4. Explaining stability and change in Flood Risk Governance

Dries Hegger, Peter Driessen, Marlous van Herten, Anoeska Buijze, Jean-Baptiste Trémorin, Willemijn Van Doorn-Hoekveld, Marleen van Rijswick and Carel Dieperink

4.1 Introduction

STAR-FLOOD aims to identify design principles for appropriate and resilient Flood Risk Governance. Our results should therefore provide useful advice to the actors involved regarding the actions they can undertake to increase the chance that Flood Risk Governance is appropriate and resilient. We can only do this, if we can make a strong argument that a certain action (e.g. establishing an NGO, taking the initiative to make new legislation or any other intervention option or measure) indeed increases the chance that a certain outcome (e.g. the implementation of a more diverse set of Flood Risk Management Strategies) is achieved. Put in other words, we should be able to tell a convincing story as to *how* and *why* things happened and why changes did or did not take place.

Literature on policy change lists a number of key factors researchers need to consider when they attempt to explain policy change:

1. **The explanandum**. A crucial issue is the "dependent variable" problem. What should be explained (the explanandum) (Capano and Howlett 2009; Howlett and Cashore 2009)? The choice for an explanandum is often made very implicitly, but it is key to make it explicit (Dupuis and Biesbroek 2013). To do this, it will be necessary to very precisely denominate the degree of stability AND change, possibly by considering all four dimensions of the PAA;
2. **Explanatory factors.** A wide range of potential explanatory factors should be considered. When doing this, researchers need to reflect, amongst other things, on i) the relative importance of the role of structures vs. agency (Capano and Howlett 2009), that is the role of individuals vis-à-vis the social structures they are part of; ii) the extent to which change is explained as *endogenous* change, that is, change occurring from within a policy system vs. change that comes from *outside* (Capano and Howlett 2009; Howlett and Cashore 2009); and iii) the degree to which change is conceptualised as evolutionary (incremental) vs. revolutionary (radical) (Capano 2009; Capano and Howlett 2009);
3. **The explanation behind the explanation.** After providing explanatory factors, researchers need to specify *why* and *how* these factors influenced policy change or the absence thereof. (How) did certain factors interact? Why were certain factors present (e.g. as a result of purposeful actions, or could they be due to chance)? What was the relative importance of certain factors?
4. **Establishing evidence**. Generally, an explanation is believed to be convincing if we have empirical evidence that A may cause B to happen or increases the chance that B happens. In other words, if we can explain why things happened in the past, this may increase our potential to make an ex-ante assessment of the desirability of certain actions from a certain normative viewpoint. For that reason, in STAR-FLOOD we not only want to *map* change – with the help of the conceptual framework laid down in previous chapters of this report – but that we also want to *explain* this change. Generally analyses of policy change will be more reliable if they are based on multiple sources of evidence and if the object of research is approached via multiple theoretical lenses (Zittoun 2009).

This chapter provides a review of policy change literature and legal studies organised according to the key factors listed above. In line with the discussed theories, the chapter's underlying assumption is that individuals are boundedly rational (Gigerenzer and Selten 2002). Bounded rationality refers to

the idea that the information individuals have at their disposal, as well as the time and cognitive abilities to process this information is limited. According to the notion of bounded rationality, individuals are assumed not to make *rational* decisions. Instead, they simplify choices and choose not for *optimal* but for *satisfying* solutions (ibid).
The outline of this chapter is as follows. We first provide some clarification on how *explaining change* and *providing evidence for explanations of change* in the policy and legal studies differs from the natural sciences (4.2). We then go on by reflecting on the first key issue (the explanandum) (4.3). Section 4.4 provides an overview of potential explanatory factors. All these factors will be recognisable and relevant for policy analysts and legal scholars, although they may approach the factors from different perspectives. The section will therefore also highlight the complementarities of and differences between both perspectives. In section 4.5 we address the issue of "the explanation behind the explanation" that is: how may several explanatory factors together produce a certain outcome? Section 4.6 addresses the issue of establishing evidence. In section 4.7 we conclude this chapter. The literature on which this text is based has been summarised at the end of the Appendix chapter.

