the Dutch authorities and the environmentalists for implementing dredging works, the environmentalists are dependent on the Antwerp port authorities for realizing works to prevent or alleviate damages to the ecosystem which are caused by the dredging works. Both the environmentalists and the port authorities stand to gain from *ontpolderen*, since this enables them to realize their respective policy programs (i.e. a further deepening of the navigation channel and nature restoration). The relationships between the environmentalist and farmers' coalition and between the Antwerp coalition and the farmers' coalition, however, are competitive. The farmers' coalition stands to lose from any plan for *ontpolderen*. Since the policy core beliefs of all three coalitions are divergent, and most other possible explanatory variables for across coalition learning are stable in this case study, it is argued that the different degrees of across-coalition learning can be explained best by the different values for interdependency between these coalitions.

## **ACROSS-COALITION LEARNING AND INTERDEPENDENCY**

### **Belief systems and policy learning**

The ACF sees policy continuity and change as incidental to the activity of competing advocacy coalitions within a policy subsystem and perturbations external to that policy subsystem (Sabatier, 1998). According to the ACF, the individual actors who are active

within a policy subsystem can be grouped into two or more advocacy coalitions who try to realize certain policy objectives and programs. A conceptually powerful element of the framework is the conceptualization of beliefs as a three tiered hierarchical structure, which consists of a deep core, policy core and secondary aspects. The deep core beliefs involve ‘very general normative and ontological assumptions about human nature, the relative priority of fundamental values such as liberty and equality, the relative priority of the welfare of different groups, the proper role of government vs. markets in general, and about who should participate in governmental decision making’ (Sabatier and Weible, 2007, p. 194). Policy core beliefs are applications of deep core beliefs to a particular policy subsystem. Policy core beliefs, among other things, are about the perception of the issues at stake and the desirability of various policy options. The secondary beliefs are less than subsystem wide in scope and relate to the detailed rules or budgetary applications within a specific policy program (Sabatier and Weible, 2007). According to the ACF advocacy coalitions are based on shared policy core beliefs. Key hypotheses of the ACF are that (Sabatier and Weible, 2007, p. 220):

- ‘on major controversies within a policy subsystem when policy core beliefs are in dispute, the lineup of allies and opponents tends to be rather stable over periods of a decade or so;
- actors within an advocacy coalition will show substantial consensus on issues pertaining to the policy core, although less so on secondary aspects;
- an actor (or coalition) will give up secondary aspects of his (its) belief system before acknowledging weaknesses in the policy core’.

The ACF deals explicitly with the role of technical information and policy-oriented learning in the policy process, where learning is defined as a change in beliefs of an advocacy coalition. It is argued that members of an advocacy coalition coordinate their activities to exert influence on decision makers, and by that to realize certain policy objectives. Coalition members are said to be receptive to new information as long as this information may help them achieving their objectives. If new information, however, is threatening the core of a coalition's belief system, coalition members will try to ignore or resist new research data. Coalitions are learning continuously on how to realize their objectives best, but generally there is considerably less learning between members of opposing coalitions since they pursue different objectives. Learning across coalitions, however, is possible if some specific institutional conditions are met. The ACF-hypotheses dealing with learning across advocacy coalitions are (Sabatier and Weible, 2007):

- Policy-oriented learning across belief systems is most likely when there is an intermediate level of informed conflict between the two coalitions. This requires that (A) each have the technical resources to engage in such a debate; and that (B) the conflict be between secondary aspects of one belief system and core elements of the other – or, alternatively, between important secondary aspects of the two belief systems;
- Problems for which accepted quantitative data and theory exist are more conducive to policy-oriented learning across belief-systems than those in which data and theory are generally qualitative, quite subjective, or altogether lacking;

- Problems involving natural systems are more conducive to policy-oriented learning across belief-systems than those involving purely social or political systems, because in the former many of the critical variables are not themselves active strategists, and because controlled experimentation is more feasible;
- Policy-oriented learning across belief systems is most likely when there exists a forum that is: (A) prestigious enough to force professionals from different coalitions to participate; and (B) dominated by professional norms.

