Chapter 11

Under What Conditions Does an Extreme Event Deploy its Focal Power?

Toward Collaborative Governance in Swiss Flood Risk Management

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Introduction

In this chapter we study the longer-term response of a national government to natural disasters. We are interested in when and how collaborative governance arrangements spark new national flood prevention policies. Our understanding of collaborative governance not only includes public and private actors that are involved in a complex network (see Nohrstedt 2015) but also the larger institutional setting as well as regulations in the domain of flood risk management. In other words, we conceive the full range from politics and polity to policies when defining collaborative risk management (see also Driessen et al. 2012). For national flood prevention this concretely means that decision making and implementation processes are designed multilevel and cross-sectoral, that competences and responsibilities are shared between different jurisdictions and policy subsystems, and that policies and regulations reflect this horizontal and vertical integration of actors and institutions (Ingold et al. 2018; Ingold 2017).

But how does a nation-state get to such collaborative flood risk management? What conditions induce major policy or paradigm change toward collaborative governance? To answer these questions we proceed in two steps. First, we investigate the necessary conditions for a paradigm change in flood prevention. In the second step, we concentrate on the impact leading to change and the policy process factors that enhance collaborative governance (in contrast to more traditional, mono-sectoral forms of steering).

We investigate paradigm changes in Swiss flood risk management and therefore study one century of policymaking in this domain. We define paradigm change as a major shift in the approach to tackling flood risks. These approaches range from top-down policymaking and infrastructure measures to more integrative and cross-sectoral governance styles. In this context, the central focus lies on major flood events during the last century and the role they played in shaping or inducing paradigm changes in Swiss flood risk management. Can we attribute paradigm changes to major flood events and/or some other key characteristic(s) of natural disasters? Moreover, what role did the dynamics in the policy subsystem play in making a paradigm change possible? And finally, what subsystem dynamics (such as coalition structures, conflict, and brokerage) are necessary to push paradigm change in the direction of collaborative governance in flood risk management?

Theory

Since Hall's seminal work on policy paradigms (1993), one particular type of change which forms the focus of policy studies is paradigm shift. While various definitions and

understandings exist about what a paradigm is and what a paradigm shift means (for an overview, see Hogan and Howlett 2015), here, we stick to what can be called "paradigmatic policy change" and thus the ideological redesign or reframing that is reflected in the political goals and measures (Cairney and Weible 2015). Such goals and measures are typically embraced by one larger political program or even by one subsystem (see Sabatier and Weible 2007). We further acknowledge that a paradigm, and thus the ideas and discourses adopted by the political community can further include institutional arrangements and actor networks. They can span more than one political field or subsystem (Baumgartner 2013).

Various policy process theories have such a paradigm shift as the focus of their attention, and several of them consider external events, shocks or natural disasters to be a decisive driving factor for such major change (Baumgartner and Jones 1993; Sabatier and Jenkins-Smith 1993). Such events are sudden and often unpredictable; they come from *outside* the policy community, political elite or policy subsystem and have their impact on different elements *within* that community, elite or subsystem (see Kingdon 1984; Laumann and Knoke 1987; Birkland 1997; Sabatier and Weible 2007). Those "*within*" mechanisms and elements are also known as *polity and politics*; and policy process theories acknowledge *shifts in polity and politics* then having a crucial impact on *shifts in policies*. For what follows, we borrow from theoretical concepts and empirical applications of Birkland's work about "focusing events" (Birkland 1997, 1998) and their impact on *politics* (e.g., elements of the policy process) in the first step and on *polity and policies* in the second. We thus ask: Under which conditions does a focusing event have the capacity to induce a paradigm shift? And what impact does a focusing event have on subsystem dynamics that spark a shift toward collaborative modes of governance?

Hypotheses

Following Birkland's seminal work, focusing events are defined as occurring suddenly, rare, very unpredictable, and affecting a large number of people (1997). The greater the magnitude of an event, the higher the focal power of it; thus, a greater impact on politics and policy is assumed. To assess the magnitude of an event, and thereby hypothesize about its public impact, some researchers have focused on certain key characteristics of the event itself (see Travis 2014) such as the number of deaths or the amount of infrastructure damage, whereas others emphasize public and media attention (Baumgartner and Jones 1993). Nevertheless, all of these point to the fact that the magnitude of an event decisively impacts focal power on politics.

H1: The greater the magnitude of an event, the greater the tendency that this event will deploy focal power and induce a paradigm shift.

Birkland (1997, 1998) convincingly demonstrates that focusing events have agenda dynamics, but he also argues that only under certain conditions do they lead to so-called policy change. For proper change of political content and paradigm, one has to better understand the triggers within the so-called *policy communities* or subsystems (see Sabatier and Weible 2007).

