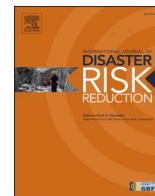


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## Professionalization of community engagement in flood risk management: Insights from four European countries

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## ABSTRACT

Flood management has long been dominated by scientific expertise, centralized decision-making, and top-down professional management. However, changing patterns of risk probabilities instigate shifts in the ways floods are managed, bringing forward the necessity for flood mitigation, preparedness and resilience. Community engagement is recognized as paramount in the attainment of these goals. This provokes risk management authorities to facilitate professionalization of community members in becoming risk management stakeholders. Professionalization of community engagement is becoming the esteemed norm, as it ensures better alignment between all stakeholders and increases capacity and efficiency of authority-community collaboration. At the same time, community engagement in flood management in general, and its professionalization, in particular, has its paradoxes. This paper examines the micro-level facets of professionalization of community engagement in Italy, Germany, England, and the Netherlands based on five-months fieldwork conducted in 2020 and discusses the ambivalent implications of professionalization for community engagement in flood risk management. We conclude that professionalization largely contributes to better coordination of the group members' activities, their alignment with risk management needs and priorities, and enhances community members sense of belonging in the professional field of flood risk management. At the same time, professionalization entails the burden of increasing explicit and implicit state requirements for communities. It reinforces participatory limits and reproduces flood risk management unattainability for the broader public.

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## 1. Introduction

Flood management has long been dominated by scientific expertise and centralized decision-making limiting the number of stakeholders to governmental bodies and their private contractors. Changing patterns of risk probabilities instigate shifts in understanding and approaches to how floods are managed. Along with structural flood defense, softer measures aiming to increase preparedness and build community resilience through holistic multistakeholder approaches become essential elements of flood risk management (FRM) [1–4]. Community engagement in risk management is perceived to play a crucial role in the attainment of community preparedness and resilience [5]. It is credited to contribute to more accurate risk perception and better awareness [4,6,7]. Local knowledge attained by community members can be used for a more nuanced risk management [8] tailored to local peculiarities and needs, if there are mechanisms that allow incorporation of local knowledge into the institutionalized system of decision-making [9]. Community engagement is also supposed to facilitate transparency and democratic decision-making [10], tackle power imbalances, and increase communities' ownership of their own safety as it promotes the expression of interests and concerns of those affected groups that are supposed to adapt the decisions made by official risk management institutions [11].

At the same time, community engagement in risk management is itself a space for debate [12]. For example, Begg et al. [2] suggest that despite increasing attention to public participation and community engagement in FRM, we observe a paradox of responsibilities and duties often being shared without powers and necessary resources to fulfill them. This results in a situation where communities are left to fulfill government-set agendas and meet institutional requirements, without necessary capacities to challenge the status-quo. Benson et al. [13] note that community participation can be constrained with the organizational forms and institutional structures. Institutions retain a strong steer on the scope of community involvement, prioritizing specific objectives that often sideline local preferences and issues of particular concern. At the same time, limited capacities to co-participate in decision-making and delivery, however, does not preclude communities from being blamed for inadequate flood management measures, as research by Kuhlicke et al. [14] suggests. In their research, Geaves and Penning-Rowsell [15] conclude that a tendency towards localized FRM interventions (often executed through partnership funding) define a niche for local communities' participation and promote their meaningful collaboration with authorities. At the same time, such shifts compromise the 'public good' character of flood risk management interventions and contribute to their excludability. Thaler and Priest [16] also raise questions about representativeness and fairness of community engagement in FRM, as often, only those local groups who already have significant social capital, knowledge, and resources are the only ones able to argue for and drive their interests.

This paper examines one more factor that contributes to the ambivalence of community engagement in FRM, which is professionalization. Professionalization of local groups aimed at participating in FRM is often considered a fundamental goal [17], for it ensures better alignment between communities and risk management practitioners authorities, and increases the capacity and efficiency of authority-community collaboration [5,17]. At the same time, studies in the related disciplines suggest that professionalization may have ambivalent impacts on community engagement (see, for example [18–20]). This research, however, has, so far, focused its analysis on organizations and supra-organizational structures, while instantiations and impacts of professionalization at micro-level receive less attention [21]. The micro-level analysis, in turn, allows better understanding of contextual facets of professionalization and tracing their immediate implications for community engagement. This is particularly important as professionalization impacts already existing participatory arrangements that are often fragile and easy to dissipate. Identifying the micro-level facets of professionalization may help address its detrimental implications and reinforce the positive ones for the sake of sustainable community engagement in FRM. Therefore, this paper addresses the question how professionalization instantiates itself in community engagement in flood risk management and what implications professionalization has for community engagement in flood risk management?