4.2 Explanations in policy and legal studies

Obviously controlled experiments would not be feasible in the domain of Flood Risk Governance and if they were, ethical commissions would probably not allow them. However, in some cases it might be possible to do what some call "natural experiments" (Adger *et al*. 2012). For instance, it can make sense to make a systematic comparison between flood-related policies in Frankfurt (Oder) in Germany and Slubice (in Poland, on the other side of the Oder). Some of the differences between both cities will be attributable to institutional differences between the two countries. However, many differences will be attributable to other factors including geography, institutional factors at the level of the cities and the regions they are part of etc. The researcher making this comparison faces the challenge to find out "what caused what and why?"

To establish causality, it should be shown that A (a certain explanatory factor) was a *cause* of B (the explanandum). To do this, three requirements should be met: (i) A should *precede* B; (ii) there should be *co-variance*, that is consistent patterns, across countries or cases (e.g. B happened always or more often if A was present); (iii) there are no alternative explanations for why B happened (De Goede *et al*. 2005: 184).

Meeting these three requirements is challenging in practice. First, even the seemingly straightforward question as to whether one event preceded the other needs to be carefully established (e.g. was a certain law issued *before* certain observed changes in spatial planning practices occurred or did these changes in practices, on closer inspection, take off earlier?). Second, the researcher will need contrasting examples to be able to observe patterns across these and may not always know what should be contrasted with what at the time cases, policies and projects are selected. Third, it is needless to say that searching for – and subsequently dismissing – alternative explanations requires a critical attitude of researchers. They should be willing to put their own intuitive storylines as to why things happened (or not) to the test by proactively looking for contradicting evidence. Fourth, it is very likely that certain events do not have a single cause but that several causal factors together produced this outcome (see also section 4.5).

Therefore, in the social sciences, it is not possible to deliver absolute proof of explanations *sensu strictu*. The best that social scientific research can do is to come up with a plausible line of argumentation that takes into account a range of potential explanatory factors and draws logical relationships between these factors. The analysis is generally stronger if the researcher comes up with several potential (competing) explanations and manages to show that one of these is more plausible than the others.

As is explained in more detail in the background theories report, explanations of changes in legal systems are part and parcel of policy change. Legal systems may respond to societal changes and change in turn. They may also obstruct, hinder or contradict societal changes. Endogenous changes within the legal system may take place and, finally, law can be used as a tool to instigate change.

Box 4.1 The difference between describing, analysing and explaining

By now the reader will have understood that there is a difference between *describing*, *analysing* and *explaining* stability and dynamics in Flood Risk Governance. With some risk of over-simplification, we can say that describing is about trying to depict the plain facts. An example of descriptive knowledge would be "issue X is raised in law Y". Analysing data goes one step further. For example, the finding "that municipality A had a highly dedicated alderman while municipality B hadn't" requires the analysis of several sources of data (e.g. an interview with the alderman, interviews with others who describe the alderman, a timeline of actions that were taken (including an assessment of the alderman's role in these) etc. Explaining goes again one step further. It is about determining the significance of one's analytical findings. For example, *what does it mean* "that municipality A had a highly dedicated alderman"? *How important was it* in the light of other evidence? Was it a cause of a certain shift in governance?

As the above suggests, thinking about and discussing the collected data, setting up different competing lines of argumentation and thinking about the plausibility of each is a challenging endeavour. However, the STAR-FLOOD researchers do not have to start this endeavour from scratch. Several rich bodies of literature provide inspiration for this as they *theorise* policy change.