Policy communities or policy subsystems might be characterized by a certain degree of coordination among like-minded actors and by one or more advocacy coalitions. Coalition members wish to see their beliefs and policy preferences translated or integrated into concrete political programs and strategies. Their activity can generate new ideas, discourse, and beliefs within one political subfield or subsystem, which ultimately has

the potential to induce a paradigm shift (see also Hogan and Howlett 2015). In addition, Birkland (1998) argues that how a focusing event deploys its focal power strongly depends upon the advocacy structure available. He asserts that a subsystem or community with no clear advocacy coalition does not have a consolidation of interests or coordination for a focusing event to be absorbed and to induce policy change.

Yet a focusing event can provoke changes in the subsystem structure and Birkland asserts that there is a greater possibility for change in a situation consisting of competing coalitions. For example, the traditional majority coalition thus pushes for policy alteration in order not to lose power (Birkland 1997). On the contrary, however, the minority coalition sees their beliefs and preferences reinforced by the focusing event's impacts and it benefits from a so-called window of opportunity for reframing the issue (Kingdon 1984; Baumgartner and Jones 1993).

Hypothesis 2: An event absorbed by a subsystem with one or several competing advocacy coalitions has the tendency to deploy focal power and thus induce a paradigm shift.

We now turn to our second research question and to factors that explain shifts toward more collaboration and cross-sectoral governance modes. Generally, in order to enhance change toward more coordination and collaboration across different sectors, interests, and beliefs, the external shock should provoke more common understanding for the problem within the subsystem and across coalitions. This in turn enhances possibilities for compromise finding. In the literature, compromise and collaborative arrangements are possible in three main situations: collaborative, unitary, and conflictive. In contrast to the latter two, actors start to coordinate actions across coalitions in collaborative subsystems (Weible, Sabatier, and Pattison 2010). Across-coalition actions in politics should then also have spill-over effects in how competences are shifted and policies redesigned. This is why we hypothesize the following:

Hypothesis 3a: An event absorbed by a subsystem with competing coalitions has the tendency to induce change toward collaborative governance if across-coalition coordination is present.

Compromise and collaborative governance solutions can also be facilitated by key actors in the subsystem. Following the Advocacy Coalition Framework, this role is typically played by policy brokers who seek stability in the subsystem and act in a rather belief-neutral way through across-coalition action (see Ingold and Varone 2012; Sabatier and Jenkins-Smith 1993; Ingold 2011). Also other frameworks identify key actors in situations of change. Following Kingdon (1995; see also Birkland 1997; Zahariadis 2007), policy entrepreneurs exploit windows of opportunity. Yet different from brokers, these actors do not seek compromise but rather act in their own interest and want to see their own ideas translated into policies. Deduced from these insights, we formulate two hypotheses:

Hypothesis 3b: An event absorbed by a subsystem with competing coalitions has the tendency to induce change toward collaborative governance if policy brokers are present.

Hypothesis 3c: An event absorbed by a subsystem with competing coalitions has the tendency to induce change toward collaborative governance if policy entrepreneurs are present.

Case, Data, and Methods

We considered all "major" flood events as potential candidates for inducing considerable alterations in policies. In short, we compiled a list of floods, which potentially acted as focusing events and then assessed whether they did or not. The list started with events from the mid-19th century, as flood prevention policy began shortly after this period. Based on hydrological expertise, the first selection criterion consisted of the hydrological magnitude of a flood. This included the return period, hazard levels, and the runoff capacity in the respective hydrological catchment area (Flügel 2000). The Swiss Confederation has defined five hazard levels. We used the two highest levels (levels 4 and 5) for this study (SR 520.12, Art. 10) and selected those with return periods greater than 30 years. Two additional criteria helped us to identify major flood events: the floods had to be nationally significant and had to affect more than five cantons. If they did not, then they were only retained for our analysis if they caused damages over 500 million Swiss Francs (Table 11.1). This left us with 12 flood events from 1868 until today. It should be noted that in some years, more than one flood event occurred, which can be seen in the second column (dates) of Table 11.1. We considered a maximum of one event per year, and if there were two events in the same year, we considered them as one event.

In order to assess if a flood deployed focal power and thus could be linked to a paradigm shift, we applied the method of process tracing (George and Bennett 2005; for an application see Walgrave and Varone 2008). Process tracing is prominently applied in "within case" analysis, which was also done here in assessing whether a paradigm change could potentially be linked to a flood event (Collier 2011).

Here, we first systematically describe our definition of a paradigm shift, and then assess if our candidates for focusing events (see Table 11.1) can be deemed as such. Put differently, we identified whether a flood event had focal power or not. In doing so, we relied on two important steps typically applied in process tracing (Collier 2011): first *describing* all dependent and independent variables, and second *identifying sequences* for the link between one particular paradigm shift in relation to one (or several) potential focusing event(s). We based this on primary and secondary literature (Schnitter 1992; Furrer 2002; Zaugg 2006; Burger 2008; Summermatter 2012; BAFU 2013).

Conditions Driving a Flood's Focal Potential (Hypotheses Testing)

To identify under what *conditions* floods become focusing events, we do hypothesis testing with the different potential conditions driving an event's focal power (outlined in more detail here). The magnitude of the flood events was measured by the number of deaths, geographical outreach, economic damage, and coalition formation. We used a mixture of qualitative and quantitative data to assess the key systematic factors and to determine whether the identified floods could be defined as focusing events.

