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Cementing “Stakeholder Collaboration” into Flood Risk Management
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7.1 Introduction
An increase in shock flood events and community vulnerability in recent decades, with associated economic damage and rising costs of hard-engineering solutions, has shifted flood management strategies away from flood protection towards flood risk management (FRM) (Evers et al., 2016; Moon et al., 2017). The risk management or adaptive approach aims to deal with the high levels of both complexity and uncertainty associated with flooding issues and signals a realization that the issues cannot be wholly addressed through engineered, structural solutions (Moon et al., 2017). Shock flood events in Europe involved rivers that traversed national borders, and were said to be a reminder of the need to establish a more integrated management approach to flood risks, to not undertake measures that would increase the flood risk in neighboring countries, and instead to coordinate actions within a shared river basin.

Whereas it could be argued that a need for integration and public engagement was a feature of the flood defense approach, the importance of “stakeholder collaboration” is frequently emphasized as a contrasting feature of the new paradigm of flood risk management. Whereas the flood protection approach was said to emphasize the role of experts, flood risk management stresses the importance of public participation (Moon et al., 2017). The scope for and importance of stakeholder collaboration in decision-making are reasoned to be due to FRM’s requirement to address the increasing magnitude of the flood hazard, to foster the resilience of flood-prone communities via a combination of structural and more adaptive, sustainable non-structural measures in an integrated fashion that takes account of wider environmental and resource management in river basins (Challies et al., 2016). Stakeholder collaboration in flood risk management is popularly seen as a more effective mechanism for resolving issues and problems, initiating policy innovation, and more
successful implementation in what can be characterized as a technically complex, often scientifically uncertain, and ill-defined and contested field.

The emphasis on stakeholder collaboration is becoming ubiquitous in practice. Yet developing and maintaining the new approach is far from straightforward; it brings its own challenges, even to the extent of threatening effective policy implementation. Inter-agency working and collaborative governance have been widely debated outside of the FRM field for over three decades by authors in management, public administration, political science, and policy studies. A recently emerging number of theoretically and empirically engaged social science–oriented authors are now studying stakeholder collaboration within the specific context of flood risk management and other closely related fields such as climate change adaptation and disaster, response, and recovery (DRR). These authors bring new concepts, research interests, perspectives, and methods to analyze various aspects of the challenge that is stakeholder collaboration and, more latterly, to challenge the basis as a policy choice. The aim of this chapter, therefore, is to explore and reflect upon the extent of and conceptual scope of the literature and knowledge base, to document the current and to signpost the extension of our understanding of stakeholder collaboration in flood risk management, with the intention of providing greater understanding and insight to FRM policy-makers and practitioners addressing such challenges.

The chapter is organized around the following four broad themes:

1. The early conceptual foundations and policy drivers of stakeholder collaboration;
2. Why stakeholder collaboration is perceived to be important;
3. The challenges and counterarguments to stakeholder collaboration;
4. Ideas and recommendations in practice.

The exploration of “stakeholder collaboration in flood risk management” is important for several reasons. The rationale and challenges of stakeholder collaboration are underplayed and ill-defined in
the mainstream flood risk management literature. A close examination of the ways in which advantages of and challenges associated with partnership working and collaboration are conceptualized in the literature is important in understanding how these types of increasingly widespread policy initiatives can contribute (or not) to improvements in flood risk management in practice, ultimately affecting sustainable outcomes on the ground. Whilst international, cross-national strategies and policies are important drivers mandating a collaborative approach, the limitation of this study is that it does not take into full account different state political and cultural traditions. This in turn will influence institutional frameworks and state–society relationships to affect a country-specific collaborative response. However, by documenting the importance of the documented, collective challenges related to stakeholder collaboration, the author wishes to aid the decision as to whether and when developing or joining a collaborative initiative is appropriate; identify the most effective practice recommendations to build capacity and facilitate the benefits of the approach; and finally, identify knowledge gaps for future research endeavors, including the role of the state administrative context.

7.2 Stakeholder Collaboration – Early Conceptual Foundations and Drivers
From the late 1970s into the 1980s, it was highlighted that a class of policy issues had been identified for which stakeholder collaboration was proffered to provide an effective mechanism for problem resolution (Gray, 1989). Characterized as “messes” (Ackoff, 1974) and “problematiques” (Trist, 1979), these were “wicked problems,” characterized by complexity and uncertainty, often by ambiguity and by conflict (Rittel and Webber, 1973; Dryzek, 1987) and more specifically in the water management context, as a wicked policy issue at the society–nature interface (Ferreyra et al., 2008). Analysts had increasingly viewed the existing societal and institutional responses for solving these “messes” and “problematiques” as inadequate, or even in some cases exacerbating the problem (Trist, 1979). Trist (1977) accused technocratic bureaucracies of having diminishing powers of adaptability in the face of increasing environmental complexity, change, and seemingly increasing the levels of “turbulence” with strategies that had become inappropriate and outdated (Trist, 1977 in
Jamal and Getz, 1995). The then-reliance on centrally formed, state-led policies in technocratic bureaucracies was viewed to have resulted in fragmented problem definitions and piecemeal solutions, still viewed to be “implemented without regard to the diversity of concerns and interests of all but a few stakeholders” (Roberts and Bradley, 1991).

A “stakeholder” is an actor (an individual, a group, or an organization) that holds an interest in a common problem or issue, and/or is directly influenced or impacted by the actions others take to solve the common problem or issue (Gray, 1989, p. 5). Derived from the Latin “collaborare” for “work together,” “collaboration” is defined by the Oxford English Dictionary as “the action of working with someone to produce something.” “Stakeholder collaboration” thereby captures the process when two or more parties come together and work collectively to solve the common problem or issue or work towards a common goal, which is said to typically occur when the stakeholders cannot achieve this alone (Agranoff and McGuire, 2003; Emerson and Nabatchi, 2015). The need for “collaboration” as a mechanism was first introduced by Emery and Trist (1973) and Trist (1983) but was not a widely accepted or used concept at first amongst social scientists. Barbara Gray’s seminal work, “Collaborating: Finding Common Ground for Multiparty Problems” (1989), is credited as the first comprehensive discussion of the concept (by Roberts and Bradley, 1991). She extended the definition of collaboration as a process for mediating stakeholder interactions, “through which parties who see different aspects of a problem can constructively explore their differences and search for solutions that go beyond their own limited vision of what is possible” (p. 5). A shared, richer, and more comprehensive understanding of the problem could enable the participants to find new solutions that no one party could have envisioned or enacted alone (Gray, 1989 in Roberts and Bradley, 1991). Still drawing on Gray’s (1989) definition, Koontz et al. (2001), from an environmental management perspective, moved away from a definite “problem” and “solution,” seeing collaboration as “a process in which diverse stakeholders (those with a stake, or interest, in a given issue) work together to resolve a conflict or develop and advance a shared vision” (p. 185). Debates on collaboration often centered on “government,” given the substantial role that government
played in most modern societies at this time (Koontz et al., 2001). Hence from a public policy-making perspective, “collaboration” thereby adopted the definition of citizens and government officials working together.