### **Beliefs and interdependency**

Resource dependency (or interdependency) is the central concept in Policy Network Analysis (Hanf and O'Toole, 1992; Kickert et al., 1997; Marsh, 1998). The basic argument is that the resources which are needed for solving a particular policy problem are dispersed amongst a network of interdependent actors. Neither of the actors possesses all the resources that are needed for solving a problem, and that is why they start to interact, negotiate and cooperate with those possessing indispensable means. The ACF argues that shared policy beliefs are the glue binding advocacy coalitions and that coalition members pool their resources to realize policy beliefs. The framework acknowledges that both relatively stable parameters and external (system) events may have an impact on the distribution of resources amongst the coalitions that are active within a policy subsystem. For coalitions more resources imply better opportunities for influencing decision making by governmental authorities.

Although the ACF treats both policy beliefs and resources as important characteristics of coalitions, the hypotheses on conditions conducive to learning across coalitions only address the divergence/ convergence of the belief systems of opposing coalitions (the level of conflict). It does not produce a hypothesis on the relationship between the distribution of resources (or interdependency) amongst opposing coalitions and the likelihood of across-coalition learning. Building on earlier work by Fenger and Klok (2001), we will formulate such a hypothesis in the next Section. Fenger and Klok (2001) have tried to incorporate the concept of interdependency in the ACF, and developed a set of hypotheses about coalition behavior as the result of interdependency and belief congruence. These hypotheses are summarized in Table 1.

**Table 1:** Coalition behavior as the result of interdependency and belief congruence (Fenger and Klok, 2001)

	Beliefs		
Interdependency	<i>Congruent</i>	<i>Indifferent</i>	<i>Divergent</i>
<i>Symbiotic</i>	(1) Strong coordination	(2) Coalitions of convenience	(3) Unstable conflict, depolitization, learning
<i>Independent</i>	(4) Weak coordination	(5) No coalitions	(6) Weak conflict
<i>Competitive</i>	(7) Coalition with severe collective action problems	(8) Weak conflict	(9) Strong conflict

Fenger and Klok (2001) distinguish between three ‘values’ for interdependency, and three values for the relationship between parties’ belief systems. Symbiotic interdependency refers to a situation in which both parties may benefit from exchanging resources (a positive sum game). Competitive interdependency refers to a situation in which parties compete for the very same resources and resource use by one party is detrimental to the use by others (a zero sum game). Finally, parties are independent if they do not need each other for realizing their objective at all. Furthermore, parties may have congruent, divergent or indifferent policy beliefs. Based on the three values for interdependency and for belief congruence, Fenger and Klok distinguish between 9 types of interaction situations ranging from strong coordination (congruent beliefs and symbiotic interdependency) to strong conflict (divergent beliefs and competitive interdependency).

### **The relevance of interdependency for understanding across-coalition learning**

Although their contribution focuses on distinguishing various types of coalitions and predicting coalition behavior, Fenger and Klok more or less implicitly touch the relevance of various values for interdependency for understanding across-coalition learning. In their description of the situation depicted in Cell 3, they argue that ‘[...] Another way of coping would be for actors to adjust their belief systems in order to reduce tension between them. Of course, the ACF would not expect this to happen ‘overnight’, but the tendency might be expected, certainly with regard to the secondary aspects of the belief system. Within the ACF, convergent change of beliefs would be referred to as ‘learning’ (Fenger and Klok, 2001, p. 164). It is a relatively small step to

bring this argument one step further, and to formulate a hypothesis about the relationship between interdependency and across-coalition learning: **Policy-oriented learning across diverging belief systems is more likely in case of symbiotic interdependency than in case of competitive interdependency between advocacy coalitions.**

Advocacy coalitions that are highly dependent on each other for realizing their respective policy objectives are more inclined to learn from each other than coalitions that have to compete for resources. In the former case, coalitions may potentially reach an agreement which makes both coalitions better off. It is expected that this potential for a mutually beneficial agreement is an incentive for learning and developing shared perceptions and perspectives. In the latter case, parties do not stand to gain from any negotiated agreement which is hypothesized to be a disincentive for collaborative learning.

As we have argued before external (system) events may have an impact on the distribution of resources amongst opposing coalitions, hence on their interdependency. Just like the other conditions relevant to understanding learning across coalitions, the 'value' for interdependency, hence the likelihood of across-coalition learning, may change over time.