Table 11.1 Selected flood events

Year	*Dates*	*Cantons affected*	*Spatial extent*	*Economic damage (million CHF)*
1868	27–28 Sept 2–3 Oct	5	National	1400 (2.94 Mio value in 1868)
1910	14–15 June	16	National	584 (16 Mio value in 1910)

(*Continued*)

Table 11.1 (Continued)

Year	*Dates*	*Cantons affected*	*Spatial extent*	*Economic damage (million CHF)*
1978	7 Aug	4	National	513,94
1987	18 July	5	Regional (esp. UR, TI, VS, GR)	777,61
	24–25 Aug			272,04
1993	24 Sept	2	Regional (esp. Brig, VS and	2,99
	13 Oct		Locarno, TI)	662,98
1999	15–25 May	6	National	577,25
	21 June			
2000	11–17 Oct	4	Regional (esp. VS and TI)	668,546
2005	19–24 Aug	13	National	2977,598
2007	8–10 Aug	22	National	379,18
2011	10–11 Oct	7	National	84,99
2013	2 May	17	National	32,32
	31 May–11 June			60,29
2014	24 July	6	Regional	24,74
	11 Aug			1,72

Sources: Adapted from and based on WSL database 2016; Pfister 1999, 2002; BAFU 2013.

Notes pertaining to Table 11.1**:**
- Year – Those defined as focusing events have been shaded.
- Spatial extent – If cross-cantonal damages occurred then the event was categorized as "national."
- Economic damage – Pfister (1999, 2002) documented the economic damages of floods from 1800s until 2005. Here, economic damage is defined as the estimated amount of economic loss in relation to the nominal wages in the construction industry. Subsequently the data displayed here was adjusted by the 2005 inflation rate. The year 1868 has an adjusted value in comparison to the amount of loss in 1868 (2.94 million CHF) to the year 2005 (1400 million CHF). The more recent data on economic damage (2007–2014) is based on the data that forms the event analyses by the BAFU (2013).

The quantitative data and statistics used to determine if an event's magnitude were derived from the official databases provided by the Swiss administration (see BAFU 2012a, 2012b). Additionally, we were able to rely on a complete and systematic database categorizing and evaluating each flood event in Switzerland, which was provided to us by the Swiss Federal Institute for Forest, Snow and Landscape Research (WSL database 2016). In order to make the figures more comparable (in particular the economic damages, which depend upon various socioeconomic factors like number of deaths, inflation, or currency rate), we further considered the figures retreated by historians (Pfister 2002).

For the presence or absence of conflicting coalitions and subsystem specificities, we relied on the secondary literature presented in the next section. Additionally, we made a general appraisal of Swiss flood prevention (not only that relating to specific flood events) and systematically analyzed all parliamentary, governmental, and direct-democratic (initiatives and referenda) action over the past two centuries (see Appendix II).

Analysis: Paradigm Shift in Swiss Flood Prevention

Our analysis revealed three important paradigm shifts in Swiss flood prevention: from no regime to an infrastructural regime in 1877; then the change to a regime focusing on spatial planning in 1991; and finally in 2010, the shift toward a more integrated approach in flood risk management.

Flood prevention in the 19th century was characterized by very limited technological responses and predominantly local interventions (Schnitter 1992; Zaugg 2006). Overexploitation of forest areas increased the flood hazard, but considerably larger industrial and

residential buildings in flood-prone areas also increased the pressure on the Confederation to introduce more standardized guidelines on the national level, mainly related to financial support and subsidies (Schulla 1997). With the introduction of the Hydraulic Engineering Inspectorate Act in 1877 [721.10] (and, to a lesser extent, the Forest Inspectorate Act in 1902 [921.0]), for the first time Switzerland adopted a nationwide flood risk management plan that was almost exclusively focused on *infrastructure*.

New environmental activism, fishing associations emerging in the 1970s, and the popular initiative about enhanced water protection ("zur Rettung unserer Gewässer") in the early 1980s all made clear that more space for watercourses was needed. This fact was also supported by experts and hydrological engineers, who also called for better infrastructural flood management. Fortunately, the absence of any significant flood events limited the amount of damage incurred during these decades. To further protect the population and infrastructure from potential flood events, constructions alone were not enough, and **the Spatial Planning Regime** was born and reinforced through the Hydraulic Engineering Ordinance [721.100.1] and the Water Retaining Facilities Ordinance [721.102], introduced in 1994 and 1999, respectively.

With the creation of the Extra-Parliamentary Commission for Natural Hazards (PLANAT 2015) in 1997 and general administrative strategies on the national level promoting sustainability and integrative approaches combining water protection, use, and flood prevention, a new culture was born.