The paper is organized as follows. The Conceptual framework distinguishes possible facets of professionalization outlined in existing research from related fields and provides definition of professionalization used in the paper. The section also addresses the relation between institutional contexts and professionalization, for these contexts affect the demands for professionalization to community groups engagement in FRM. The Methodology section describes how the facets of professionalization identified in the literature were used as beacons to code and consequently analyze instances of professionalization in the empirical data collected during five months of ethnographic fieldwork in 2020 on community groups involved in flood risk management in England, Italy, Germany, and the Netherlands. The analysis section provides a detailed description of the identified facets of professionalization in four empirical country cases. For each facet, the Discussion section outlines the positive and negative implications of professionalization for community engagement in flood risk management. The observations and inferences drawn from this article may be relevant for community-engagement practitioners as well as for future research on community participation in FRM.

## 2. Conceptual framework

The idea of community engagement in flood risk management that enhances communities' ownership of their own safety exists in an uneasy relationship with demands for professionalization paramount for flood management as a highly expert-driven field. Community engagement represents a 'purposeful process which develops a working relationship between communities, community organizations and public and private bodies to help them to identify and act on community needs and ambitions' [22]. To be effective it demands, among other things, increasing institutional support [23] and funding [16], introducing new organizational formats for collaborative working [13,24], enabling effective communication and information sharing [16], investing in education and training [25], increasing standardization [26], strengthening mutual accountability [27], as well as providing access to insight and knowledge of flood management practice [15]. Altogether, these practices contribute to professionalization of community engagement, which helps community groups to be considered legitimate stakeholders in risk management. The very term professionalization is intricate.

Depending on the theoretical stance, professionalization entails different facets. Firstly, it manifests itself in knowledge and requirements to attain it. Namely, in functionalist approaches, an exclusive body of knowledge and expertise are the central features of professionalization [28,29]. The resultant professional knowledge is formal, acquired in training, codified, standardized, and verified [30]. While traditional theories used to consider an advanced body of knowledge as a prerequisite for professionalization, more recent inquiries pay greater attention to the process of knowledge attainment, examining the deliberate attempts of the occupational groups to 'formalize, systematize, and polish their knowledge base' [31, p. 4]. Interactionists associate professionalization with specialized learning and training, codes of ethics, and control mechanisms regarding entry to professional practice and excluding those unable to attain professional knowledge [32].

Secondly, professionalization manifests itself in the organization of work structures, through rationalization, bureaucratization [33], and operational discipline. These manifestations lead to hierarchical decision-making structures, strict separation of responsibilities and tasks [34].

Hustinx and Lammertyn [35] argue that professionalization blurs the divide between non-professionals (for instance, community groups and initiatives) and professionals, as community groups are expected to acquire specific expertise and levels of performance [36,37], promoted through standard setting, monitoring and enforcement, inspection and oversight [38]. Therefore, thirdly, professionalization manifests itself in activities and their performance. Often activities are preceded by state-defined training programs and workshops [39]. The training enhances technical expertise [40], knowledge of a subject and organizational arrangements, as well as the ability to perform tasks in accordance with defined rules and procedures, which increases safety of community members and minimizes liability risks [41]. State-defined programs, educational credentialing and certification generate 'an artificial scarcity of individuals who have the legal, technical, or socially recognized ability to perform a bundle of tasks' [42, p. 61] and promote social closure [43].

Fourthly, professionalization reveals itself in the positionality of the groups, i.e., in a way they identify and position themselves in a professional field [44,45]. Professionalization entails an identity project [21], where different groups try to resonate with practitioners' professional identity to secure and sustain their presence in a professional field. This process involves discursive and symbolic work that signals the group belonging to one field and demarcates it from those outside the field.

In this paper, we define professionalization as a process by which local groups attain credibility and cultural acceptance within a professional field, aligning with organizational models and practices of risk management agencies. The way professionalization reveals itself depends on the institutional context [46,47]. The four countries considered in this paper - Italy, Germany, England, and the Netherlands - have different flooding regimes, as well as cultural differences, associated with institutional arrangements [48]. These differences affect flood management (e.g. produce associated biases either towards flood control or, on the contrary, non-structural policy measures), delineate the roles communities play in it as well as pose requirements and expectations that communities should meet to be involved in flood risk management.