7.2.1 The “Wicked Problem” as Flood Risk Management
Following the broader societal developments, flood risk was increasingly seen as a dynamic entity, given the issues being technically complex and scientifically uncertain (e.g., Challies et al., 2016; Green, 2010; Merz et al., 2010). The dynamic, uncertain, and unpredictable drivers of change were attributed to rapid economic, social, demographic, technological, and political change, in addition to the effects of climate change at a global level, impacting the vulnerability of flood-prone communities (Merz et al., 2010). Fast changes in both types and magnitude of flood risk had already been observed or were expected, the changes had led to larger uncertainty and predicting them seen to present a substantial and partially impossible challenge for decision-makers (ibid.). The engineering literature understandably had (and still does have) a predominant focus on challenging technical issues. The “problem” is less likely to be framed in line with the shift in wider societal values, as a technocratic bureaucratic issue with contested strategies now considered inappropriate and outdated requiring a change in approach. Although an alternative storyline can be inferred from the wider environmentally orientated literature as follows.

Traditionally the emphasis on fluvial flood risk reduction had been concentrated on flood control strategies, to reduce the hazard by reducing the probability of flooding through river training, the construction of dykes or embankments (Merz et al., 2010; Plate, 2002). These primary approaches to prevent the river’s expansion onto the floodplain increased the capacity of the channel, or aimed to speed up the flow in the river in order to shift the floodwaters downstream, shortened the river to steepen its gradient down the catchment, or reduced friction by “canalizing” the river into an engineered channel, thereby stripping rivers of all vegetation and often lining them with concrete (Green, 2010). From the 1980s and through to the turn of the century, the long-standing traditional and dominating reliance on flood control began to be questioned. For example, Purseglove’s (1988)
book *Taming the Flood* in the UK charted and brought the destruction of riverine ecosystems to the public’s attention. Any infringement on the natural environment by engineered river works from the engineer’s perspective had usually been accepted as “the price to pay” for flood protection, but the approach began to face serious opposition and a backlash from environmentalists (Plate, 2002). Tobin (1995) also questioned the undying love affair and stormy relationship with dykes in the US, and highlighted the “levee-effect,” in that once a levee had been constructed, the engineered structure could generate a false sense of security, which then led to greater development behind the dyke, and consequently to reduced flood awareness and precaution (in Merz et al., 2010). Merz et al. (2010) noted that there were examples where and when administration avoided the disclosure of flood risk information in order to avoid a public panic (e.g., DKKV, 2003 in Merz et al., 2010). However, awareness of the failure risk increased, which some found increasingly unacceptable (Plate, 2002). There was a general awareness that the result of “shifting floodwaters downstream” often meant “shifting the flood problem downstream” potentially across a national border (Green, 2010). In addition to the structural measures, the fundamental basis of flood risk analysis and management, including “stationarity assumptions,” were also increasingly questioned (Merz et al., 2010). These were undermined with the recognition of longer-term processes of change that threatened to increase flood risk significantly (ibid.).

### 7.2.2 A More Fluid Notion of Flood Risk Governance

The perceived failure of “localized” attempts to deal with fluvial flooding was seen to underline the need for a strategic and more holistic approach at a catchment management level river basin scale. Hence flood risk management became one part or consideration of a wider multi-functional approach to river basins, in the then-emerging (and still current) paradigm of “Integrated Water Resource Management” (IWRM). IWRM emerged from the Global Water Partnership (2000), defined as the “process which promotes the coordinated development and management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems” (in Merz et al., 2010, p. 520). Equity
between economic, social, and environmental dimensions also became the new boundary conditions for flood risk management, based on the concept of sustainable development (ibid.). Hence, considering the risk of flooding as part of this wider framework meant it should not be considered in isolation from other water management functions nor should it be considered as a localized problem (Green, 2010). For example, addressing a local flooding problem might simply move the problem around the catchment or solve the issue at the cost of creating a sediment load or a low flow problem during dry periods (Green, 2010).

IWRM was first seen (and the framing still predominates) as a “physical” need for the integration of water policy and management issues, considering the protection of surface and groundwater resources, their interactions, quantities, and their quality (Mitchell, 2005). More latterly IWRM has also been construed as a major bottom-up alternative, a part of the general trend and rationale towards and for more decentralized and participatory or collaborative styles of environmental governance (Ferreyra et al., 2008; Margerum, 1999). As Merz et al. (2010) indeed noted, whereas previously when flood risk management consisted primarily of structural measures, then “flood defence was, to the largest part, the task of administration” (p. 522). Wider societal shifts in governance echoed in the environmental literature, in that the “notion of government as the central ruler that advances the stated goals of environmental policies through hierarchical coordination, top-down bureaucracies and positivist scientific expertise was replaced by the more fluid notion of environmental governance”; decentralization in environmental decision-making and implementation through local devolution and public participation (Ferreyra et al., 2008, p. 305). Stakeholders’ interests and perspectives then accompanied technical considerations in receiving attention as part of the IWRM paradigm; there has been a more recent focus on the integrated management of land and water interests on a watershed basis, to include agency missions and structures, including the processes such as planning, management, monitoring, and assessment; and also to include education, outreach, stakeholder engagement, and participation (Ferreyra et al., 2008; Shively and Thompson, 2016). As opposed to top-down forms of administrative decision-making, flood risk management
clearly fits within the class of policy issues as defined by Gray (1989), which has been identified for which stakeholder collaboration may provide an effective mechanism for “problem” resolution. Thus collaborative and participatory forms of decision-making were shouldered with the outcomes of “better decisions and plans, improved implementation and compliance, more beneficial social outcomes, greater legitimacy of planning processes and, ultimately, better environmental impacts” (Challies et al., 2016, p. 276).

As Newig et al. (2018) described, the overriding motives and rationales for public participation were more traditionally centered on ideas of emancipation and legitimacy, but more recently have been shifting towards an expectation of increased effectiveness of governance, more sustainable and innovative outcomes and ultimately to improve environmental conditions. Here stronger decentralization and proceduralization of policy-making have been sought globally by governments as one of the vehicles to face off massive environmental policy implementation problems (Newig et al., 2016). This is pursued through the processes of multilevel networks of public, private, and civil society actors, also encompassing the need to drive integration across policy fields (as above), but primarily as offering a governance alternative to state hierarchies and the subsequent market-driven alternatives pursued from the 1980s (Ferreyra et al., 2008).