Sustainability principles started to be systematically integrated in different legal revisions concerning flood prevention at the beginning of the new century (Zaugg 2006). Consequently, the Extra-Parliamentary Commission for Natural Hazards (PLANAT) designed a Natural Hazard Strategy that followed a so-called comprehensive, interlinked, and cross-sectoral approach. After 2010, Switzerland installed an **Integrated Risk Management** with the introduction of OWARNA, a consolidated management system based on multilevel decision channels.

Analysis: Identification of Floods as Focusing Events

We now systematically discuss which floods had the potential to deploy focal power. We also control if a paradigm shift could potentially have been initiated *before* the flood event had occurred (which was, for instance, partially the case with the flood event in 1987 and the paradigm shift in 1991, see Figure 11.1).

Several different sources attribute a focal power to the flood event of 1868 (Zaugg 2006; Burger 2008; Summermatter 2012). It is one of the largest in Swiss history and led to huge public attention and nationwide solidarity, demonstrated by fundraising and immediate actions to repair the flood consequences. For instance, after the 1868 flood, an institutionalized learning process and improvement of flood prevention measures was initiated (Zaugg 2006).

The first minor policy changes (such as an extension of the subsidy regime in 1871 and the constitutional baselines for the national water policy in 1874) paved the way for a larger legal innovation, the Hydraulic Engineering Inspectorate Act, drafted in 1876 and introduced in 1877 [721.10]. The **1868 flood** can therefore be classified as a focusing event, and it considerably affected the start of the infrastructural regime (Petrascheck 1989).

The major flood event in June 1910 had a severe impact on different regions of the country (see Table 11.1) and induced several changes in flood management and implementation. Nevertheless, those changes were only minor and mostly concerned adjustments to existing practices, such as financial regulation or collaboration between different administrative units (see Wanner 2016; Burger 2008; Vischer 2003). When looking at the paradigm shift toward the spatial planning regime in the early 1990s, one might intuitively

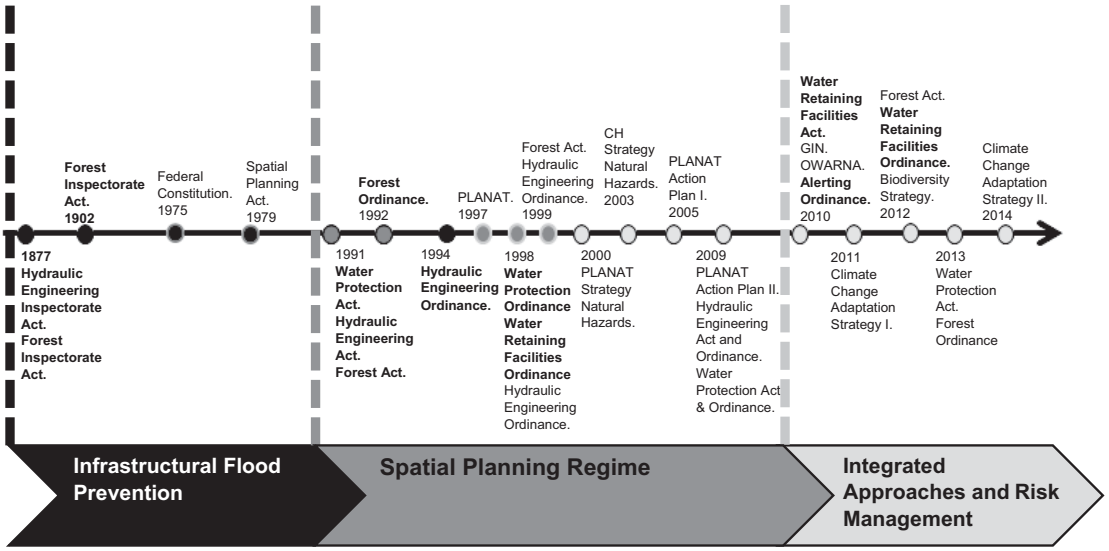

Figure 11.1 Paradigm shift in Swiss flood prevention

think that the **1987 flood event** had an impact. But this is only partially true. As mentioned earlier, in the 1970s and 1980s, various ecological movements were active and popular initiatives were launched that promoted the adoption of a spatial planning perspective, rather than a purely engineering perspective. The **flood event of 1978** considerably reinforced the environmentalists' requests (Summermatter 2012) and had considerable focal power upon the paradigm shift toward spatial planning.

While the flood event of 1993 could not be identified as a focusing event (see, for instance, Burger 2008), it may have reinforced the desire for more systematic coordination in natural hazard prevention on the national level. It may also have had an impact on the formulation of PLANAT in 1997, as well as the Water Retaining Facilities Ordinance [721.102] that came into force in 1999. However, the introduction of these strategies and their major milestones were decided long before this flood occurred.

After 1968, the **2005 event** was one of the greatest and most disastrous floods in Swiss history, even despite major flood prevention policies introduced several decades earlier. This event clearly led to an amelioration of the alarm system and more integrative and multilevel communication through the OWARNA, GIN, and PLANAT strategies, among others. Overall, the flood events between 2009 and today further justified the actions taken toward a more integrated and sustainable approach combining water engineering, water protection, climate change adaptation, sustainability, and biodiversity.