In Italy and the Netherlands flood management lies with supra-regional and national authorities, respectively, with a strong emphasis on flood control [48], considered as a technical issue to be dealt with by professionals [49]. In the Netherlands, citizens and communities do not typically undertake flood risk management activities of their own accord. Moreover, they rarely collaborate with official institutions with regards to FRM either, limiting their involvement to electing members of the water authorities [49]. Hegger et al. [50] attribute this lack of participation to the high level of FRM institutionalization. Within this institutional context, the organized community engagement in FRM takes place through regional water authorities establishing and working with dike watcher groups and high water brigades that assist the authorities in controlling floods. Dike watchers are trained to help regional authority employees in inspecting defensive systems in the case of (near-)emergencies, and high water brigades participating in closing off vulnerable town districts with the use of defensive walls.

In Italy, the original water management legislation left little room for community participation in flood risk management [51]. It has been primarily after the introduction of the European Water Framework Directive (2000) that community engagement became addressed in the policies and decrees. Civil Protection, as the main national body with representative offices in the regions responsible for protecting people, assets, and environment from natural hazards, was granted authority to promote stakeholder participation in designing and refining the basin plans [49]. Despite the changes, community engagement in FRM is relatively limited. It takes forms of either spontaneous volunteering in case of emergency or organized community groups affiliated to Civil Protection [52]. The groups affiliated to Civil Protection follow command and control management and focus primarily on response and recovery (e.g. after flood clean-ups).

In Germany, flood management is traditionally a task of state and municipal actors. The water authorities of the sixteen federal states and the local water authorities are responsible for the designation of flood water retention areas and the construction and maintenance of flood protection infrastructure such as dikes, dams, or retention basins. Communities play a threefold role in flood risk management: participation in land use planning [14,48], spontaneous volunteering during emergencies, and organized community groups involved in flood response. The organized community groups engaging in flood management are often members of one of the more than 22.000 volunteer fire brigades that exist in Germany. Members of the brigades are often well-trained 'local professionals' who are tightly embedded in local FRM governance structures functioning as first responders during flood events.

England has a long tradition of stakeholder engagement in flood management, originating from stakeholder-based regional committees back in the 1930s [15]. Compared to Italy, Germany, and the Netherlands, where flood management primarily focuses on flood control (although recent shifts towards increasing community awareness through national campaigns, such as 'I don't risk' in Italy, public participation in planning as in Germany, and projects as the 'Room for the river' in the Netherlands, indicate moderate shifts from flood control to flood risk management), the new English approach to flood management emphasizes flood reduction and flood alleviation. The approach parallels a broader political trend on localism, characterized by decentralization of decision-making

and delivery, and, consequently, devolution of responsibilities to local and individual levels [16]. The emerging institutional context favors community engagement in flood prevention, protection, preparedness, and recovery. In most cases, this results in community groups complementing governmental action with regards to funding flood risk management measures, delivering FRM results and producing knowledge [53], though community engagement in the form of pressure groups also exists (see, for instance [54]). In the last decade, organized community engagement in the form of 'local flood groups' (LFGs) received significant governmental attention. LFGs can be bottom-up or initiated by authorities but aiming at promoting local ownership and self-governance [53], as demonstrated by the groups launched as part of the Flood Resilience Community Pathfinder scheme. The groups usually demonstrate a high level of self-responsibility in decision-making and planning yet have to comply with legislation and act in alignment with public agencies involved in FRM that suggest and facilitate certain behaviors to the flood groups.

The institutional contexts described above inevitably influence the way professionalization manifests itself in and impacts community engagement in FRM in the four countries under study. In the sections that follow, we describe facets of professionalization observed in the functioning of the community groups involved in FRM in Italy, Germany, England, and the Netherlands and discuss the ambivalent implications of professionalization for community engagement.

### 3. Methodology

Drawing from five months of fieldwork conducted in 2020 in Italy, Germany, England, and the Netherlands, this paper provides insights into the facets and implications of professionalization for community engagement in FRM.

Although spontaneous volunteering plays an important role in emergency response, the literature refers to organized local groups as the most prominent and efficient format of community engagement in risk management [17]. Therefore, to examine the instantiations and implications of professionalization for community engagement we conducted a five-month study of organized groups engaged in flood risk management in their local environments. Empirical research was carried out by four research teams in seven locations across the four European countries. Recurrent flood risk, and presence of organized community groups involved in flood risk management were the two main criteria that informed the choice of the exact locations.