7.2.3 Policy Drivers for the “Novel” Collaborative Approach
From the 1980s “sustainable development” drove management and wider governance of environmental issues and policy interventions (Harman et al., 2015). A more sustainable, integrated, and risk-based FRM became institutionalized in international discourse, a policy discourse that stressed the need for integration and coordination at a strategic level, with other flood risk strategies and across other policy fields (Dieperink et al., 2016; Hedelin, 2017). Social science authors drew attention to the policy turn to multi-stakeholder involvement and participation. For example, at a global level, in United Nations guidelines on sustainable flood prevention (UNECE, 2000) and the Sendai Declaration regarding the increasing complexity of disaster risk reduction and management stipulated the increasing need for cooperation within and between countries, with the requirement for
public participation at all levels in decision making concerning flood prevention and protection. The United Nations Office for Disaster Risk Reduction (UNISDR) also issued a set of frameworks for building resilient cities, including multi-stakeholder involvement, highlighting the importance of sharing information, resources, and knowledge and effectively coordinating efforts (Gimenez et al., 2017). The Global Assessment Report promoted government–civil society partnerships and local initiatives to reduce the cost of risk reduction, ensure local acceptance, and fundamentally to build social capital (UNISDR, 2010). The World Meteorological Organization, for example (WMO, 2006 in Challies et al., 2016), claimed the reasons for “public participation” were to identify common societal objectives and goals by bringing together diverse stakeholders to exchange information, ideas, and knowledge; foster improved understanding and awareness through the provision of information; enhance understanding between stakeholder groups, reducing conflict and promoting cooperation; identify different concerns and values and thereby foster consensus; ensure that the priorities of affected parties are addressed; build community resilience through cooperation and coordination; ensure the “sustainability” of measures adopted; and promote autonomy and flexibility in decision-making and implementation. See Table 7.1.

The international discourse and “paradigm shift” in thinking have translated into a variety of supranational and national-level legislative and policy level reforms over the past two decades. In Europe, for example, the risk management approach was advanced by the Floods Directive (FD) on the assessment and management of flood risks (2007/60/EC). The Floods Directive mandates flood risk assessment and flood risk management plans for all EU member states, prompting action on an integrated management approach to coordinating action across national boundaries within a shared river basin, to have consideration for human health, the environment, cultural heritage, and economic activities. The flood risk management plans had to be integrated with the river basin management plans of the Water Framework Directive, hence seen in the context of integrated water management at the river catchment scale (Dalezios and Eslamian, 2016). Furthermore, the FD explicitly places demands that all “Member States shall encourage active involvement of interested parties” (Art.
10:2) and reinforces the rights of the public to have a say in the planning process. At a national level, for example, floods in 2002 in the Elbe and Danube catchments in Germany triggered an intensive public debate. The German Committee for Disaster Reduction (DKKV, 2003) concluded that the reduction of damage should have the highest priority, technical flood defenses were essential, but the residual risk must be accounted for, risk reduction through spatial planning was to be strengthened, and private precautions developed. Flood risk management was seen to be a “cross-sectional” task, requiring cooperation between different stakeholders and interests, for example, nature protection or drinking water protection. Actions were to be developed and taken to cover entire catchments, including those crossing national borders (Merz et al., 2010). Risks had to be disclosed to the public, and there was to be an open discussion process on flood hazard and vulnerability, regarding the limitations and possibilities of risk reduction measures to be initiated and maintained.

7.3 Why Is Stakeholder Collaboration Perceived to Be Important?
The changes in flood risk and societal perceptions on flood risk have led to what some describe as a paradigmatic shift over the past two or three decades from flood “protection” to flood “risk management,” recognizing that that structural flood control or protection alone does not solve the flood problem, and interventions must be considered in the wider context of integrated water resource management. This rapid evolution of flood risk management thinking has been echoed across many countries globally (Merz et al., 2010). As a changing “technical” process, it has been discussed extensively from the 1990s, but as Plate (2002) remarked, without due regard to the other societal actors involved. There has been a growing understanding that the engineering decision-making process for flood risk management must not only involve engineers, but also “many social groupings of a society, from political decision makers to people that are directly exposed to floods” (Plate, 2002, p. 3). From the social sciences, there has been a rapid growth in the understanding of the implications of the change in approach, in terms of the importance and the associated benefits of shifting to a collaborative approach.
7.3.1 From Top-Down to Collaborative Decision-Making – an Issue of Transparency, Democratic Legitimacy, and Empowerment

As a “risk dialogue and safety culture,” the changes in approach in FRM were recognized by engineers to be politically critical issues, and under the new paradigm there was a stronger emphasis upon making the process of estimating risk transparent, the results to be made accessible to inform multiple decision-makers, including the general public and to extend to a much larger involvement of the public (Merz et al., 2010). Top-down decision making in flood risk management (FRM) with insufficient involvement of stakeholders has been shown to often lead to blockages and stalemates in the implementation of the proposed measures (Almoradie et al., 2015). In the context of transparency and communication, empowering and actively engaging citizens, NGOs, and community groups through a collaborative approach increases public interest in decision-making, affords citizens a better understanding of the potential and technical or resource-related limitations of their local environment (Moon et al., 2017). A collaborative approach fosters the inclusion of local knowledge in planning and management processes to ensure decisions are well informed and appropriate (Aas et al., 2005; Evers et al., 2016; Moon et al., 2017). Studies have shown that by encouraging a sense of shared ownership of FRM processes and plans and allowing public preferences to be considered, not only does it give the most affected a voice, it can also aid decision-making. Stakeholders hold different values, interests, and perspectives, leading to often conflicting claims and views which need to be understood. Stakeholders may have specific local knowledge or information that can complement specialist models, the store of knowledge, insights, and capabilities should be elevated to the same level of legitimacy as the “experts” (Aas et al., 2005; Evers et al., 2016). More transparent stakeholder participation and consensus building increases trust and fosters greater acceptance, identification, and shared ownership and responsibility for the proposed measures (Evers et al., 2016). This is thought to both ease and enhance both the quality and democratic legitimacy of the decision-making processes and implementation of plans (Edelenbos et al., 2017; Moon et al., 2017) in what can often be highly controversial situations.
7.3.2 From Fail-Safe to Safe-Fail – Building Capacity and Mobilizing a Collaborative Response

Traditional flood engineering previously focused upon the specification of systems that were intended to prevent any severity of flooding in conditions of a defined design event, seeking optimal strategies and interventions targeted at changing the likelihood of a flood, separating flood and people through infrastructural works (dykes, dams, embankments, and weirs) through measures that increase channel capacity or the creation of new spaces for water retention outside of the area to be defended (Green, 2010; Merz et al., 2010). Flood defense as a strategy provides the maximum benefit given the most likely future development, but may fail entirely if those likely conditions are not met (Merz et al., 2010). Whereas in contrast the flood risk management approach allows for a range of events, notably, events that could exceed the modeled design standard and other unexpected failures or previously unexpected sources of flooding, including intense local rainfall or groundwater flooding (Merz et al., 2010). Floods can entail personal or societal level vulnerabilities, potential and actual losses, and at worst, fatalities. Given that severe uncertainty also entails a possibility for surprise and for failure scenarios that had not been foreseen, then the development of crisis intervention capacity is also seen by engineers to be an integral element of flood risk management (Merz et al., 2010). Whereas previously seeking to decrease “vulnerability” was of minor importance, the novel idea of “living with floods” warned against the illusion of complete safety behind defenses, leading to a stronger emphasis on decreasing vulnerability, changing the consequences of a flood, and reducing harmful outcomes, including adaptation to a flood if it should occur, taking effective precautionary measures and aiding recovery after a flood event (Green, 2010; Merz et al., 2010). A diversification of options was said to lead to greater resilience, that “instead of limiting consideration to a fail-safe system that never fails, it is argued that societies should strive to build a safe-fail system that fails in a safe way and recovers after failure” (Kundzewicz and Takeuchi, 1999 in Dieperink et al., 2016, p. 4468).