Analysis: Identifying Drivers for Change

We now answer the question, what made the floods that could be identified as focusing events so special (see floods that have been shaded in Table 11.1). What conditions and attributes made them deploy their focal power in contrast to all other floods that could not be identified as focusing events in our analysis?

We now consider **the "objective magnitude"** of the floods (number of deaths, the geographical outreach of the affected area, the amount of economic damage, and coalition formation) to see what characteristics of the focal flood events were crucial to deploy a paradigm shift.

At first glance, no clear pattern can be identified. The four floods of 1868, 1978, 1987, and 2005 that we preliminarily identified as focusing events were not constantly those with the greatest magnitude. However, some facts are still worth highlighting. For instance, the floods of 1868 and 2005 were the only ones that fulfilled all of our "flood selection criteria" (see previous section) cumulatively. Both were major, dangerous flood events, affecting five or more cantons and with damages of over 500 million Swiss francs. The 1868 flood was by far the most disastrous in terms of the number of lost lives with 50 deaths. The 2005 flood had the greatest economic consequences (2977 million CHF).

Despite the fact that severe floods also occurred in 2000, 1993, and 1999, and resulted in major human and economic losses, they did not have any focal power. Since objective magnitude and the amount of economic damages (and specifically the amount of economic damages) only partially can explain what makes a flood a focusing event, there are other indicators related to politics.

We now turn to **subsystem properties** and the presence of coalitions, policy brokers, and entrepreneurs to explain policy change in general, and paradigm shift toward more collaborative arrangements in particular. Before the first identified paradigm shift, no highly organized interests were observed. Nonetheless, after the 1868 flood some political and economic actors called for action and measures (Zaugg 2006). The pressure from the public increased and was absorbed by selected state officials and experts of that time (mainly federal engineers; see Müller 2004), who then decisively pushed for political change and gave birth to the first flood risk management regime (based on infrastructure).

From then on, and particularly from 1877 onwards, the literature emphasizes the impact of engineers and technical experts who formed a *pro-infrastructure coalition* (Summermatter 2012; Müller 2004). This coalition was also responsible for the consolidation of the infrastructure paradigm that lasted for more than one century and dominated the Swiss flood risk management. In the mid-20th century, the emergence of a second coalition can be observed: the *pro-conservation and spatial planning coalition*. It integrated three types of actors with very different core beliefs and ideologies. However, interestingly, these actors started coordinating actions because they all wanted to push the paradigm change away from pure infrastructure toward more spatial planning. The first type of actors were those in various ecological movements, generally concerned with environmental conservation, and, at first, interested in hydropower and shipping activities that caused harm to nature (Pfister 2007; Summermatter 2012). After the occurrence of the 1978 and 1983 floods, they joined this pro-conservation and spatial planning coalition. The second type of actors were the landscape protectionists: they were against further flood infrastructures, which they believed were causing harm to the natural landscape properties. The third group consisted of experts, mainly from public administration, who attributed greater economic efficiency and security performance to spatial planning rather than infrastructure (Summermatter 2012; Zaugg 2006). If the conflict between the two coalitions (pro-infrastructure versus pro-spatial planning) did not directly induce a paradigm shift, it nevertheless provoked civil-societal action and important legal revisions that then paved the way and provided a window of opportunity for the paradigm shift following the floods of 1978 and 1987. The 2005 flood was still absorbed by a subsystem characterized by the two competing coalitions, but what decisively impacted the third paradigm change toward collaborative governance in flood risk management was the fact that several administrative agencies, and in particular the three Federal Agencies for Agriculture, Spatial Planning, and Water and Geology, started to become active and induced a large integration process. Through the leading activities of those agencies, the 2005 flood decisively boosted the idea of integrated measures, and the third paradigm shift was realized.