#### 3.1. Community groups

In England the research involved two local flood groups operating in two civil parishes in the County of Shropshire, West Midlands region. The groups were formed after the floods of 2006 and 2014, with the aim to investigate the main sources of flood risk and minimize their adverse impacts in the local environments. The groups comprised eight and nine members, mostly men. The groups originated in response to the National Flood Forum (NFF) (the national charity helping flood prone communities) proposition. The groups demonstrated a high level of self-responsibility in decision-making. At the same time, affiliated to the NFF, the groups were encouraged to follow what is called a 'partnership approach', aimed at building sustainable working relationships with the relevant official flood risk management agencies and authorities to discuss and resolve flood-related issues identified as key priorities by the local communities.

In the Netherlands the case comprised two local flood groups — one located in the small town of Goudiep<sup>1</sup> comprising 12 members, and another group of 19 members in the mid-sized city of 's-Herendam, Overijssel province, eastern Netherlands. Most of the group members were considered by the research team as men. The groups' aim was to assist a water authority with dike inspection in the case of extremely high water levels to prevent flooding of the river IJssel. The dike watcher groups were recruited, coordinated, and managed by the regional water authority Waterschap Drents-Overijsselse Delta (WDOD) — part of the main national water management authority. The performance of the dike watchers was coordinated by a strict protocol, which they agreed to by signing a contract that specified performance requirements, a duty of confidentiality, and code of conduct. By signing the contract, group members complied to only act on orders of the water authority and to adhere to agreed-upon tasks and working hours, among other things.

In Germany, we worked with the members of the local fire brigade in a small town in central Saxony. The involvement of the fire brigade in flood risk management was largely informed by the devastating floods of 2002 and 2013. During fieldwork, the brigade comprised approximately 65 members, predominantly men, involved in flood preparedness and emergency response, such as the operation of a recently built mechanical flood barrier. Although originating as a bottom-up local group, the brigade was overseen by the municipality. In case of elevated flood risk or an actual flood, the municipality would forward instructions to the brigade's superiors, and coordinate their flood response together with other risk management authorities, such as the River and Dam Administration of Saxony. While the brigade was free to manage its internal structure and enjoyed a certain degree of autonomy on the ground when dealing with flood events, it acted exclusively as an executive body when it came to long-term flood risk management planning and preparedness.

The Italian case comprised two groups located in the urban and semi-urban areas of Piedmont, northwest Italy. The groups were formed in 1999 and 2016 assisting the Civil Protection in flood response and preparing local communities for emergencies. One group comprised 12 members, predominantly women, while the other group involved 60 members, the majority of whom were men. In Italy, organized community engagement in flood risk management is primarily executed under auspices of the National Service of Civil Protection. The groups worked under coordination of the Civil Protection and local authorities (primarily the mayor) with relatively low levels of autonomy. The groups were free to define the scope of activities they aimed to pursue, but their execution required

<sup>1</sup> The names of the groups and towns are fictional, to ensure the anonymity of the informants.

institutional authorization. Namely, to become involved in flood risk management the community groups first had to create a charter outlining their aims and activities, which then had to be submitted to and approved by the municipality and the Civil Protection. Only after being accredited by both institutions, the groups became officially affiliated to the Civil Protection and were allowed to engage in flood risk management, acting on the basis of Civil Protection requests, code of ethics and conduct.

### 3.2. Data collection and method

The data were collected during five months (from mid-January to March and from mid-September to November) in 2020. The research design of the study relied primarily on semi-structured interviews [55], but also included the research of documents and online sources, such as websites and social media [56], and observations. The restrictions of face-to-face interaction, imposed during the COVID-19 pandemic, informed the researchers' intensive use of digital and remote data-collection methods. Approximately 50% of the interviews were conducted face-to-face, while the other half was conducted either over phone or video call. Such a combination of live and remote data collection methods has been proven to be appropriate in similar studies [57,58].

In total, 124 semi-structured interviews were conducted with members of the volunteer groups involved in flood risk management, and seven interviews with representatives of the official risk management agencies. According to the aims of the research, a combination of non-probability purposive and convenience sampling [59] was used to recruit informants for an interview. Given that for some of the community groups under study flood risk management was not the only responsibility, we specifically sampled members of the groups who were involved in flood risk management practice, and representatives of the official risk management authorities who liaised with the groups in relation to flood management. Although the research did not aim to use the data to generalize inferences, the bias associated with non-probability sampling was reduced by the researchers interviewing as many group members involved in flood risk management as possible.