4.3 What to explain: the explanandum

As we have seen also in the concluding section of chapter 3, a first crucial question is what it is that should be explained. The importance of this question cannot be underestimated. Many social-scientific explanations of change and stability can be criticised because the explanandum remains very implicit (Dupuis and Biesbroek 2013; Howlett and Cashore 2009). In our research, *the explanandum is the presence or absence of dynamics in Flood Risk Governance Arrangements in the various STAR-FLOOD consortium countries, at the country level*. As has been discussed in previous chapters of this report, we measure the presence or absence of dynamics using the four dimensions of the Policy Arrangements Approach (PAA): actors, discourses, rules and resources. The presence or absence of dynamics in Flood Risk Governance Arrangements will be explained at the level of the National Flood Policies and Regulations domain (NFPR). However, to acquire insight into what happens at this level, in-depth studies of three case studies within each country will be carried out. We assume there to be *interaction between developments taking place at case study level and developments taking place at NFPR level*. An understanding of the latter requires the study of both.

This characterisation of the explanandum implies the following:

- Dynamics can take place *within a single policy arrangement* at one or more dimensions of the Policy Arrangements Approach (actors, discourses, rules, resources) or within several arrangements;
- Dynamics can take place *between different arrangements* (establishment of links between arrangements or even mergers of previously separate arrangements into one arrangement);
- New arrangements can emerge or alternatively disappear;

The extent to which governance arrangements are to be characterised as 'stable' or 'dynamic' can be expected to vary across countries and cases. As will be further discussed in chapter 5, there is no a priori reason to assume that change would be "better" than stability or the other way round. For example, if we conclude that existing arrangements are both appropriate and resilient (see next chapter), the absence of dynamics could be seen as something positive. If existing arrangements are

not evaluated as appropriate and resilient, one could argue that change is urgently needed. In any case, both the presence and the absence of dynamics should be explained. One can assume that the latter is often easier to explain than the former.

To determine the explanandum, it is crucial to study developments over a longer period of time (at least a decade) (True *et al*. 2007). Furthermore, it is important to make a conscious decision for what the *baseline situation* should be (change compared to what?) (Rayner 2009). This baseline situation could be the situation just before a seemingly disruptive event like a major flood (e.g. in The Netherlands the baseline could be the situation just before the – near – floods in 1993/1995). After all, such an event could have led to policy change and it will therefore be interesting to assess if this was the case or not (in this specific event the presence of policy change was confirmed in a study by Wiering and Arts (2006)). It is almost inevitable that different baseline situations will be chosen in different countries. This will not be a problem per se, as long as the reasons for choosing a particular baseline situation are made explicit and reflection takes place on what it would mean for the analysis if another baseline was chosen. By explicating all this, the researchers will be forced to discuss all their underlying assumptions. Also, it will be possible to establish a discussion throughout Work Package 3 in which the researchers explore the similarities and differences found in a joint process.

4.4 Some types of explanatory factors: an overview

The literature documents both factors that may explain stability and factors that may explain dynamics. There is some consensus within and amongst several bodies of literature that the margins for establishing change are small (Kingdon 1984, Hughes 1987, Geels 2005, Zahariadis 2007, Sabatier and Weible 2007, True *et al*. 2007). Reasons given for the general stability of policy subsystems are diverse and have been described in terms including "vested interests" (Geels 2005), "sunk costs", "momentum[1]" (Hughes 1987), "path dependencies" (Zahariadis 2007) amongst others. As explained in the previous sections, within STAR-FLOOD we want to arrive at ex-ante assessments (design principles). To be able to identify these, the current section will discuss five types of factors that may explain stability and/or dynamics in Flood Risk Governance: i) physical circumstances (4.4.1), ii) physical and social infrastructure (4.4.2), iii) structural factors (4.4.3), iv) agency (4.4.4) and v) shock events (4.4.5). We have chosen these five factors because we believe that they capture the basic elements in which explanatory factors can be divided. They include both internal and external factors which can be either of a physical or a human/social nature. In addition, we have chosen to add the factor of shock events next to more incremental developments. As the subsequent sub-sections will show, these factors differ in the way in which they exert their influence and also in the extent to which they can be changed at will.