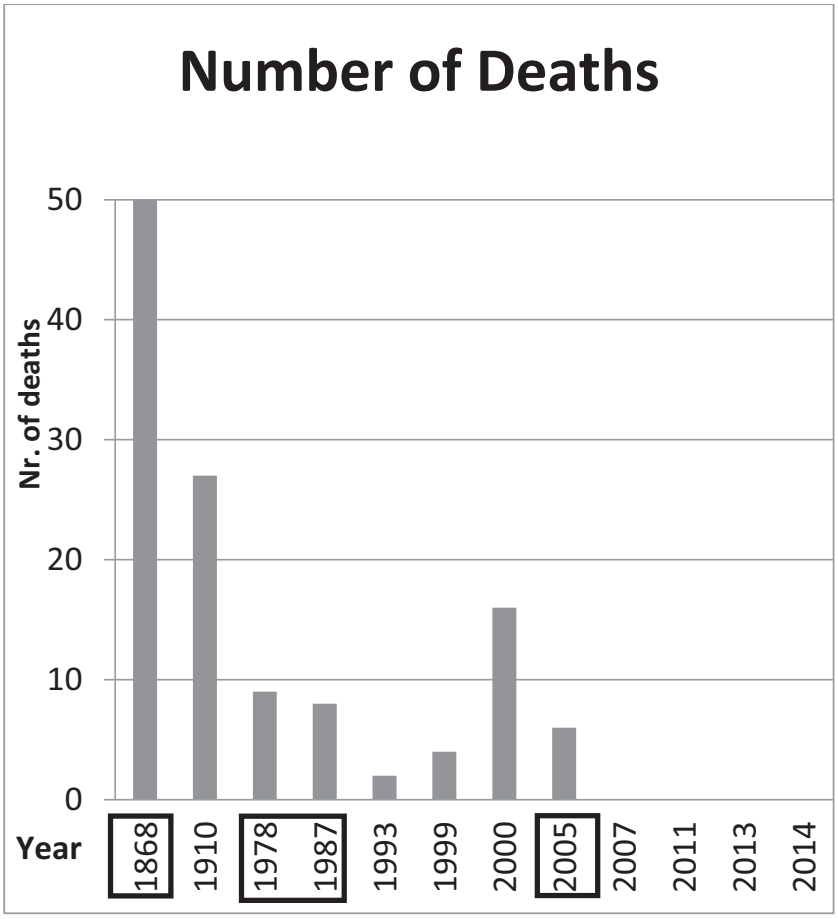

Figure 11.2A Number of deaths

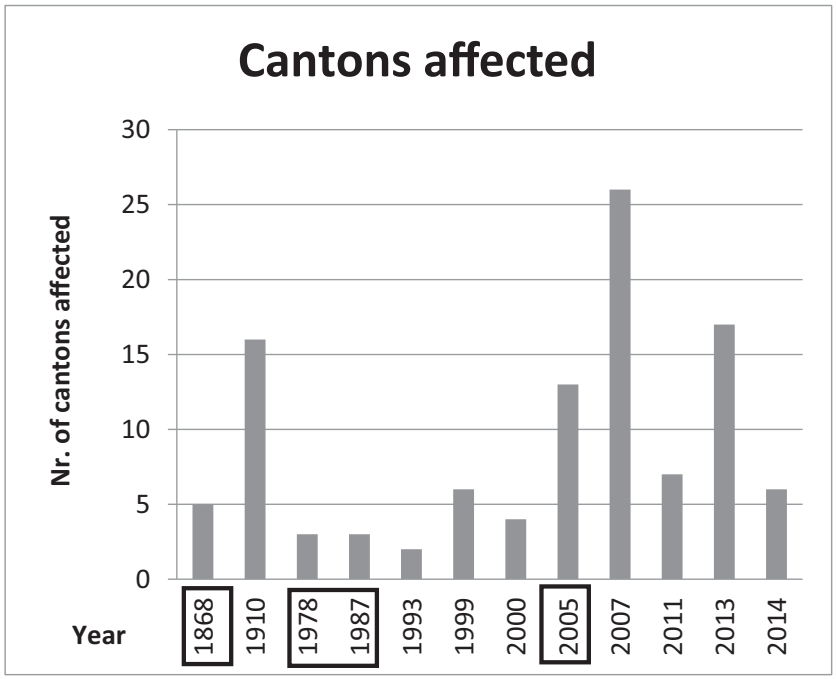

Figure 11.2B Geographical outreach (number of cantons affected)