Desportes et al. (2016) argued a shift away from highly technocratic and traditional disaster, response, and recovery approaches, such as risk assessments, disaster management, and preparedness
plans, based on processes lacking adequate representation from civil society. As such, collaboration plays a crucial role in FRM, in the initiation of social learning processes and awareness-raising to enhance capacity and preparedness within communities for coping with a flood event. Particularly as communities potentially affected by floods are now also involved in various measures and actions directly (Evers et al., 2016). This includes floodproofing strategies, the sealing of buildings to prevent water entrance, and the use of materials that minimize any impact of inundation (Merz et al., 2010). This is not a process that can be effectively managed by individual organizations and institutions, or only by reconstruction or rebuilding plans and insurance systems. They are better managed “through networks of collaborating and diverse entities…because networks are flexible, adaptable, and capable of mobilizing diverse resources” (Tierney, 2012, p. 343 in Desportes et al., 2016, p. 63). Instead, through more flexible and participatory governance processes and multi-stakeholder platforms, stakeholders from different disciplines and technical backgrounds bring different sources and forms of knowledge together, increase capacity for sharing information (either voluntarily or statutorily), and collectively agree on a strategy for solving a problem (ibid.). The resulting strategy is therefore built upon a broader and deeper social and ecological memory and empowers a diverse range of stakeholders to self-organize, to strengthen local resilience (Desportes et al., 2016).

### 7.3.3 From Fragmented, Centralized Flood Protection to Integrated, Plural, Diverse and Decentralized FRM – Water Authorities Cannot Do It Alone

As part of an integrated systems approach, it was recognized that the prevailing fragmented approach towards flood protection needed to move to an integrated and more holistic approach, complementing or replacing flood defenses with measures that would reduce the effects of flooding. Flood risk management was viewed as more flexible, pluralized, part of a broader and multi-purpose or multi-objective process across scales, in urban and rural areas, and up to whole river basins (Merz et al., 2010). Any multi-use approaches that sought to combine risk reduction with another function were considered particularly suitable to those situations characterized by severe uncertainty, hence
offering societal benefits even if a flood event did not occur (Merz et al., 2010). For example, enhancing water retention capacity in catchment could contribute to flood risk reduction as well as decreasing drought risk (ibid.).

The “diversification” of strategies and pursuit of multi-functional FRM is seen as a challenge requiring collaborative and participatory forms of planning and partnerships. Moving out of their traditional domain, water authorities are unable to take measures independently, they need the “assistance” of spatial planners, water resource managers, disaster management, emergency services, and other such actors (Dieperink et al., 2016). Hence not only do traditional FRM actors have to consider and make use of an extended range of measures as responses to flood risk, including those out of the flood risk problem domain such as land use planning and building construction but also take into account a number of other issues not necessarily related to flooding (Merz et al., 2010) that feature in the new partners’ domain (e.g., in this case land use planning or building regulations). For example, water authorities must collaborate with planners to develop sustainable drainage systems (SuDS), which reduce runoff within the urban area but also increase biodiversity, reduce the heat island effect and air pollution (Green, 2010). Adaptation of the built environment through floodproofing requires public participation; however, the renewal of building stock (modern, lower-cost typically on a 30-year cycle), also provides a window of opportunity to collaborate with housing authorities and developers to consider and decrease the vulnerability of the stock (Merz et al., 2010). Whilst the FRM strategies now encompass notions of robust and resilient construction and urban design, disaster response, and recovery, the first position of flood risk managers and policy-makers would be to prohibit or discourage inappropriate development on the floodplains. Hence for flood risk prevention, stakeholder collaboration is required to decrease the consequences of flooding by decreasing the exposure of people and property through land-use planning and expropriation policies.

The pursuit of diversification then requires an alignment and linking of different agencies’ strategies, often in area-specific integrated visions (Dieperink et al., 2016). Local governments are recognized as key in leading the development and implementation of effective policies and tools for resilient
cities, to prepare them to face disaster risks (e.g., Gimenez et al., 2017). Partnerships, as a vehicle for collaboration, bring together a diverse range of expertise, providing a space for the co-production of knowledge and often helping overcome otherwise entrenched institutional fragmentation (Mcallister and Taylor, 2015). Particularly in an urban or city level setting, partnerships are also developed across sectors, from local government, citizens, NGOs, and private organizations, seeking to build a mutual understanding to integrate efforts and resources to build resilience (ibid.).

Furthermore, it was recognized that the measures and strategies for flood risk reduction should not stand alone and “should be considered in the context of other river functions” (Merz et al., 2010). The FRM interventions must be considered in the wider context of integrated water resource management. As political boundaries rarely coincide neatly with catchment boundaries, without collaboration, FRM processes are undertaken by multiple institutions leading to the development of alleged “silo mentalities,” with administrations operating in an insular fashion and thus assuming only partial responsibility of the risk (Gerkensmeier and Ratter, 2018). Collaborative partnerships allow multiple stakeholders to develop shared visions and integrated, watershed-based policies and programs (Ferreyra et al., 2008), including on a cross-national level. Evers et al. (2016) highlighted that the character of floods is highly dependent on ecological parameters, and conversely floods (and the engineered solutions) strongly influence the ecological functions of rivers. Hence stakeholders from different sectors and disciplines need to be involved to consider these various aspects. Likewise, an integrated perspective allows the pooling of resources and expertise, whereby other stakeholders’ objectives can diversify FRM and achieve multiple objectives. For example, floodplain woodlands (Richards, 2003) can slow down the flood flow in a river by increasing frictional resistance or reducing the gradient in the channel (Richards, 2003 in Green, 2010), soil conservation measures to retain rainfall for agriculture, and rice paddies store water and delay runoff, soil erosion and retain rainfall for plant growth but also have the effect of reducing and delaying runoff (Green, 2010).
7.4 The Challenges and Counterarguments to Stakeholder Collaboration
Stakeholder collaboration is being increasingly staged as the central role in dealing with complex FRM issues that any actor (notionally water authorities) cannot tackle on their own, through enhancing the democratic legitimacy and knowledge-base of decision-making, to achieve consensus and as a means for effective integration, across policy fields, geographical levels, and scales (Ferreyra et al., 2008). Stakeholder collaboration is seen as a more successful way, if not the solution, to improve the outcomes and implementation success of public decision and policy-making. Collaboration as a concept is imbued with notions of intrinsic worth, or even romanticized (Hurlbert and Gupta, 2015 in Evers et al., 2016). Although the advocates (and romanticists) for stakeholder collaboration still outnumber the critics, more recently emerging literature has begun to document that collaborative endeavors do not necessarily lead to increased cooperation or improved outcomes. Those who have experienced the collaborative endeavor have often found it far away from being positive, often ending in difficulties or conflicts between the stakeholders, with much less of a successful outcome than initially anticipated (Thaler and Leven Keitel, 2015). A key problem is the difficulties in reconciling the different interests and views of stakeholders (ibid.). In particular polarized interests are documented regarding economic growth as opposed to restrictions on floodplain development or on the selection of novel flood intervention options versus structural options. Some scholars go as far as to suggest that there is little evidence of the value of the policy instrument to manage complex problems or limited evidence that collaboration is capable of producing better, more implementable solutions to environmental issues than has justified its use (Brisbois and De Loe, 2015; Harman et al., 2015).