4.4.1 Physical circumstances

Physical circumstances (seasonality of rainfall patterns, climate change trends; altitude; gradient; the degree of complexity of river systems) to some extent determine the nature and characteristics of Flood Risk Governance. For instance, The Netherlands are a densely populated country of which large parts can be flooded. This will most likely restrict the options to "keep people away from water" (the first FRMS in our categorisation). In Sweden, on the other hand, this strategy will generally be more feasible (see also D1.1.4, Hegger *et al*. 2013). These physical circumstances can be considered very stable and hence are expected to contribute more to stability than to dynamics of the National Flood Policies and Regulations domain. Regional actors will have virtually no direct possibilities of changing these physical circumstances. When analysing specific countries or regions, therefore, these physical circumstances should be analysed to get to know the background situation against which Flood Risk Governance takes place. In the previous chapters we have conceptualised these physical circumstances as part of the context.

[1] As Hughes puts it: "They [technological systems] have a mass of technical and organisational components; they possess direction or goals; and they display a rate of growth suggesting velocity" (Hughes, 1987: 76)

4.4.2 Physical and social infrastructure

Physical and social infrastructure (the presence of dams, dikes, sewer systems, railways, ships, houses, energy installations, energy- and transport networks; but also educational systems, including handbooks and training facilities, and knowledge infrastructure) forms a second explanatory factor. In terms of the dimensions of the PAA, physical and social infrastructures can be considered "precipitated resources". Due to large past investments (billions of Euros), they have gained *momentum* (Hughes 1987). This momentum powerfully reinforces path-dependency and lock-in, suggesting that physical and social infrastructures contribute more to stability than to dynamics in National Flood Policies and Regulations domain. The legal system might exacerbate this effect, for instance, because there are legal obligations and responsibilities to maintaining existing physical structures like dikes, and legal norms may require higher levels of protection for economically vulnerable areas like the Randstad in The Netherlands.

Infrastructure can be expected to enable some FRMSs by providing the necessary capabilities, but to constrain others. For instance, if we find that universities and institutes for higher vocational training have established civil engineering study programmes paying ample attention to flood protection, while urban planning curricula pay limited attention to water management issues, this will probably explain at least partly why we do not see a broadening of FRMSs. However, the chance that new FRMSs are actually implemented is probably enhanced in cases in which the new strategies make use of infrastructures that are already in place and in that sense we may find instances in which physical and social infrastructures do contribute to dynamics in Flood Risk Governance. In the case of the previous example, for instance, it would be a logical step to set-up FRM courses that are followed by civil engineers and urban planners together.

4.4.3 Structural factors

Structures can be defined as "rules and resources, recursively implicated in the reproduction of social systems. Structure exists only as memory traces, the organic basis of human knowledge ability and as instantiated in action" (Giddens 1984:377). Generally in the social sciences, structures are understood as recurrent patterned arrangements which limit the choices and opportunities available, as opposed to agency, that is the capacity of individuals to act independently and to make their own free choices (Barker 2005: 448). The elements that have been discussed under the rules and resources dimension of the PAA (see previous chapter) can be seen as structural factors. For instance, building codes are structural factors as well as dynamics in spatial planning law in a certain country more generally. Other examples of structural factors are the venues in which policies are made, which may be as diverse as parliaments, state agencies, ministries, universities, congresses, the media, but also less tangible venues including partnerships, interest platforms etc. Note that actors may strategically choose to address certain issues in certain venues (True *et al*. 2007). Within the legal framework, legal norms as well as the founding principles of national legal frameworks can be seen as important structural factors that can be expected to contribute to stability in Flood Risk Governance.

It will be clear that structural factors comprise a large category of factors that all have to do with the institutionalisation of behaviours. The more that behaviours are institutionalised, the more they will contribute to stability of Flood Risk Governance Arrangements. The reader will note, however, that these factors maybe *guide*, but generally not *determine* behaviours. For instance, in a decentralised legal system several formal rules – including building codes – could relatively easily be changed. Also, in some cases the law in a certain country leaves room for flexibility. The constitutional structure of a country is another good example of a set of structural factors that can contribute to explaining stability or change. Although laws can be changed, some laws are easier to change than others. Constitutional norms are resistant to change, and when these norms relate to the way in which competences are distributed and which actors are expected to initiate change, they are even more

so. The level of centralisation or decentralisation in a given jurisdiction will affect how change occurs as well. In decentralised countries legislation might be easier to change on a local level, when local circumstances dictate. In a centralised country it is possible that change in legislation is more time-consuming, and the threshold for change is higher, because the legislation processes at national level tend to be more complex, but when a change is made, it applies to the whole country and has a large influence.