The interviews were organized with a guide, comprising three core topics:

1. Flood risk management in the area: current approaches and actors involved.
2. Community groups' engagement in flood risk management, including the groups' organization, membership, activities, and aims.
3. Communication and collaboration between the groups, official risk management authorities, and the local communities.

In total, approximately 30 open-ended questions were asked to elicit a rich and nuanced narrative on the three topics. Interviews lasted between 30 minutes and 3 hours, depending on the availability of the informants. The interviews were collected and recorded with the informed oral consent of the informants.

The corpus of the official documents and online sources included codes of conduct and ethics for the community group members, flood management-related materials provided to the community groups by the risk management authorities, as well as the groups' and risk management agencies' websites and social media. The observations registered the material environment and practices of the community groups. The data collected from these sources were used primarily for providing contextual knowledge to aid interpretation of the data acquired with the interviews.

The data from the interviews were organized and systematically coded using the qualitative data analysis software NVivo 13 and Atlas.ti 9 [60,61]. The data analysis involved two phases of coding. Given the significant volume of textual data and a teamwork approach to coding [62], we started with structural coding to categorize the data [61]. The structural codes corresponded to the theoretically-informed facets of professionalization that served as the 'beacons' indicating where in the data a researcher might expect to find information related to the professionalization of community engagement in flood risk management. The structural codes were: (1) group organization, (2) group activities, (3) group knowledge, (4) group identity. Therefore, at the first step the texts were broken down to meaningful excerpts each assigned one or several of the structural code tags. The tags were then used to retrieve the corresponding segments of text for further coding and analysis. As the second step, we applied a mixture of descriptive, in vivo and process coding [61] to the retrieved excerpts of texts, with no predefined coding scheme, to allow for the data-driven insights and to be able to account for nuances in the way professionalization reveals itself in different contexts where community groups operate. The analytical level of codes ranged from descriptive codes (e.g. the in vivo code 'this is for the higher-ups') to categories (e.g. 'intragroup hierarchy'). Finally, focused coding was applied to allow for assessing the codes with the best interpretive and explanatory capacities. This involved comparison of codes and categories across the four cases.

The following section describes the four facets or professionalization of the organized community groups observed in four countries under study. The section is followed by the discussion of the implications that professionalization has for community engagement in flood risk management.

## 4. Results

### 4.1. Organization and structure of the groups

The analysis of empirical data suggests that professionalization of community groups reveals itself in their organization and the structure. In the observed cases, the groups move towards more formalized, coordinated, often hierarchical structures, allowing them to relatively easily liaise with, and report to, risk management agencies and authorities.

The English flood groups were characterized by a relatively horizontal formal structure. Chair and secretary were the only formal roles in the groups, candidates for which were elected by the groups' members. In the case of absence of the chair and/or secretary (for example, due to unavailability for a meeting), other group members could temporarily step in fulfilling the roles of a vice-chair and vice-secretary. The division of roles was informed by the group members' inclination and resources, rather than based on the top-down formal allocation of responsibilities, meaning that the group members were likely to engage in those activities where they could

contribute most. The groups, however, were not devoid of hierarchy. Formalization of the group structure optimized communication between the groups and flood authorities, for the chairmen were the main liaisons with the officials. At the same time, it instigated hierarchical information dissemination as the chairmen decided which information was made available to all the group members and which information was held back. Despite there being no formal restrictions on communication with professionals, it was mainly the chairmen who contacted and got contacted by the agencies' representatives and acted as the voice of the group.

The relatively flat organization of the groups was also characteristic for the Dutch dike watchers. The dike watcher groups have always been flat, meaning that all group members had similar roles. However, talking about their involvement in voluntary flood risk management over the past twenty years, the dike watchers indicated a shift towards defining and solidifying group structure. Responsibilities of the group members were institutionally delimited and ascribed to different functional roles by the water authorities. At the time of data collection, the groups had two different roles that both came with their own distinct duties, namely that of dike watcher and dike coordinator. In addition, a senior role of dike watch trainer was being developed. While defining and solidifying positions did not seem to cause stark hierarchical differentiation, group members' positions did imply disparity in terms of access to the water authorities' representatives. Specifically, dike watchers should only report to dike coordinators during the practical dike inspection training, while dike coordinators were expected to communicate with water authorities.