7.4.1 Collaboration Was Never Going to Be Easy
Collaboration was never supposed to be an easy endeavor; “in practice they are highly complex enterprises that involve substantial investment to develop and maintain” (Margerum and Robinson, 2015, p. 53). As an (or the) early proponent, Gray (1989) stated her concern that expectations may be raised beyond what can realistically be delivered. Gray (1989) had immediately identified that the
development of collaboration can add cost to planning and development, that there are difficulties in identifying legitimate stakeholders, stakeholders have varying capacity to participate and that power can often remain seated with an established local elite or with the most vocal, whereas the input from the “silent majority” and any “local minorities” would often be superseded. Green (2010) also recognized that delivering on a sustainable form of flood risk management was not going to be easy, not because of concerns as to the technical challenges, but because of the abstract call for a functional integration across catchments. This integration depends fundamentally on people, about social relationships and how those involved need to relate to each other; “assuming that a consensual solution is available, that those involved have the incentives to reach it, and that they have social skills to achieve that solution are three sweeping presuppositions” (Green, 2010, p. 41). The panacea that “the necessary cooperation and collaboration merely needs to be wished into existence; an assumption that if all the stakeholders meet together around a table, the result will necessarily be consensus” (p. 41), Green (2010) saw as an illusory conviction posing some of the most dangerous risks to FRM and certainly did not find it surprising that actually delivering on integrated water management objectives had proven difficult.

Yet it is only in the last few years that a small number of scholars have begun to explicitly examine the role and implications for participatory and collaborative governance, and drawn out the challenges, or the cases when it is implemented using inappropriate mechanisms, specifically related to FRM as opposed to the more thoroughly examined neighboring environmental policy fields (Challies et al., 2016). It can be argued that stakeholder collaboration has very distinct implications for FRM, “particularly as floods pose a direct threat to property, economic activity, and human life” (Challies et al., 2016, p. 276).

7.4.2 Institutional and Management Challenges
Perhaps the most fundamental challenges relate to lack of institutional support, capacity, and resources, with a basic lack of understanding concerning how to actually manage stakeholder engagement and collaboration processes, including a fundamental lack of communication and
information sharing (Edelenbos et al., 2017; Thaler and Leven Keitel, 2015). For example, within the context of disaster, recovery, and response, Azumi and Shaw (2011) observed that the participation level of local stakeholders in strategy discussions was extremely limited, missing the objectives of enabling people to express their real needs and priorities, in allowing problems to be defined correctly and enhancing the design and implementation of responsive measures. Lu et al. (2018) have studied multi-stakeholder collaborations in post-disaster situations in China, a chaotic management situation coupled with the highly complex environment and manifold tasks, giving rise to ineffective collaborative relationships that have been seen to negatively affect surviving communities, including hampering the post-disaster recovery process. There are reports of participatory approaches not having been applied on a large scale in some European states due to the considerable leeway afforded by EU legislation on how participation takes place, that active involvement of interested parties must be “encouraged” rather than mandated (Evers et al., 2016; Moon et al., 2017; Newig et al., 2016). If stakeholder collaboration does take place, then it is often being implemented in a very narrow sense to the bare legal minimum and often with accusations of being merely tokenistic (Moon et al., 2017; Newig et al., 2016), often from closed cultures of governmental institutions with accountability problems (Edelenbos et al., 2017) and an inflexibility of public administrations in reacting to the outcomes of public participation processes (Thaler and Leven Keitel, 2015). Stakeholders are evidenced to be experiencing frustration when their input is not taken seriously, and if they do not have any effect or impact on the resultant FRM process (Edelenbos et al., 2017).

As well as the FRM problems being dynamic, the nature of inter-organizational partnerships is also dynamic, with partnership agendas constantly changing, stakeholders leaving and rotating, particularly influenced by organizational restructuring, as well as being impacted by broader changes in the environmental, socio-economic, and political contexts (Huxham, 1993), including key FRM legislation (Ferreyra and Beard, 2007). Rather than easing complexity and uncertainty, in what is viewed as paradoxical by Mcallister and Taylor (2015), partnerships are invariably adding to institutional complexity.
7.4.3 Social Capacity, Power, and Engineers as Part of the Problem
Any influence that stakeholders can leverage depends on their capacity to engage, including primarily the awareness that they have this opportunity to be involved (Thaler and Leven Keitel, 2015). However, Thaler and Leven Keitel’s (2015) empirical work has shown that a societal acceptance and social capacity to engage in the policy and flood risk management planning process, and thereby the ability of stakeholders to ensure their interests, is higher in the wealthier demographics.

Collaboration is about transparency, communication, and empowering stakeholders, although (as with the wider literature), in practice it is largely reproducing previously entrenched power structures. Brisbois and De Loe (2015) have found that despite collaborative approaches being grounded in the assumption that all actors will be able to contribute to policy outcomes and decision making, this assumption only has the potential to function successfully when all actors are created equal; “however, in the context of governance for water, the kinds of actors that come together in collaborative processes are rarely equal” (p. 202). Only interventions that do not “challenge the interests of disproportionately powerful actors are relatively achievable” (Margerum and Robinson, 2015 in Brisbois and De Loe, 2015, p. 210).

Food risk management is clearly an expert-dominated policy domain and often the disproportionately powerful actors are seen as those from water authorities tasked with developing a collaboration. There is an inherent assumption in the engineering literature that it is barriers outside of the engineering community that hamper the introduction of adaptive forms of FRM. Yet a closed, traditional engineering-oriented epistemic is also a key factor, as the stronger the dominance is of traditional engineering practice traditions, then the application of more adaptive, non-structural measures is more difficult or slower to be adopted (van Buuren et al., 2018). For many traditional, hydraulic engineers, the solution to a flood problem is a logical chain commencing with flood studies by hydrological methods, the selection of a design discharge, deciding on the structural system for containing the design discharge, and then implementing the structural system, “in other words, the
solution to flood problems is considered a classical engineering task like many others, such as designing a highway or a sewage disposal system” (Plate, 2002, p. 2). This is not in any way to demean this set of activities, which is highly demanding, including the efficient implementation and assured safety of the engineered system against failure, yet stakeholder collaboration is not an add on to the end of the logical chain whereby the engineers’ decision is communicated to those affected and many well-meaning objectives from the stakeholders are overruled or put aside (Plate, 2002). In the wider literature, there is much attention to the notion of path-dependency or institutionalism when studying changes in the approach to flood risk (e.g., Potter, 2013; Van Buuren et al., 2018). In many countries, engineers are still tasked with reducing uncertainty through rational and consistent cost–benefit analysis for multi-million, centralized structural defense schemes (Van Buuren et al., 2018). More adaptive, non-structural approaches can be perceived as a concession to high standards of protection (ibid.). Hence engineers can often see stakeholder engagement as a threat to their decisive and uncompromised action, deemed necessary to prepare for serious crises (Warner 2006 in Edelenbos et al., 2017). If legitimacy is afforded through the collaborative process, a more multidisciplinary, pluralistic assemblage of actors can make it easier to explore novel ideas and enable the uptake of these approaches; however, water authorities hamper the uptake of adaptive approaches because of a strong power bias towards the existing policy path (ibid.). Hence, ironically, those engineers who are charged with greater stakeholder collaboration are sometimes seen “to contribute to the problem rather than to add in the solution” (Pearce, 2003, p. 218 in Edelenbos et al., 2017).