On the other hand, 'non-formalised' but 'normal' behaviours of actors may be harder to change than a law because of the latter's high degree of institutionalisation. Therefore, several policy analytical theories (Sabatier and Weible 2007, True *et al*. 2007, Zahariadis 2007) but also social science literature more generally often assume that social structures enable and constrain the actions of individuals (e.g. existing legislation permits some courses of action and restricts others). But, vice versa, actors have some opportunities to change these social structures. This is referred to by Giddens (1984) as a duality of structure (for a more detailed discussion on this, the reader is referred to the background theories document).

4.4.4 Agency

Agency or the purposeful actions of knowledgeable and capable agents forms a fourth explanatory factor. For the purpose of our project, it is perhaps a key factor. After all, the very goal of our project is to identify design principles, that is, actions that people can undertake to achieve change – but also to resist change! – in the field of Flood Risk Governance. Put in other words, we expect that agency can contribute to stability and dynamics in Flood Risk Governance. It is an empirical question of what types of agency can be observed and whether and to what extent agency has contributed to stability or dynamics. To be able to address these questions, it will be helpful if all STAR-FLOOD researchers are familiar with at least the following three concepts from the policy sciences literature:

- *Change agents*. Change agents can undertake actions to establish changes in policies (that may in turn lead to changes in the legal system needed to effectuate these policies). The term change agent is a general term, and according to literature several types of actors could qualify as a change agent (see Caldwell 2003 for an overview). Change agents can be leaders or senior executives, middle level managers, external or internal consultants and they can work at a strategic or at an operational level. Change agents can even be teams. They can be found in various types of organisations (including business, NGOs, governmental bodies). Within the legal system, change agents may be found within courts. Courts can instigate change. The outcome of an appeal process may influence the way the challenged provision is explained, effectively changing applicable rules (and possibly behaviours) without intervention by the legislator. Courts' judgements can also inspire new legislation, as they bring flaws in existing laws into the light. The presence or absence of a constitutional court could be a relevant factor as well. Such courts might promote change or obstruct it, but either way their rulings carry great weight, and may have significant impact on processes of change. The degree of discretion awarded to the administration is relevant as well: large amounts of discretion (which are respected by the courts) give room to change agents within the administration, whereas strict rules and bound competences will frustrate them.

- *Policy entrepreneurs*. The term "policy entrepreneur" is related to the term change agent but generally interpreted in a narrower sense (Zahariadis 2007, Brouwer and Biermann 2011). Policy entrepreneurs have been defined by Brouwer and Biermann (2011:5) as "risk-taking *bureaucrats* who seek to change policy and are involved throughout the policy change process" (emphasis added). In some theoretical frameworks (Kingdon 1984, Zahariadis 2007) policy entrepreneurs are attributed a crucial role in putting problems on the agenda. To do this and other things, they make use of different strategies including the development of ideas, the building of coalitions,

the selling of ideas, recognizing and exploiting windows of opportunity, orchestrating and managing networks and recognizing, exploiting, creating and/or manipulating multiple venues (Huitema *et al*. 2011). An obvious example of a policy entrepreneur would be an official in a municipality or regional water authority who – out of personal commitment – works very hard to bring water managers and spatial planners together. He/she could, for instance point out the interests of water managers to spatial planners, insist that certain people meet each other, or try to speed up or slow-down a planning process or the release of a water policy plan to make sure that insights from one policy domain can be considered in the other domain.