The organization of the Italian groups and German brigade was more formal and hierarchical. Structurally, the Italian groups resembled the English flood groups, since the only formal roles were those of president and vice-president. Nevertheless, the intra-group hierarchy appeared much more discreet and acknowledged by the group members. The president and vice-president were the only members responsible for being in contact with the official flood risk management agencies, translating, when necessary, directives to the members of the groups, and coordinating their activities. The following quote by a member of the group is representative of the acknowledgment of this hierarchy and subordination:

The president of our association is always in close contact with both the provincial coordination and the region, so our source is the president and the vice-president, so we absolutely do not move on our own initiative, unless called to work by our president.

An even more hierarchical organization was characteristic for the German brigade. The brigade members acquired formal ranks (e.g. 'aspirant'), distinct elected official positions and organizational ranks (e.g. 'squad leader', 'platoon leader'), as well as various specializations (e.g. 'machine operator', 'technical assistant'). Brigade membership and advancement through the ranks were tied both to formalized training including examinations, and practical experience gained over time during diverse missions. The advancement happened gradually, following mandatory minimum intervals between possible qualifications. The hierarchy was well acknowledged in the group, as a quote by a lower-ranking member of the brigade also reveals:

Well, I'm not a leader myself, I'm usually out in the field, closing the gates [of the flood barrier]. But for me, the only orders are the ones I get from my commanders, that is, from my chief of staff or my squad leader. They tell me what to do and what not to do. But I don't actually get my hands on [flood management] documents myself. Very rarely.

Formal roles, pronounced distribution of responsibilities, subordination, and associated uneven access to information and risk management authorities indicate formalization of the internal organizational structures of the community groups. Organizational formalization was part of the groups' professionalization process. It led the groups away from ad-hoc morphology towards more structured organizational working forms, facilitating the groups' service delivery within the institutional risk management frameworks. Greater formalization of the group structure was observed in the groups officially affiliated to risk management agencies and authorities, for the groups were expected to work along the agencies, assisting them in delivering services. Formal organizational structures ensured timely information dissemination and subsequent work coordination. These were further enhanced with explicit institutional requirements to knowledge professionalization of the community groups, described in the next section.

#### 4.2. Knowledge attainment

In the four country cases, engagement in flood risk management required the groups to go through a learning curve, developing a knowledge pool that allowed them to function as meaningful stakeholders in the field. To give a few examples, the dike inspection executed by the Dutch dike watcher groups required the group members to learn about dike composition, different types of damage and restorative measures, and observation techniques. Actively involved in flood preparedness and flood response, the Italian heritage protection group acquired knowledge about the techniques for preserving works of arts, archives, and libraries from floods, while the radio transmission group learned how to maintain communication in case of an emergency. Participating in flood control, the German brigade acquired detailed procedural knowledge on operating the flood barrier as well as the principles of first response during flood emergencies. And finally, flood prevention activities executed by the English flood groups required group members to learn the principles of hydrological modeling or acquire knowledge of the local water and drainage systems.

Along with the knowledge of the subject, the volunteers attained knowledge of professional language, relevant actors involved in the field, their responsibilities and spheres of influence, practices of communication, and collaboration with risk management agencies and authorities, as well as flood management regulations. Thus, for example, speaking about their experience of becoming stakeholders in the field of flood risk management, the English flood group members often referred to a necessity to learn the relevant terminology. One informant recalls:

We're working really hard to understand the terminology. Do you understand the difference between a gully and a drain? Most people probably won't think of it that way. But you do have to, because they are different things, and therefore different authorities have responsibility for it ... So yeah, we're building our list of acronyms.

The Italian heritage protection group considered learning flood related terminology as a prerequisite for the group members to



work as ‘cultural translators’, communicating professional knowledge to a local community. One informant explained this point:

The experts often use technical terms that the population usually does not chew. The function of our group should be that of a cultural translation, to translate this very specific language, that perhaps few can understand and explain it to the local population.

Equally important was learning the principles of communication with risk management authorities. The following quote by the chair of one of the English groups gives an example:

If somebody said to me: ‘what was the most important thing you learnt as a community group?’ - you’ve got to learn to ask the right question, they [FRM agencies] will never give you the answer without asking the right question.