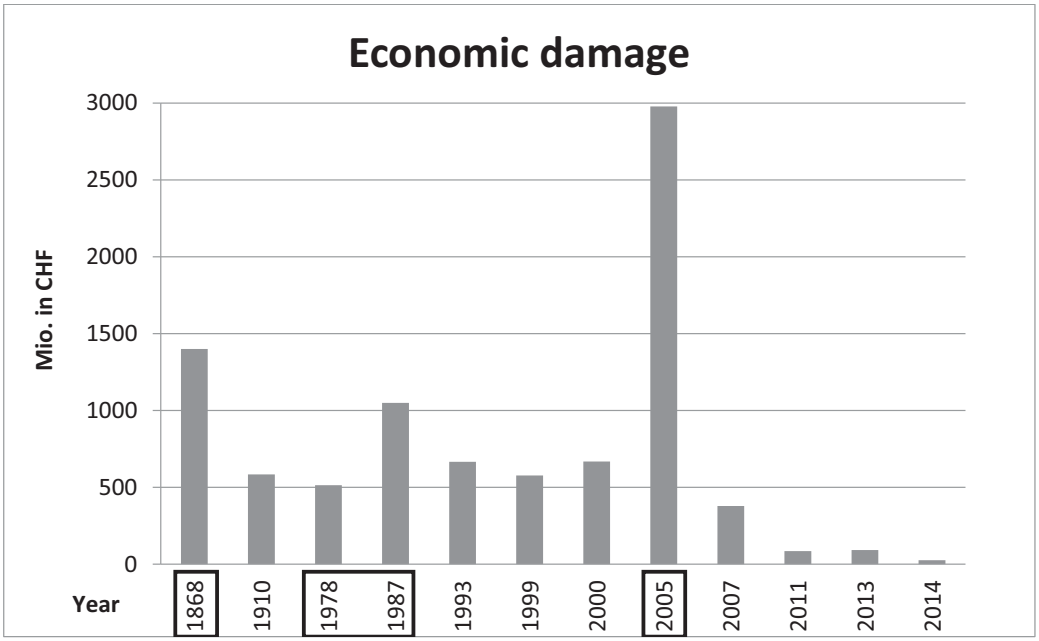

Figure 11.2C Economic damages in millions of Swiss Francs

Discussion

Looking at 12 major floods over more than one century in Swiss flood prevention, we wanted to know why some of them (1868, 1978, 1987, 2005) could deploy focal power and induce policy change in general and paradigm shifts toward new collaborative approaches in particular, while others did not. Even if the extent and magnitude of a flood seems to play an important role, it is not the unique or decisive attribute making it a focusing event. Two of the four focusing events clearly included great damage in terms of economic costs, geographical outreach, and number of deaths. However, there were also floods that we did not deem as focusing events despite the fact that they caused considerable damage to infrastructure and society. We can therefore only partly confirm our first hypothesis: we can consider "objective magnitude" and specifically the geographical extent of the disaster as one necessary, but not sufficient, condition for a flood to be defined as a focusing event.

This result brings us to the test of our second hypothesis and the claim that politics matter. But we can also here only partially confirm this. In the first period of our analysis, there was no clear advocacy coalition present but, nevertheless, a paradigm change occurred. It is thus not the presence of a larger group of well-organized, like-minded actors but the presence of *some single actors that organize actions* that seem able to initiate a paradigm shift. For example, at the beginning of the 20th century we observed the development of a pro-infrastructure coalition, but no shift occurred. The mere creation of a coalition is not sufficient to induce change, and therefore the floods occurring at the beginning of the century were not defined as focusing events.

In the set of third hypotheses, we go beyond Birkland's argument that organized interests that are at stake are significant (Birkland 1998), and therefore we investigated what exact subsystem dynamics lead to collaborative governance in flood risk management. If collaboration and governance across sectors and interests should become pioneering in flood risk management, then the external event needs to stimulate joint efforts and collaboration. Following this line of argument, this case reveals actors' coordinating actions

in advocacy coalitions that coordinate actions across coalition boundaries, and when in conflict these coalitions negotiate jointly through the help of so-called policy brokers or entrepreneurs. In our case, it is the third paradigm shift that led to cross-sectoral integration and collaborative governance arrangements. This shift happened after the 2005 flood by the decisive action of three Federal agencies. These agencies did not act in a belief-neutral way but advocated for policy change very much in line with sectoral needs and with their own interests. So all in all, we can confirm Hypothesis 3a: the public administration acted as policy entrepreneurs in a subsystem with two conflicting coalitions that both finally followed the suggestions of these three key actors.

Nevertheless, as soon as two competing coalitions were present and the public administration engaged in entrepreneurship and brokerage, events could deploy their focal power, and paradigm change toward collaborative governance became possible.

Conclusion

The aim of this chapter was to study the conditions under which a special event, shock, or catastrophe becomes a so-called focusing event and manages to induce a fundamental shift in the collaborative approach toward disaster management. We were thus interested in the long-term consequences of a natural disaster that are reflected in regulation and policy but also in how actors interact and how institutions are arranged.

We investigated more than 100 years of flood risk management in Switzerland and compared floods that deployed focal power with those that did not. Process tracing, a mix of qualitative and quantitative data, and the study of primary and secondary literature helped us to first identify so-called sequences. Each sequence consisted of a paradigm shift and therefore defined a new way in which Switzerland would tackle floods by introducing policies and regulations to protect the population from natural hazards. In summary, we could identify three shifts: in 1877, the shift toward infrastructure; in 1991, toward spatial planning; and in 2010, toward integrated flood prevention. This last shift was clearly a move toward collaborative and cross-sectoral governance in flood risk management. We therefore proceeded in a two-step approach and first identified factors for change and second factors for "collaborative" governance.

Results showed that no clear indicator can be identified as the unique factor that makes a flood (or potentially any other catastrophe or shock) a focusing event. Even in the area affected, the financial and infrastructural damages or the number of deaths seemed to have a certain impact on the focal power of a flood, this "objective" magnitude could not be identified as the decisive reason for making the flood a focusing event.

We cannot confirm our second hypothesis either: the presence of advocacy coalitions in a subsystem affected by an external shock does not automatically lead to policy change. But still, politics matter. Our analysis showed that the most decisive factors for floods being defined as focusing events are (1) political activism and (2) subsystem properties. We conclude that a flood can deploy more focal power best when it is absorbed by organized action.