It is also important to remain critical on the literature on policy entrepreneurship as it seems to implicitly attach a positive connotation to the policy entrepreneur. This positive connotation translates as "change is good and we need risk-taking individuals to pursue it". There are, however, good reasons to question if this assumption is always valid. First, one can question if policy entrepreneurs always go for change. The same entrepreneurial skills that can be used to pursue change can also be used – and probably are used – to maintain the status quo and protect vested interests. Second, as we stressed several times throughout this report, change is not inherently good and in some cases we may find that, from a normative perspective, stability would be preferable. If we find, at the same time, that policy entrepreneurs are continuously pushing for changing the law, without a thorough problem evaluation, we will of course not evaluate this as positive.

- *Advocacy coalitions*. The term, advocacy coalitions, forms the core of the Advocacy Coalitions Framework (Sabatier and Weible 2007: 203). At the core of the ACF lies the assumption that in each policy sub-system we may find multiple (at least two) competing advocacy coalitions, that is coalitions of actors that converge in their ideas and compete with other coalitions. Actors within these coalitions have certain policy *beliefs* as well as a certain amount and type of resources (including 1. formal legal authority; 2. public opinion; 3. information; 4. mobilizable troops; 5. financial resources; 6. skilful leadership) (Sabatier and Weible 2007: 203). The ACF provides space for agency as it attributes much influence to the beliefs held within advocacy coalitions – as opposed to actors' interests. For example, the Room for the River coalition in The Netherlands is a strongly opposite coalition to the dike enforcement coalition.

4.4.5 Shock events

Shock events undoubtedly do influence stability and change in Flood Risk Governance. A flood is an external shock, which creates a disturbance throughout the interconnected ecological, economic and social systems (Green *et al*. 2011). Whereas it is quite certain that shock events influence governance, it is less easy to determine how they do so. Determining this is an empirical question. At this point we will restrict ourselves to sketching some patterns and options that have been documented in literature. As these patterns will show, shock events may contribute both to stability and to dynamics in Flood Risk Governance.

- Shocks may come from inside and from outside the policy subsystem (Sabatier and Weible 2007, True *et al*. 2007). An example of an internal shock would be expansion of conflicts between actors in a policy subsystem (Real-Dato 2009). Examples of external shocks or what Real-Dato (2009) has coined exogenous impacts, include focusing events (e.g. floods), but also other changes in context such as economic crises, public opinion etcetera.
- It may be the case that many developments had been going on within a policy subsystem before large observable change occurred (True *et al*. 2007). That is, the shock event only triggered the change, but was not its main cause. For instance, in The Netherlands in the 1980s and 1990s many plans for dike reinforcement had been made. In 1995, an emergency situation arose because of the threat of dikes being breached due to extremely high water levels in some major rivers. As Driessen and De Gier have shown (1999), this shock event helped the implementation

of flood defence measures and the necessary changes in legislation, which had been hoped for by many water sector professionals for some time. In this specific example, however, the main thrust of the change was acceleration along existing paths and trajectories (flood defence). So in a sense, this particular shock event contributed to stability.

4.5 The explanation behind the explanation: dynamics between different explanatory factors

As the discussion of the explanatory factors in the previous sub-sections has shown, to explain dynamics it is often necessary to look at what might be termed "the explanation behind the explanation". How did certain factors together produce a certain dynamic? Policy change and stability can – amongst others – be explained by dynamics between structure and agency within a policy subsystem. From the perspective of policy analysts, these dynamics can roughly be divided along the lines of *learning* vs. *negotiation* (Real-Dato 2009). According to Real-Dato (2009), the chance that learning takes place is enhanced by the existence of institutional elements within organisations and at sub-system level designed to foster it, such as internal or external evaluations, consultative bodies, professional fora, information systems integrated in policy implementation procedures etc. Although Real-Dato does not mention this explicitly, one can assume that such institutional elements allow for a context in which individuals with alternative views are taken seriously. Real-Dato found that the opposite, contexts in which individuals with alternative views are easily marginalised, makes the occurrence of learning less likely.