The Dutch dike watchers referred to the importance of learning the uniform and correct communication procedures. One of the city dike watchers expressed his view on the matter while telling the story of a past inspection practice where a dike watcher had called the police instead of his dike coordinator to report a potential leak:

If we agree to follow the protocol, and you call the police ... No, you have to call your dike coordinator. [...] This narrowing down, and that’s also a point where the older members dropped out, when they heard that you cannot take your walkie talkie and just start telling them what you think you have to report. No, you have to be aware of those seven damage scenarios and so you have to know that you have to transmit certain information according to each scenario. And that just means that you have to learn.

Professionalization through knowledge attainment was a formal requirement for the Italian, German, and Dutch community groups. These requirements were fixed in the state-legitimated training programs that the group members had to complete on a regular basis to be admitted to flood risk management-related practice. The Italian groups had to undergo mandatory basic theoretical and practical courses developed by the Civil Protection, as, according to the agency ‘only those who are adequately trained can make an effective contribution’. The basic course provided training on safety procedures and self-protection during emergencies. The group members had the opportunity to further enrich their training and choose non-mandatory specialized activities by attending free thematic courses organized by the provincial coordinators together with certified entities.

Training in the German brigade included basic courses of approximately 80 hours — a prerequisite for admission to the group. The successful completion of a course was tied to obligatory examinations. As one junior group member emphasized, a lack of a specific formal qualification effectively prohibited group members to perform certain activities during a mission: ‘There are also a lot of trainings going on, there are so many [...]. And if you don’t have them, then you can’t do some things. Then you have to wait, just stand around in the back’. The German brigade members willing to engage in flood risk management were also required to participate in the annual exercise at the local flood barrier. During the training, members of the brigade, together with other actors involved in flood management, participated in a highly choreographed exercise, which aimed at operating the movable parts of the barrier to verify its ongoing functionality and ensure alignment between various stakeholders’ activities.

Theoretical and practical courses were also mandatory for the Dutch dike watcher groups. Where dike watching used to be a relatively non-committal activity, at the time of fieldwork there was a clearly communicated set of expectations to fulfill. Although the dike watchers’ commitment was relatively low in terms of time investment, regular attendance of training events was mandatory. As a veteran village dike watcher recalls:

They [the water authorities] have a sort of education for new dike watchers. So, there’s a lot more practice, the practice is more targeted, and yeah, it wasn’t like that before. Back then, you would do one evening of training, and then you’d be on your way.

Compared to the German, Italian, and Dutch community groups — explicitly obliged to acquire state-certified training — there was no formal knowledge basis that the English flood groups were expected to obtain. Nevertheless, the group members themselves considered intense knowledge acquisition as a requirement for being involved in flood risk management. Some group members indicated the need for the group members to be further educated by risk management experts:

[...] it would have been an advantage to the rest of the group if there had been some kind of teaching on sewerage, from an outsider, maybe someone from Severn Trent. Simple terms, terminology. What is a sewer, what is a riparian, and what are his duties, what do SuDS mean.

The knowledge acquired by the English groups’ members was formalized and systematized in the documents and visual artifacts, such as maps, schemes, and photos. Documentation made it easier for the group members to keep evidence and communicate their knowledge to professional risk management partners by means that the agencies were accustomed to work with:

So, the fact that we can provide local evidence, I’ve got loads of photographs, videos, everything. We’ve got the knowledge from our community survey. We’ve got the local knowledge of where water causes are, that aren’t even on their [agencies] map.

Following the partnership approach proposed by the National Flood Forum (NFF) the English groups also learned and adhered to specific modes of communication and collaboration with water authorities through the, so-called, ‘multi-agency meetings’. This presupposed the groups working with several flood authorities simultaneously at the regular meetings and avoiding individual consultations with representatives of a certain agency. Despite some group members considered this approach as slowing the realization of practical tasks, the groups tried to adhere to the NFF proposition for it acted as a major facilitator of communication between the groups and flood authorities.

Going through a learning curve and building a pool of group-specific near-professional knowledge was firmly ingrained in the community groups’ engagement in flood risk management in the four country cases. State credentialing and certification executed through theoretical and practical training was an essential feature of the community groups overseen by risk management authorities.

Such training shaped a common knowledge base shared by the members of the group, essential for organizing and regulating their activities, as well as for ensuring qualification necessary for fulfilling the institutionally-defined tasks. In the absence of state-approved educational programs, intensive knowledge acquisition and formalization were considered an informal requirement for participating in flood management by the group members themselves. This can be explained with the groups attempt to fulfill existing breaches in the functioning of the local flood authorities with the instruments legitimate and acceptable in the professional field, as illustrated below.