To validate this hypothesis we need a case study in which different degrees of across-coalition learning are accompanied by different 'values' for interdependency, and in which the other conditions relevant to understanding learning across coalitions, i.e. the level of conflict, the nature of the issues at stake, and the existence and characteristics of

forums, are stable. In the next Section, we argue why decision-making on plans for nature restoration along the Western Scheldt meets these criteria.

## **LEARNING ACROSS COALITIONS IN THE POLICY SUBSYSTEM OF THE WESTERN SCHELDT**

### **The Western Scheldt Policy subsystem**

The Western Scheldt is the part of the estuary of the river Scheldt which is situated on Dutch territory. The other part of the estuary of this river is situated in the Belgian region Flanders. The Scheldt estuary is an important shipping lane, since it connects the Flemish port of Antwerp to the North Sea. There is a long and fascinating history of conflict and cooperation between Belgium and the Netherlands on the maintenance and improvement of the navigation channel in the Western Scheldt (Meijerink, 1999, 2008; Van Buuren, 2006; Gerrits, 2008). In the past decades the Belgian and Flemish governments demanded a further deepening of the navigation channel to keep up with modern standards for navigation more often. Because of different interpretations of the Separation Treaty between Belgium and the Netherlands of 1839, the Dutch have always refused to cooperate on improvements of the navigation channel unconditionally. They have linked this issue to several other international issues in which the Dutch have a major interest, such as the water quality and water allocation in the adjacent basin of the river Meuse (Meijerink, 2008).

Besides the important function of a navigation channel, the Scheldt has unique ecological values. Since the other tidal branches of the Rhine, Scheldt and Meuse rivers were all closed as a result of the Delta Works, the Western Scheldt is the only remaining natural estuary in the Netherlands. Over the past decades an epistemic community of ecologists based within the Rijkswaterstaat and various research institutes, along with environmental NGOs have built a knowledge base on the impact which both deepening and maintenance dredging works in the Western Scheldt have on geo-morphological processes in the estuary, and how such changes affect the ecosystem (e.g. Ministry of Transport, Public Works and Water Management, 1994a and b and 1997).

This knowledge base along with the newly developed European regime for nature protection (the Birds and Habitats Directives) may account for the development of a series of plans to compensate for the expected nature losses caused by dredging works and the dumping of dredged material. *Ontpolderen* is considered a serious option for compensating nature losses, but strong opposition to the implementation of this policy option has developed. The next Section presents a brief overview of decision making on *ontpolderen* between 1990 and 2010.

### **Decision-making on *ontpolderen* 1990-2010**

#### *The development of the idea of ontpolderen (1990-1995)*

The first ideas for *ontpolderen* along the Western Scheldt estuary were developed in the early 1990s, in the study group *OostWest* of the Belgian-Dutch Technical Scheldt

Commission (TSC). According to the ecological experts in this study group, the area of natural flooding areas along the Western Scheldt estuary should be extended with areas that were reclaimed in the past. *Ontpolderen* would increase the tidal volume of the estuary, hence the amount of water flowing over the bars in the navigation channel. An increase in tidal volume increases erosion which, in turn, would make it possible to reduce the intensity of the maintenance dredging works (Ministry of Transport, Public Works and Water Management, 1997). The preliminary results of the *OostWest* program are presented to a group of Flemish and Dutch experts, the ‘review team’, which agrees with most conclusions. Among other things, the review team concludes that the dredging works have a negative impact on the ecology of the Western Scheldt (Ministry of Transport, Public Works and Water Management, 1994a and b). In 1995, the Flemish and Dutch governments sign the Convention on the deepening of the Western Scheldt, which says that a deepening program will be implemented, that the parties will jointly monitor the impacts of the deepening dredging works, and that nature losses will be compensated. The Dutch minister of Transport Public Works and Water management is of the opinion that an EIA for the deepening program is not necessary since such a study was published in 1984 already. Moreover, the Flemish and Dutch governments agree to jointly investigate possibilities for a further deepening (the second stage of the deepening program), and that they will take into account the existing legal frameworks, among which obligations to make an EIA, for this second stage of the deepening program.