7.4.4 Responsibilization and Club Goods
The benefits of multi-stakeholder collaboration are espoused and framed in the literature as essential for decreasing vulnerability and strengthening the resilience of at-risk communities to reduce harmful outcomes. However, a recurrent criticism now emerging in the literature is that “resilience is power blind, masks a retreat from the state and makes (poor) communities more responsible for their own affairs through ‘self-organisation and self-reliance’” (Desportes et al., 2016, p. 65). Green
(2010) had noted that non-structural interventions “tend to shift the responsibility to the individual and to reduce the role of society, and to neoliberals that is part of the attraction of such approaches” (p. 36). Such neoliberal-aligned thinking, whether explicit or accidental, “turns a blind eye towards messy contradictions, power and conflict” (Desportes et al., 2016, p. 79).

Critical assessments have raised questions regarding the true purpose of participatory forms of risk management. Some scholars have argued that policies espousing public engagement have more concern for the self-preservation of government agencies and public responsibilization of risk, rather than participatory decision-making (e.g., Johnson and Priest, 2008 in Moon et al., 2017). “Responsibilization” refers to a strategy whereby the state seeks to transfer responsibility for a certain policy issue to individuals and private organizations (Garland, 1996, in Moon et al., 2017). However, given the discourse around decreasing vulnerability and strengthening the resilience of at-risk communities to reduce harmful outcomes in many countries, responsibilization is arguably implicit rather than made explicit. This is of concern, as major issues have been shown to arise when this shift in risk responsibility occurs without the consent (if they were to be afforded any) or knowledge of affected communities. Government agencies assume that the responsibility gap will be filled by communities, without any full consideration as to whether the general public has the capacity to take on the responsibility for their own flood risk preparedness. In terms of flooding, adoption of a responsibilization strategy by government agencies shifts the onus for flood risk preparedness away from the state and towards the general public (Hutter et al., 2014 in Moon et al., 2017). It has also been argued that such a responsibilization approach enables government agencies to manage their own risk, in terms of reputation, accountability, and legitimacy. For example, Rothstein and Downer (2012) reviewed the Department for Environment, Food, and Rural Affairs (DEFRA) widespread use of risk management tools in England, arguing that the prime use of these tools is aimed at enhancing and protecting the department’s own reputation and legitimacy, rather than on the intention for managing public risks (in Moon et al., 2017).
Catchment partnerships (e.g., Australia and the UK) and watershed management (United States) have emphasized the benefits of government agencies partnering with civil society. Yet these groups are becoming increasingly reliant on the voluntary sector, that is, non-government organizations (NGOs), to lead the collaborative effort (Margerum and Robinson, 2015; Potter and Jacklin-Jarvis, 2018). NGOs face the challenges documented above and can find themselves navigating networks riven with power inequalities, open to manipulation by business and governmental organizations (Harris, 2018 in Potter and Jacklin-Jarvis, 2018). Furthermore, the groups’ access to funding (for arguably a previous state responsibility) is sporadic, under heavy competition, and insecure; they are confronting burnout of the most active and committed volunteers, which impacts their ability to sustain the partnership and the expectations placed on the collaborative effort to help solve important watershed problems (Margerum and Robinson, 2015; Potter and Jacklin-Jarvis, 2018).

There is frequent recourse to the role of stakeholder collaboration in sharing and mobilizing diverse resources. Geaves and Penning-Rowsell (2016) have raised fundamental implications regarding public and stakeholder participation as to how the costs and benefits of FRM are distributed. They examined the emergence of “partnership funding” in the UK, a policy tool designed to share between national and local funding sources. Partnership funding is framed by DEFRA as enabling more local choice, as encouraging innovative, cost-effective options to encourage efficiencies and reduction in costs, and promoting joint solutions that bring together the different aims of partners and potential investors and in turn delivering benefits wider than those related to flooding or coastal erosion alone (DEFRA, 2013). The re-scaling to a local level through the partnership funding model has facilitated a more concrete role for public and stakeholder participation, due to the requirement of authorities to have stakeholders onboard. However, Geaves and Penning-Rowsell (2016) argued that many FRM schemes funded from centralized sources would previously have provided “pure” public goods, but now have been dragged towards providing a type of “club good,” with the associated elements of rivalry and excludability, and has essentially re-distributed responsibility for funding, implementation, and maintenance of FRM (in Challies et al., 2016).
7.4.5 Neoliberalism and Private Sector Driven Partnerships

Another of Green’s (2010) risk-laden panaceas of stakeholder collaboration was the presumption that the neoliberal model of individualist action using markets can be universally applicable. Critical research has also questioned if the discourse of “partnership” is also being used by governments to legitimize a shifting rather than sharing of responsibility to the private sector and/or civil society, with the public interest, including notions of social inclusivity or environmental protection, being lost or at least significantly impacted within this shift (Mcallister and Taylor, 2015). Hence particularly in the urbanized setting, there are questions to be answered regarding the collaborative ideal of building a mutual understanding to integrate efforts and resources to build resilience. For example, how can the resources of the private sector be engaged whilst still fundamentally protecting the public interests, can these partnerships empower all stakeholders and avoid marginalization and how can risk be managed equitably amongst partners (ibid.)? The merits of a top-down versus bottom-up approach are again fundamentally questioned, due to issues of diminished public accountability, legitimacy, and authority as well as the ineffectiveness of action (ibid.).

The objectives of adaptive, integrated, and holistic approaches to FRM and resilient cities are also exacerbated by a distinct, wide, and persistent boundary between the key planning partners and water managers (Van Buuren et al., 2018). Technical analyses have shown that land use ranks alongside engineering as the most powerful tool in controlling future flood risk, with the need to balance the demand for new housing, against creating a legacy of flood risk (e.g., Wheater and Evans, 2009 in Potter et al., 2016). There has always been, however, an awkward separation between land-use planning and infrastructure planning including water management (Priemus, 2007 in Zevenbergen et al., 2008).

Kelly et al. (2004) have argued that if planning is to be a key partner and have a powerful integrative role, the system needs “to be given intellectual credibility and rescued from political spin” (p. 314 in Potter et al., 2016). Potter et al. (2016) explained from the UK context how planners are driven by political pressures, to boost growth and provide homes, with flood risk being only one of the many
constraints and objectives that planners need to include in their decision-making. There is a need for strong support from the state for future public sector capacity and provision for suitably skilled and empowered staff to negotiate housing solutions with developers; understand technical assessments; robustly analyze assumptions and the level of complexity around the probability, frequency, and source of flood risk; comprehend the importance of uncertainty; and foster a strategic resilience approach in the face of what may be judged to be other necessary considerations and alternative locations for development.