Negotiation is another mechanism of change. Contrary to literature on learning, the literature dealing with negotiations and agreements does not assume that actors are willing to engage in communicative processes with the aim to learn from one another, but that they have opposing interests that should be settled. This can take place, amongst other things, through conflict expansion (Real-Dato 2009) originated by outsider participants. Even deadlocks/stalemates are sometimes an agreed upon situation in the sense that actors have agreed to disagree and perceive the option of "doing nothing" as the best option for the time being. Of course, deadlocks are not always agreed upon. It can also be that a less powerful actor does not have the power to change anything. The latter is often the case in upstream-downstream situations with unidirectional externalities. In such cases, often the upstream country inflicts environmental damage upon the downstream country but its strategy is to maintain the status quo because it has no interest in cooperation. Cooperation increases transaction costs for the upstream country (the costs of negotiation, contracting, etc.), while it does not lead to additional benefits (because the upstream country does not experience damage). Compensation of the upstream country by the downstream country can help to stimulate cooperation, but compensation schemes can be complicated and it is still more likely that the upstream country prefers the status quo over binding cooperation (Bernauer 2002; Dieperink 2011). In other cases, all parties may think that the deadlock is undesirable, but they are unable to solve it.

Legal scholars can contribute a complementary perspective to the analysis of how different factors together may explain stability and dynamics in Flood Risk Governance. They can look, for instance, at the extent to which legal systems respond to, obstruct or contradict societal changes, or at similarities and differences in the amount of public support needed before the legislator takes action or to what extent courts' rulings influence the way a challenged provision is explained or instigates new legislation. Other issues to assess may be if endogenous change within the legal system takes place, and whether and to what extent the law is used as a tool to instigate change.

4.6 Establishing evidence

In many cases, stability or change in Flood Risk Governance Arrangements will best be explained by combining several explanations. For instance, it may be the case that a highly dedicated policy entrepreneur has been pushing hard to get flood-proof measures in a certain area. Eventually, he/she succeeded. Empirical research may show that the hard work of this policy entrepreneur was a necessary precondition for achieving these higher protection levels, but that it was not a sufficient precondition. For instance, at a crucial moment in the policy process, certain windows of opportunity may have emerged, e.g. the election of a politician with a similar interest in certain measures, or a devastating flood that put the issue of flood protection high on political agendas and the subsequent adoption of emergency legislation. It should also not be forgotten that certain developments can be due to "chance" or "serendipity" (Capano 2009:26).

Also, as the previous example may show, it is important for researchers to consider competing explanations and to point out which explanation is most plausible. If we find, as in the previous example, that actors managed to make use of a political window of opportunity (Kingdon 1984, Zahariadis 2007), *why was this window there*? Much literature implicitly suggests that the presence of policy windows is contingent and that actors can use such windows if they are present, but have limited opportunities to make these windows arise (Zahariadis 2007) but more recent literature provides evidence of actors – including policy entrepreneurs – that do create and manipulate policy windows (Brouwer and Biermann 2011; Van Stigt *et al*. 2013). Generally, claims regarding the plausibility of explanations will be more reliable if they rely on multiple sources of data (e.g. document study, interviews, participant observation) simultaneously. This is generally referred to as data triangulation.

It is impossible, in principle, to determine the counterfactual (what would have happened otherwise) with 100% certainty. Also determining the relative importance of explanations is challenging and in some cases we *will* get it wrong. However, throughout the empirical research we will take several actions to minimise the chance that we get it wrong. Besides the obvious measure of relying on multiple sources of data (see above), these actions will include:

- To explicitly reserve time for the steps of explaining and evaluating stability and change. This will allow for thorough discussions amongst all researchers on the empirical findings, potential competing explanations etc.
- To carry out several activities to check and challenge our findings, including case workshops in Work Package 3 and international workshops in Work Package 4.