*Opposition and legal issues (1995-1997)*

After the conclusion of this Convention the Flemish government applies for a series of permits, among which a permit based on the Dutch Surface Water Act (WVO permit). After the Dutch government has issued this permit to the Flemish government, seven Dutch and Belgian environmental NGOs appeal to the Dutch Council of State (*Raad van State*). Unlike the Dutch Minister, these parties are of the opinion that an EIA-procedure is needed for the dredging works in the navigation channel. The Dutch government, however, contacts these NGOs, tries to meet some of their demands and is able to reach an agreement. The parties sign a covenant in which the environmental NGOs declare that they will accept the decision of the Dutch government to implement the deepening program, and in which the Dutch government promises to involve the environmental NGOs in the development of a plan for nature compensation. This agreement, however, would not help the Dutch government as in 1996 the Dutch Council of State cancels the WMO permit for the Flemish region and declares that an EIA is necessary for the deepening program. Because of the international obligations towards the Flemish region, the Dutch government has no choice but to issue emergency legislation to bypass the existing legal obligations. This emergency legislation comes into force in 1997.

The international Convention which was signed in 1995 also says that the Dutch government bears the responsibility for the development of a plan for nature restoration. That is why the Dutch government demands the regional platform 'Bestuurlijk Overleg Westerschelde (BOW)', in which representatives of the ministries, provincial and municipal executives discuss Western Scheldt policies, to draft plans for nature restoration. The BOW discusses plans for nature restoration outside the dikes along the

estuary and plans for *ontpolderen*. In 1996, the BOW-project group for nature restoration issues a report and concludes that “[...] *the policy measure ontpolderen is indispensable for the development of the estuary, because this measure contributes on all fronts (morphodynamics, habitats and species, and shallow waters)*” (Ministry of Transport, Public Works and Water Management, 1996, p.7).

During the consultation stage, both water boards and farmers organizations strongly oppose the policy alternative *ontpolderen*. These parties do not want to give up the land that was reclaimed in the past. After the consultation process the BOW concludes that public and societal support for *ontpolderen* is lacking. Because of the sensitivity of the issue, the Dutch government installs an advisory commission, the ‘Commission Western Scheldt’, which has three members, two Royal Commissioners and the chairman of the product board for agricultural products. The Commission rephrased *ontpolderen* as ‘a partial landward movement of the sea walls’, and argues that such a partial landward movement could be considered in the long run, but only if there is solid scientific evidence of the need for such measures. Moreover, the commission recommends the development of a long term vision for the Scheldt estuary (Commission Western Scheldt, 1997).

*The development of a long term vision and agreement on the second stage of the deepening program (1998-2005)*

The Dutch Minister of Transport, Public Works and Water management adopts the recommendations of the Commission, decides on a program for nature restoration for the

short term, which contains several projects for nature restoration on the outside of the dike along the estuary, and decides to develop a long term vision, which includes the possibility of *ontpolderen*, in 1998. Because of the delay in the development and implementation of plans for nature restoration, the European Commission (EC) blames the Dutch government for the many procedural mistakes, the non compliance with the Birds and Habitat Directives, and for not having proven the necessity of the deepening program at all. The Dutch government, however, is able to ward off this criticism. In the meanwhile, Flemish and Dutch parties start to develop a long term vision (for the period until 2030) for the Western Scheldt in the Technical Scheldt Commission. Based on this vision, these parties also draft a development perspective for 2010 (ProSes, 2005), and the Flemish and Dutch Ministers are able to reach an agreement on a further deepening of the Western Scheldt (the second stage of the deepening program), and a program for nature restoration in 2005. This program includes a proposal for *ontpolderen* of the Hedwigepolder, a 300 hectares polder near the Flemish-Dutch border. Later that year a bilateral Flemish-Dutch Convention on the implementation of the second stage of the deepening program is signed, which also mentions explicitly *ontpolderen* of 600 hectares, of which 300 hectares has to be realized by the *ontpolderen* of the Hedwigepolder, and the remaining 300 hectares by *ontpolderen* elsewhere along the Western Scheldt. A large majority of the Provincial Council of Zeeland is in favor of the plans for *ontpolderen* and supports the Dutch Minister.