Furthermore, the subsystem characteristics that seem to matter are not so much related to the question of "how well interests are organized and consolidated in so-called larger advocacy coalitions." It seems that some specific organized interests and actors (such as key experts or core administrative agencies) can already take advantage of the momentum and transform a flood or external shock into a focusing event inducing a paradigm shift. What does this tell us about the potential for collaborative governance in flood risk management? Intuitively, and based on former research, collaboration should lead to collaborative solutions. More concretely, if a shock induces that actors from different coalitions to perceive a problem as severe, this fact should foster their willingness to cooperate and to start

searching for collaborative, cross-sectoral, and multilevel solutions. But this logic could not be found here. Instead a few key actors, so-called entrepreneurs, were instrumental in pushing the system after the 2005 flood toward more integration and cross-sectoral flood risk management. These policy solutions will have to be implemented by actors from different sectors belonging to diverse jurisdictions and defending divergent interests. So only policy implementation will ultimately show if a collaborative policy design induced by some policy entrepreneurs can also deploy effectiveness and efficiency.

This study has shown that it is necessary to not only take objective measurements of a disaster into account but also to identify the political circumstances and subsystem conditions at the moment an event happens in order to explain fundamental changes in collaborative approaches toward disaster management. Future research should more systematically draw upon comparative evidence and thus include more robust statistical and cross-country or cross-field analysis in order to disentangle problem characteristics from politics. Finally, we have seen that the case analyzed here, and flood risk management in Switzerland, is embedded in a multilevel and federalist setting. An interesting question arises about whether the impact of focusing events and the results uncovered here would also hold true for policies designed at the regional and subnational level.

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Appendix II

Table of Regulations and Legal Texts Taken Into Account for Paradigm Shift Identification

Decision	*In Force*	*Policy and regulation*	*SR*	*Type*	*Amendment*
22 June 1877	6 October 1877	Hydraulic Engineering Inspectorate Act	721.10	Act	Introduction
11 October 1902	1902 (until 1 January 1993)	Forest Inspectorate Act (new)	921.0	Act	Introduction
20 June 1975	7 December 1975	Federal Constitution	101	Constitution	Revision
22 June 1979	1 January 1980	Spatial Planning Act	700	Act	Introduction
24 January 1991	1 November 1992	Water Protection Act	814.20	Act	Introduction
21 June 1991	1 January 1993	Hydraulic Engineering Act	721.100	Act	Introduction
4 October 1991	1 January 1993	Forest Act	921.0	Act	Introduction
30 November 1992	1 January 1993	Forest Ordinance	921.01	Ordinance	Introduction
2 November 1994	1 December 1994	Hydraulic Engineering Ordinance	721.100.1	Ordinance	Introduction
1997	1997	PLANAT			Introduction
28 October 1998	1 January 1999	Water Protection Ordinance	814.201	Ordinance	Introduction
7 December 1998 (until 17 October 2012)	1 January 1999 (until 1 January 2013)	Water Retaining Facilities Ordinance	721.102	Ordinance	Introduction
28 October 1998	1 January 1999	Hydraulic Engineering Ordinance	721.100.1	Ordinance	Revision
6 December 1999	1 January 2000	Hydraulic Engineering Ordinance	721.100.1	Ordinance	Revision
18 June 1999	6 December 1999	Forest Act	921.0	Act	Revision
8 November 2000	20 August 2003	Strategy Natural Hazards PLANAT		Strategy	Introduction

(*Continued*)

Decision	*In Force*	*Policy and regulation*	*SR*	*Type*	*Amendment*
20 August 2003	18 May 2005	Strategy Natural Hazards CH		Strategy	
18 May 2005	2008	Action Plan		Strategy	
6 March 2009	2011	Action Plan II		Strategy	
11 December 2009	1 January 2011	Hydraulic Engineering Act	721.100	Act	Revision
11 December 2009	1 January 2011	Hydraulic Engineering Ordinance	721.100.1	Ordinance	Revision
11 December 2009	1 January 2011	Water Protection Act	814.20	Act	Revision
11 December 2009	1 January 2011	Water Protection Ordinance	814.201	Ordinance	Revision
18 August 2010	1 January 2011	Alerting Ordinance	520.12	Act	Introduction
26 May 2010	26 May 2010	OWARNA		Strategy	Introduction
2010	2010	GIN		Strategy	Introduction
1 October 2010	1 January 2013	Water Retaining Facilities Act (new)	721.101	Act	Introduction
2 March 2012	3 April 2012	Climate Change Adaptation Strategy I		Strategy	Introduction
16 March 2012	1 July 2013	Forest Act	921.0	Act	Revision
17 October 2012	1 January 2013	Water Retaining Facilities Ordinance	721.101.1	Ordinance	Introduction
25 April 2012	24 July 2012	Biodiversity Strategy CH		Strategy	Introduction
22 March 2013	1 August 2013	Water Protection Act	814.20	Act	Revision
14 June 2013	1 June 2013	Forest Ordinance	921.01	Ordinance	Revision
2014	2014	Climate Change Adaptation Strategy II		Strategy	Introduction