4.7 Conclusion

In this chapter we have argued that to provide recommendations for improving Flood Risk Governance, it is necessary to come up with plausible explanations for stability and change. Formulating explanations is difficult. As we have attempted to show, however, it is necessary to make the effort. We hope that the reader, after reading the previous sections, appreciates that developments in Flood Risk Governance can be described both in terms of stability and in terms of dynamics. Often, both can be seen to be happening at the same time. Second, explaining things is not about collecting new information. It is about drawing logical connections between the bits of information that have been collected. Researchers trying to explain things should therefore become trained in considering alternative explanations. Third, we have proposed five types of explanatory factors to consider, expecting that policy analysts and legal scholars have complementary perspectives to offer to each factor.

The current chapter has provided a first step towards making explanations. A next step will be to jointly engage in the empirical analysis of Flood Risk Governance in Europe and to have thorough discussions about why things happened.

The step of explaining stability and change can benefit from drawing systematic comparisons between NFPRs and cases. As the above may suggest, we will not wait to draw such comparisons until the start of WP4, which is about country comparison. Instead, throughout WP3 the STAR-FLOOD researchers will have discussions on their findings and on the presence or absence of certain patterns across countries and cases. The empirical research is hence also an exercise both in comparative policy analysis and comparative legal studies. As a final illustration, box 4.2 provides some examples of what integrated social scientific and legal explanations of policy change may look like.

Box 4.2 Some examples of integrated analyses by policy analysts and legal scholars of stability and dynamics in Flood Risk Governance (parts of the example were also used in D1.1.4, Hegger et al. 2013)

Example 1: the Water Test in Flanders and The Netherlands

In the Netherlands, in the year 2000, the so-called water test ("Watertoets" in Dutch) has been established on advice of the governmental committee "Water policy for the 21st century) (Hegger *et al*. 2013). This procedural instrument requires the inclusion of a 'water paragraph' in municipal zoning plans and hence in principle it enables water policy-makers to specify and politicize their interests. In practice, until recently, the instrument was approached as a formality which could be quite easily bypassed by using a 'standard text'. Recent discussions within some of the sub-programmes of the Dutch Delta committee suggest, however, that some provinces (the governmental entities overseeing the development of municipal zoning plans) are seriously considering putting stricter requirements on municipalities when it comes to water-related issues, and hence the significance of the Water Test is expected to increase in the future (Frank Wagemans, policy advisor on water and spatial planning, IPO and Dutch Delta Programme, personal communication).

Policy analysts and legal scholars in a country could try to explain both this apparent change as well as local and regional differences in the extent to which this change manifests itself. Issues which one would logically consider would be the physical context (e.g. is implementation of the procedure more pro-active or stricter in areas that are more vulnerable?). Can we identify policy entrepreneurs who push for stricter implementation of the procedure? Or can we establish that governmental actors in certain regions will be liable in case a flood occurs and the procedure has been weakly implemented? To what extent do policymakers have knowledge on the content and scope of certain rules? All these and other types of explanation need to be thought through and discussed. In the case of the Water Test it is also interesting that in Belgium a policy instrument with the same name exists. What are its similarities to and differences from the Dutch water test? How does its implementation differ from the one in the Dutch context and why?

Example 2: dynamics in the development of new legislation

In general, there are different potential reasons for establishing new legislation. These may include for example that:

- Public authorities have the formal obligation to make certain legal arrangements (e.g. transposition of EU law to the national level);
- There may be internal political debates at country or regional level, e.g. a general tendency towards decentralisation;
- Several actors, including public authorities and interest groups perceive existing legislation to be ineffective and push for new legislation or revision of existing laws.

In many cases, several explanations will be applicable simultaneously. Some of these explanations can be found through a legal study while others require an analysis of decision-making processes, interviews with involved key actors, a study of debates in parliament etc. Determining why a particular law was adopted in the form in which it was adopted will then require the researcher to ask critical questions regarding each potential explanation. For example: If implementation of the Floods Directive was the only reason to change this law, would the current law have been the only option? What other options were available? We know that a certain interest group was dissatisfied with the previous law. Does the new law suit their interests better? Do we have any evidence that they influenced the content of the law? If not, is there still reason to logically assume that they had influence?