*Continued opposition and two more advisory commissions (2005-2008)*

Farmers and farmers' organization in Zeeland, however, are furious. They strongly oppose the new convention and the plans for *ontpolderen*. The Flemish Parliament ratifies the Convention on the deepening program in 2005, but most members of Dutch Parliament start to question the necessity of *ontpolderen* again. Because of the protests in Zeeland, the Provincial Council decides to install an advisory commission to investigate whether there may be alternatives to *ontpolderen*. The conclusion of this advisory commission is crystal clear: *ontpolderen* is inevitable, since it is part of an international convention now (Commission Investigation Alternatives to ontpolderen Western Scheldt, 2006). In spite of this clear message, the Dutch Parliament refuses to approve the plans for *ontpolderen*, and the responsible Minister gets into trouble. Whereas the Flemish government blames the Dutch government for not approving the conventions, the EC threatens the Dutch with penalties, and the opposition against *ontpolderen* in the province of Zeeland is growing rapidly. Eventually, the Dutch Minister succeeds in convincing the Parliament, which approves the Convention under the condition that an independent commission would look for alternatives to *ontpolderen*. In October 2008, this commission issues its advice, which is very similar to the conclusions of the other commissions which addressed the issue: there is no alternative to *ontpolderen* of the Hedwige polder (Commission Nature restoration Western Scheldt, 2008).

#### *Dutch Parliament agrees with ontpolderen in the end (2008-2010)*

Farmers' organizations and Dutch MPs, however, start to question the quality of the report issued by the Commission Nature restoration Western Scheldt again, and in spite of the recommendations made by this commission, the Dutch government decides to

cancel the plan for *ontpolderen* along the Western Scheldt and to develop an alternative plan for nature restoration, in 2009. According to the Dutch government the newly developed plan should be sent for approval to the EC, and only in case the EC would not agree with the alternative plan, *ontpolderen* of the Hedwige polder is considered inevitable. The environmentalists criticize this decision heavily. According to them the government has set aside the clear and consistent recommendations of a series of expert commissions, the alternative plan would be inadequate to compensate for nature losses and would be much more expensive. Finally, they criticize the role played by the Prime Minister, Balkenende, who is born in the province of Zeeland and opposes the plans for *ontpolderen* along the Western Scheldt. In the meanwhile, environmental NGOs start a litigation process again: they oppose a further deepening of the Western Scheldt as it is not proven that the dredging works do not harm the Scheldt ecosystem. The Dutch Council of State decides in 2009 that these organizations rightly opposed the deepening program, and that the deepening dredging works cannot start. The Flemish Government reacts furiously and summons the Dutch Ambassador. At that time, the chairman of the Commission Nature restoration Western Scheldt, the former Dutch Minister for the Environment, Nijpels, states that ‘both the Belgian politicians and the environmental NGOs are right, and that the Dutch fail to live up with international agreements (Janssen, 2009a,1 in Van den Hurk, 2010, 70). Because of the diplomatic dispute between Flanders and the Netherlands, the Dutch Minister of Foreign Affairs and the Dutch Prime Minister emphasize that they will do their very best to implement the deepening program. After the EC reacts negatively on the proposed alternatives to *ontpolderen*, and a group of consultants concludes once more that *ontpolderen* is a necessity, in October 2009 the

House of Representatives approves the plan for *ontpolderen* of the Hedwigepolder in the end.

### **Learning across coalitions within the Western Scheldt policy subsystem**

During the period of 20 years described above, we may distinguish three advocacy coalitions within the Western Scheldt policy subsystem: the pro-development Antwerp coalition, a coalition of environmentalists, and a farmers' coalition (Meijerink, 2008).

The policy core beliefs of the Antwerp coalition and the coalition of environmentalists are fundamentally different. Whereas the Antwerp coalition prioritizes economic development, for the environmentalists the preservation of the estuarine ecosystem is far more important. The farmers' coalition does not want to give up land for the estuary and strongly opposes any plan for *ontpolderen*. Table 2 lists the main members and policy core beliefs of each coalition.