7.5 Ideas and Recommendations in Practice
Much of the flood risk management literature emphasizes the importance of multi-stakeholder collaboration or participation, yet lacks any well-defined principles for achieving this, including how to overcome the known and complex challenges (Gerkensmeier and Ratter, 2018; Gimenez et al., 2017). Whilst international and cross-national and strategies and policies, such as the Sendai Framework for Disaster Risk Reduction and EU-Flood Risk Directive, are important drivers mandating the approach, they also lack little practical guidance on how to perform effective stakeholder participation and collaboration (Gerkensmeier and Ratter, 2018). The scientific literature now understands the importance of stakeholder collaboration or sees it as a necessary condition. Engineers have turned some attention to program governance with normative notions of stakeholder engagement within that to execute planning frameworks and strategies efficiently and with value added (e.g., Rijke et al., 2014). The engineering literature occasionally highlights the issues and there have been some attempts made to build technical solutions, including web-based stakeholder platforms and modeling of collaboration into the decision-making process (e.g., Almoradie et al., 2015). Yet the pursuit of technical understandings of novel flood risk management strategies and implementation continue to dominate (Gerkensmeier and Ratter, 2018). Although collaborative governance continues to proliferate, Newig et al. (2018) noted that there is still no consensus on its performance and even if strong relations between collaborative processes and environmental outcomes are empirically derived, the studies lack any detail as to why and how this has happened.
The benefits of participatory decision-making are not automatic, or a given, but rather emerging research is now showing the benefits (or failure) in FRM and wider IWRM are contingent on a large array of intervening factors.

### 7.5.1 Institutional and Management Response

Many of the key intervening factors in the empirical research of Newig et al. (2018) relate to aspects of democratic legitimacy and effectiveness, including access to decision-making, balanced representation, and procedural fairness. A diversity of participants is expected to increase the potential of meaningful contributions (Emerson et al., 2011 in Newig et al., 2018), but in order to contribute meaningfully when knowledge input is important to the collaborator process, then knowledgeable stakeholders should be invited to participate, or the participants empowered to contribute more meaningfully through a knowledge exchange exercise to increase the participants’ understanding of the issues (Newig et al., 2018). The collaboration process should facilitate knowledge integration, exchange, and input through structured methods, for example, such as interviews, participatory modeling (Renn, 2006; Rowe and Frewer, 2005), and specific methods that have been developed to translate between lay and expert types of knowledge (Edelenbos et al., 2011; Newig et al., 2018). A knowledge deficit is considered to be typically the case in technically intensive issues, but the information provided by the organizers should be comprehensible and unbiased, not skewed to the over-representation of a certain sector’s views. A deliberative participatory process setting is more likely to result in orientation of participants’ views toward the common good. A deliberative setting is one characterized by candid and reasoned communication and exchange, structured and oriented toward problem solving (Emerson and Nabatchi, 2015), as opposed to bargaining or negotiating (Elster, 2000), undistorted by power plays, transparent, fair, and based on clear rules that enable unimpeded dialogue and are typically characterized by a trustful atmosphere (Ansell and Gash, 2008; Emerson and Nabatchi, 2015; Innes and Booher, 1999; Newig et al., 2018; Smith, 2003). Of course, trust may clearly be lacking in highly conflictual situations and the process depends on the stakeholders being willing to listen and to engage with differing
perspectives of the administration. Where levels of trust are low, this might therefore necessitate the
services of a professional facilitator (Newig et al., 2018).

7.5.2 Capacity Building, Long-Term Commitment, and “Outing” Collaboration Goals
Government–citizen partnerships depend on the linkages and trust that individuals within these
groups provide through members’ capital and social networks, the implementation performance
hinging on the stability of the partnership’s environment, the quality of the consensus-building
process, and the capacity of partners to carry out their activities (Margerum and Robinson, 2015).
Consensus building in a collaborative partnership is intense and time-consuming, it requires a
significant store or building of social and institutional capacity to handle the complex issues,
including the translation and integration of knowledge sources (Margerum and Robinson, 2015).

Inter-organizational leadership skills are considered essential to develop and sustain collaborative
partnerships. Multi-stakeholder collaboration and integration should also be about learning how to
cope with and taking advantage from difference, diversity, and divergence, accepting different types
of knowledge and experiences, diverse and often divergent values and expectations, that need to be
continuously confronted, sometimes (re)aligned and contested (Ferreyra and Beard, 2007). The
pursuit of compromise and agreement is not only important in the initial consensus and goal-setting
stages, but must continue throughout the endeavor (ibid.). Dedicated capacity-building agencies and
national political “champions” help lead partnerships, but it is to be noted that the partnerships are
vulnerable if the support is withdrawn or the political leader leaves office. There is a need for
extensive and ongoing staffing and resources to support implementation, including formal structures
and governance mechanisms (such as collaborative superagencies as per the Great Lakes and

It has been documented that partnerships that support the flow of information and decisions across
agencies offer better decision making, long-term efficiencies, and better outcomes. To note that the
benefits are often accrued over the long term, which requires long-term investments and a changing
culture within organizations, including to offer reward structures to support partnership working,
against organizations’ favored short-term results, individual performance measures, and a core focus on the organizational own goals over shared goals (Margerum and Robinson, 2015). Collaborative partnership goals or targets are often set for environmental impacts, but they are also considered important for collaborative management, making explicit what the specific outcomes of collaborative management in a particular context ought to be. Indicators for monitoring and evaluation that can address water management both as a social process and a technical process is considered critical, also to make the distinction between partnership outputs and partnership outcomes to facilitate self-reflection and self-evaluation. This, Ferreyra and Beard (2007) argue, helps “create ‘safe spaces’ for stakeholder dialogue and social learning that neither deny disagreement nor are built upon shallow consensus” (p. 291). However, unfortunately defining and agreeing upon “measurable” collaborative management goals remains challenging due to what is considered “the messy, qualitative and fuzzy realm of human relations” (Ferreyra and Beard, 2007, p. 284).

Margerum and Robinson (2015) highlighted two different types of strategies for the implementation phase of collaborative partnerships, targeting sustainability and transformation. (1) Partnerships that structure the implementation of tasks through implementation around “cooperative” efforts, where the organizations retain independent decision-making processes, but work together to achieve a common goal (set through the initial consensus-building process or through legislation). This works if the conditions are stable, and the institutional demands are less, due to the maintained independence and autonomy of systems and activities. (2) Partnerships that structure implementation through coordination, entailing processes of joint decision making. This places greater demands and commitment to time and resources, shared power due to the need for information exchange, significant integration of tasks and activities, with the exchange of resources. These forms of partnership can be supported by formal high-level agreements set by the national or state government. They require collaborative leadership skills, with individuals adept at spanning boundaries, building trust and relationships, and also developing a culture for collaboration within their own organizations. To avoid reliance on individuals (if there is turnover), organizations also
need to build wider networks and bridges between stakeholders and organizations, to promote wider information flow and joint decision making.