**Table 2:** Three belief coalitions (after Meijerink, 1999 and 2008)

	Members	Policy core beliefs
Antwerp coalition	<ul style="list-style-type: none"> <li>- Antwerp Port Association</li> <li>- Antwerp port authorities</li> <li>- Aldermen of the city of Antwerp</li> <li>- Representatives of the Flemish Ministry of Infrastructure and Sea Affairs</li> <li>- Flemish politicians</li> <li>- Journalists of Flemish newspapers</li> </ul>	<ul style="list-style-type: none"> <li>- Coalition attaches more importance to the maritime access to the Port of Antwerp and economic growth of the Flemish region than to the ecological values of the Scheldt estuary</li> <li>- Coalition is of the opinion that the Dutch government should cooperate on deepening and maintenance dredging works unconditionally</li> </ul>
Environmentalists	<ul style="list-style-type: none"> <li>- Zeeland environment foundation</li> <li>- Zeeland landscape foundation</li> <li>- the Reinwater foundation</li> <li>- the Belgian association for a better environment</li> <li>- Greenpeace</li> <li>- International Scheldt working group</li> <li>- Action group 'Save the Scheldt'</li> <li>- international working group Scheldt without frontiers</li> <li>- Dutch Centre for Estuarine and Marine Ecology</li> <li>- Dutch governmental research institute for Coastal and Marine Management</li> <li>- the Flemish Institute for Nature conservation</li> <li>- Journalists of regional newspapers in the province of Zeeland</li> <li>- Representatives of various Dutch government agencies, such as the regional Directorate Zeeland of the Ministry of Transport, Public Works, and Water Management, and representatives of municipalities along the Western Scheldt, which are united in the Taskforce for the Western Scheldt of the Dutch Association of River Municipalities.</li> <li>- Members of Dutch Parliament</li> <li>- A few members of the Flemish Parliament</li> </ul>	<ul style="list-style-type: none"> <li>- the Scheldt estuary is a unique eco-system, which needs to be preserved.</li> <li>- Maritime access to the port of Antwerp is an important issue, but the ecological values of the Scheldt estuary are more important.</li> <li>- Land reclamation in the past, water and sediment pollution, and the morphological disturbances which are caused by the dredging works in the Western Scheldt navigation channel, all pose serious threats to the eco-system of the Scheldt estuary.</li> <li>- These negative impacts need to be prevented, limited or compensated</li> <li>- The only serious option for nature compensation is <i>ontpolderen</i></li> </ul>
Farmers	<ul style="list-style-type: none"> <li>- Individual farmers</li> <li>- Farmers' organizations</li> <li>- Local, regional and national politicians</li> <li>- Journalist</li> <li>- Action committee 'save our polders'</li> </ul>	<ul style="list-style-type: none"> <li>- <i>Ontpolderen</i> does not fit the culture in Zeeland</li> <li>- <i>Ontpolderen</i> is detrimental to the safety of the Zeeland population</li> <li>- Dredging works do not have a serious impact on the ecosystem.</li> </ul>

In the past decades a knowledge was built on the processes of erosion and sedimentation in the Scheldt estuary, and on the impact which maintenance and deepening dredging works would have on the geomorphology and ecology of the estuary. A large part of this research was conducted or supervised by the Technical Scheldt Commission, a bilateral forum in which Dutch and Flemish civil servants discuss international Scheldt issues. This joint research has stimulated across-coalition learning between the Antwerp coalition and the environmentalists in many respects. First, it was learned that the strategy of dredging the various bars in the navigation channel is relevant to minimizing ecological impacts. The concept of ‘morphological dredging’ was developed, which means that the dredging works should be carried out under specific tidal circumstances and on specific places so as to make optimal use of natural processes of erosion and sedimentation in the estuary. A similar learning process took place on the strategy for the dumping of the dredged material in the estuary (Ministry of Transport, Public Works and Water Management, 1994a and b and 1997). Secondly, the Antwerp coalition learned that pollution abatement in the Flemish region and the cleaning-up of polluted waterbeds in the port of Antwerp were necessary. This would reduce sediment contamination in the Dutch Western Scheldt (Ministry of the Flemish region, Department for the Environment and Infrastructure, 1991 and 1995). Finally, it was learned that the negative impact of the dredging works could be compensated by giving reclaimed land back to the estuary again. This would increase the tidal volume, hence natural dynamics in the estuary (Saeijs et al., 2004). In spite of the different policy core beliefs, the beliefs of both the Antwerp coalition and the coalitions of environmentalists have converged gradually over the past decades. The Antwerp coalitions has gradually learned that it would have to take