7.5.3 To Participate or Not to Participate
From an environmental actors’ perspective, the challenges documented regarding collaboration pose a risk in choosing to participate, by being co-opted by more powerful actors, being pacified or seduced to lead to greater concessions or through any obligation for participants to engage reasonably can actually “serve to suppress and dilute the concerns and convictions that environmental groups bring to the table” (Newig et al., 2018, p. 277). Playing the consensus game may mean groups lose their recourse to more successful means of challenging power from outside of the participatory venue, such as lawsuits and direct protest (ibid.). Hence rather than participating, environmental actors should also consider if they have a better chance of success in advocating for their concerns if they are not involved and affect their influence in direct confrontation with authorities (Newig et al., 2018).

7.6 Summary and Conclusions
Stakeholder collaboration can be seen as an integral part of a changing approach in the FRM structures and processes, not only as part of a reaction to the reinterpretation of how to understand and manage flooding as a risk and natural hazard, but also as part of a wider change in approach to tackling environmental issues and furthermore, as part of a wider global, societal shift in “government” to “governance.” In dealing with the “wicked” FRM problem, somewhat ironically, the complexity needs to be addressed with a greater understanding of the complex dynamics of stakeholder collaboration. There is a tendency for the FRM literature to see stakeholder management collaboration as the answer or the panacea, with an evident lack of understanding regarding the processes and capacity required to enable collaborations in practice. Stakeholder collaboration remains a normative demand in the flood risk management debate, and still needs to be translated and transformed into everyday planning practice (Thaler and Leven Keitel, 2015). The route to more successful outcomes in FRM has been overlooked to date by the engineering community,
“collaboration” being taken somewhat as a given, yet although seen as a vehicle to build trust with stakeholders in the FRM decisions, it bypasses the need to build trust *between* stakeholders. This depends on strong social relationship skills and a substantial, long-term ongoing investment of commitment and resources from public agencies to develop and maintain.

Newig et al. (2016) have shown that public participation and stakeholder engagement processes are not yet generally recognized by water authorities as fields that could benefit greatly from evidence-based process design and systemic learning. Standing in stark contrast to the way in which flood protection measures and the technical content of flood policy are developed and designed. The research presented within this chapter collates the work in the recently emerging field of research in stakeholder governance and collaborative governance in FRM and IWRM. The FRM community can continue to learn and draw from theories on stakeholder collaboration in related policy fields, particularly environmental policy where procedural requirements are similar (Challies et al., 2016; Newig et al., 2016), but also noting the finding from Challies et al. (2016) that FRM is different in significant important ways to neighboring areas of environmental governance. It is also important to increase understanding as to whether proposed transfers and diffusions of theories and practice are realistic in a particular state-level administrative context, which plays a vital role in the actual adoption and implementation of novel policy responses (van Buuren et al., 2018). To re-iterate the call of Challies et al. (2016) for more research, “to investigate precisely how, and under what conditions, participatory and collaborative governance contributes to effective and legitimate efforts to confront flood hazards, reduce exposure and vulnerability of communities, and thereby fosters sustainable flood risk management” (p. 279).

There is a growing understanding of the institutional barriers to stakeholder collaboration, although less of an understanding and comprehensive recommendations for the on-the-ground application. With adaptive FRM, adaptive governance research takes “management as learning” approaches that explore problems and uncertainties, reframe problems, and deliberate over alternative approaches to address the problem through an iterative process, constantly re-evaluating if the applied management
approaches are fit for purpose, particularly when applied in different contexts and reframing problems and solutions (Rijke et al., 2014). Scholarship with management and public administration has built over three decades of theories and concepts to understand the collaborative endeavor and collaborative governance, and as Newig et al. (2016) recommend, it is important to undertake interdisciplinary and inter-state approaches to facilitate knowledge exchange and research between policy-makers, consultants, and scientists to inform theory and practice.

Stakeholder collaboration offers great transformative power, by broadening disciplinary expertise and offering more forward-looking sustainability-focused ideas and adaptive management tools. However, the powerful engineering tradition in flood risk management is to date overlooked as one of the key challenges to the uptake of adaptive approaches, due to the continued preference for traditional system robustness and infrastructural measures (Van Buuren et al., 2018). Finally, it is crucially important to further a critical understanding of the motivations of the neoliberal state. Does stakeholder collaboration in FRM represent a shift in governance or a shift in risk responsibilities? Government regulation and enforcement still remain the largest motivators of change for private sector actors (Newig et al., 2016), the “collaborative” approach needs re-evaluating with respect to private-sector-led partnerships tasked with resilience and the public responsibilization of risk for flood-prone communities, for which the un-managed retreat of the state should not be an option.

References


Table 7.1 Key Global Policy Responses to Multi-Stakeholder Involvement and Participation

<table>
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<tr>
<th>Organization</th>
<th>Document</th>
<th>Policy Response</th>
<th>Year</th>
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<tbody>
<tr>
<td>The United Nations Economic Commission for Europe (UN/ECE)</td>
<td>Cooperation is necessary within each riparian country as well as between riparian countries and is most effective if it involves the public</td>
<td>2000</td>
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UNECE, 2000. Meeting of the parties to the convention on the protection and use of transboundary watercourses and international lakes. The Hague, the Netherlands.


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<tr>
<th>Organization</th>
<th>Document</th>
<th>Policy Response</th>
<th>Year</th>
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<tr>
<td>Europe (UNECE)</td>
<td>Guidelines on Sustainable Flood Prevention</td>
<td>Access to information and public participation in decision-making concerning flood prevention and protection is needed…to improve the quality and the implementation of the decisions, to contribute to public awareness, to give the public the opportunity to express its concerns, and to enable public authorities to take due account of such concerns (para 33).</td>
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<td>Joint initiative of the World Meteorological Organization (WMO) and the Global Water Partnership (GWP)</td>
<td>Social Aspects and Stakeholder Involvement in Integrated Flood Management; the Associated Programme on Flood Management (APFM)</td>
<td>The nature of the IFM approach calls for extensive coordination between various stakeholder groups. Information sharing and networking are among the most crucial factors ensuring the efficiency and stability of the approach, anticipating and managing conflicts, and furthering collaboration across jurisdictions and sectors. This requires an enabling institutional framework, which facilitates rather than hinders effective coordination, cooperation, and collaboration across jurisdictional boundaries, departments, institutions, disciplines, users, and uses (p. 58).</td>
<td>2006</td>
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<tr>
<td>The United Nations International Strategy for Disaster Reduction (UNISDR)</td>
<td>Sendai Framework for Disaster Risk Reduction</td>
<td>A need for coordination mechanisms within and across sectors and with relevant stakeholders at all levels […] and a clear articulation of responsibilities across public and private stakeholders (p. 8).</td>
<td>2015</td>
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<tr>
<td>The United Nations International Strategy for Disaster Reduction (UNISDR)</td>
<td>United Nations Global Assessment Report on Disaster Risk Reduction (GAR)</td>
<td>Utilizing indigenous and local knowledge and stakeholder engagement can aid the development of adaptation policies and broader sustainable development, along with more proactive and regionally coherent adaptation plans and actions, and regional cooperation (p. 367).</td>
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