into account the negative impact dredging works will have on the ecosystem of the Western Scheldt, either by adjusting strategies of dredging and dumping or by compensating for nature losses, and the environmentalists have learned that there are possibilities to combine the implementation of a deepening program with nature restoration and development. The environmentalists, however, could not accept a situation in which deepening dredging works would be carried out without implementing projects for compensating the negative impacts of these works on the Western Scheldt ecosystem simultaneously.

Unlike between the Antwerp coalition and the environmentalists, no learning processes have developed between the farmers' coalition and the environmentalists, and between the Antwerp and farmers' coalitions. The environmentalists are of the opinion that *ontpolderen* is the only option to compensate for losses that will be caused by the dredging works. On the other hand, the farmers' coalition strongly opposes the idea of giving back land to the estuary, and questions the scientific evidence that *ontpolderen* is necessary for nature restoration. Until now the relationship between the farmers and environmentalist can be described best as a 'dialogue of the deaf', and no learning across these coalitions has developed at all.

There has been limited interaction among the Antwerp coalition and the environmentalists, and no across-coalition learning took place. Ever since the conclusion of the Convention on the second deepening program, which was concluded in 2005, the

Antwerp coalition just like the environmentalists, emphasized the need for *ontpolderen*, albeit for very different reasons.

### Conditions conducive to across-coalition learning

Now that we have made an assessment of the degree of learning across these three advocacy coalitions, we may investigate the presence or absence of the various conditions which the ACF hypothesizes to be relevant for understanding across-coalition learning. Table 3 summarizes the results of this analysis.

**Table 3:** Conditions conducive to learning across coalitions in the policy subsystem of the Western Scheldt

	Antwerp coalition and environmentalists	Antwerp coalition and farmers	Environmentalists and farmers
Level of conflict	High	Intermediate	High
Nature of the issue at stake	Natural resource issue	Natural resources issue	Natural resource issue
Presence of professional forums	Yes	No	Yes
'Value' for Interdependency	Symbiotic	Competitive	Competitive
Learning across coalitions?	Yes	No	No

The first hypothesis is that ‘policy-oriented learning across belief systems is most likely when there is an intermediate level of informed conflict between the two coalitions. This requires that (A) each have the technical resources to engage in such a debate; and that (B) the conflict be between secondary aspects of one belief system and core elements of the other – or, alternatively, between important secondary aspects of the two belief systems.’ Members of all three coalitions do have technical resources to engage in the analytical debate, although the farmers’ coalition probably has a weaker knowledge-base to draw on than the Antwerp coalition and the environmentalists. Whereas the Antwerp coalition and the environmentalists have been involved in research on the Western Scheldt since long, the farmers’ organizations started to participate in the analytical debate after the conclusion of the 1995 Convention on the deepening program only. In our case study, the three advocacy coalitions have different and conflicting policy core beliefs (see Table 2). There is a high level of conflict between the Antwerp coalition and the environmentalists since the coalitions clearly have different value priorities (environmental versus economic values), and there is a high level of conflict between the environmentalists and the farmers’ coalition, because the environmentalists are of the opinion that *ontpolderen* is the only possibility to compensate for nature losses caused by the dredging works, and the farmers oppose any proposal for *ontpolderen*. Since the conclusion of the Convention on the second stage of the deepening program in 2005, the Antwerp coalition is in favor of *ontpolderen*, because nature restoration is an important condition to the implementation of the deepening program. That is why there is an intermediate level of conflict (about secondary beliefs) between the Antwerp and farmers coalitions.

The second and third hypotheses are about the nature of the issues at stake: ‘ Problems for which accepted quantitative data and theory exist are more conducive to policy-oriented learning across belief-systems than those in which data and theory are generally qualitative, quite subjective, or altogether lacking’, and ‘Problems involving natural systems are more conducive to policy-oriented learning across belief-systems than those involving purely social or political systems, because in the former many of the critical variables are not themselves active strategists, and because controlled experimentation is more feasible’. The issue of the impacts of dredging works and the issue of *ontpolderen* clearly are issues of natural resources management. This is not to say that these are issues for which accepted quantitative data and theory exist. In spite of considerable academic effort, it is still highly complicated to model estuarine dynamics, to predict the impact of dredging works, and the impact *ontpolderen* would have on the tidal volume and processes of erosion and sedimentation. It is exactly for this reason that opponents of *ontpolderen* are able to challenge the scientific evidence produced by the environmentalists.

The fourth hypothesis says that policy-oriented learning across belief systems is most likely when there exists a forum that is: (A) prestigious enough to force professionals from different coalitions to participate; and (B) dominated by professional norms. The case description has revealed that the issue of *ontpolderen* was addressed by a large number of professional forums which are prestigious and dominated by professional norms: the Technical Scheldt Commission (research group OostWest), a review team with Flemish and Dutch experts, the project group for the Long term vision for the

Western Scheldt, the Commission Western Scheldt, the Commission Investigation Alternatives to ontpolderen Western Scheldt, and the Commission Nature Restoration Western Scheldt. These forums offered ample opportunities for an exchange of ideas between the Antwerp coalition and the environmentalists and between the environmentalists and farmers' coalition. Because the issue of *ontpolderen* was about a polder on Dutch territory, there was only limited interaction between the Antwerp coalition and the farmers' coalition. In other words, there were no professional forums in which learning processes between the Antwerp port authorities and Dutch farmers could develop. The absence of such forums may account for the absence of across-coalition learning between the Antwerp and the farmers' coalitions.

The ACF-hypotheses on across-coalition learning cannot explain why across-coalition learning has developed between the Antwerp coalition and the environmentalists, whereas no learning took place between the farmers' coalition and the environmentalists. The only explanatory variable, which may account for these different degrees of learning, is the value for interdependency. Both the Antwerp coalition and the environmentalists may benefit from an agreement on nature restoration and *ontpolderen*, as this would enable the Antwerp coalition to implement the desired deepening program, and the environmentalists to develop new natural areas along the estuary. This clearly is a positive sum game, i.e. this is a case of symbiotic interdependency. The relationships between the Antwerp coalition and the farmers' coalition and between the environmentalists and the farmers' coalition, however, are characterized by competitive interdependency. These are asymmetric relationship in which the Antwerp coalition and

the environmentalists stand to gain from an agreement, but the farmers stand to lose from any deal. This clearly is a zero sum game in which coalitions compete for a single resource, in this case land ownership. Since members of the farmers' coalition have nothing to gain from a negotiated agreement, they may also be less interested in a collaborative learning process and less receptive to new information and ideas.

## **CONCLUSION**

One of the major strengths of the ACF as compared to many other theories of the policy process is the explicit attention for the role of technical information and policy-oriented learning. Although the ACF argues that advocacy coalitions use resources to realize their objectives, and that perturbations external to a policy subsystem may account for changes in the distribution of resources amongst opposing advocacy coalitions, the framework does not explicitly address the relevance of different values for interdependency for understanding coalition formation and behavior (Fenger and Klok, 2001). In this paper we have explored the relevance of different 'values' for interdependency between advocacy coalitions for understanding across-coalition learning, and formulated a hypothesis that the probability of across-coalition learning is higher in case the relationship between opposing advocacy coalition is characterized by symbiotic interdependency than in case of competitive interdependency. Since in the former case the parties involved are more interested in reaching a negotiated agreement, they are also more inclined to engage in collaborative learning processes and to search for common ground. In the latter case parties do not stand to gain from any agreement. In negotiation analytical terms the status quo is preferred to a negotiated agreement, and there is no

incentive to search for common ground. In situations which are characterized by competitive interdependency coalition members do not engage in the analytical debate to learn from others, but to prove that others are wrong.

The relevance of interdependency for understanding across advocacy coalitions was illustrated with a case study of decision making on nature restoration in the Western Scheldt estuary. It is shown that the different degrees of learning between the three advocacy coalitions may be explained partly by the different 'values' for interdependency between these coalitions. Of course, we need more case studies to test this hypothesis, but it seems worthwhile to further explore and test the relevance of interdependency for understanding across-coalition learning.

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