#### 4.3. Group activities

Embedding into the institutional frameworks of risk management involved professionalization of the community groups' activities, including *what* was executed and *how* it was executed.

The sole activity of the Dutch dike watchers was assisting the water authorities in inspecting the assigned patches of the dikes regarding defects such as cracks, holes, and erosion, caused by weather conditions, animals, or plants, and reporting their observations to the water authorities. The dike watching practice was set in stone, and based on a fixed official protocol defined by the water authorities. The protocol distinguished seven damage scenarios, such as damage to grass surfaces, erosion damage, and drought damage, where each scenario had institutionally predefined aspects dike watchers should pay attention to. Communication of observations was highly formalized. The dike watchers used an established form on which they assigned numerical values to specific observations, such as the dimensions of the damage, the presence or absence of a leak, or displacement of surface material. When inspection was over, all assigned values were added together to compose a final score, which was then communicated to coordinators who operated the dike post. Coordinators further processed and submitted the numerical values to a designated water authorities professional using a computer application. The increasing technological advancement of the dike inspection process was a relatively new development, enhancing standardization of the dike watching practice, and raising the bar with regards to the required competences of the dike watchers.

The activities of the Italian groups and the German brigade had to conform to risk management regulations, meet local or regional risk management priorities, and be sanctioned by the risk management authorities. Such institutional arrangements instigated professionalization of the groups' activities and performance. The activities of the two Italian groups ranged from running public risk education campaigns, such as 'Io Non Rischio', disseminating educational materials produced by the Civil Protection, to protecting cultural heritage during emergencies, or controlling and maintaining radio transmission to ensure unimpeded communication of the first responders in emergency. Some of the tasks were technically advanced requiring near-professional skills. For example, the group controlling radio transmission was also actively involved in surveillance of flood emergencies, which included instrumental and direct observation of an event and short-term prediction of the related effects through meteorological "now casting" and/or inflow-deflow models based on real-time measurements. For the Italian group members, engagement in flood management was considered a duty, as they were expected to fulfill orders and act in accordance with specific guidelines and protocols. This sense of duty was further solidified by regulations surrounding deployment of the groups by the Civil Protection: when group members were called to serve, they were entitled to paid leave due to the societal value of their service.

The range of flood management activities performed by the German brigade was set by the leadership of the brigade in coordination with the municipality and District Administration, Dam administration, police, and health emergency agencies. The activities of the group included direct flood response, both at the executive level, performing rescue operations, and at the planning level, as the leaders of the group were part of the crisis committee together with representatives of the municipality, the police, the fire brigade, the Agency for Technical Relief, and others. In terms of flood control, the group participated in an annual exercise simulating operation of the flood barrier in the case of an emergency. After the 2002 flood, the German group took responsibility for hosting flood response, with the newly built fire station becoming the hub for the flood crisis committee, and a variety of technical equipment such as water pumps and motorboats at the group's disposal. Professionalization of the group activities further revealed itself in disciplined performance associated with the ranks and functional roles of the group members, ensuring a well-coordinated practice. For example, even seats in the vehicles used by the group in flood emergencies were allocated based on the role and rank of a group member.

The English flood groups were free to define a set of activities, without any approval from the authorities. Nevertheless, the choice of activities was not haphazard either and required significant professionalization. In their activities, the groups contributed to the work of the local County Council and the Environment Agency by identifying sources of flood risk and flood conveyance roots in the area, mapping local water and drainage infrastructure, talking to flood affected residents for flood risk assessment purposes, among other things. These activities served as the instruments to direct agencies' attention towards the flood-related issues identified by the groups as well as to question or object to decisions made by professionals. Professionalization of the group activities revealed itself in the instruments the groups used to object to FRM-related decisions and measures developed by authorities. For instance, after the major flood of 2007 one of the groups was offered a financial bid to install property level resilience measures (henceforth, PLRs) for a number of flood-prone houses. The group, however, considered the PLRs insufficient to resolve the issue in the long run. To object to the installation of the PLRs and redistribute allocated money for more appropriate measures, the group engaged in the creation of a catchment-based flood model aimed at pinpointing the main sources of flood risk and allowing simulating different flood scenarios. The modeling initiative was financially and instrumentally supported by the government and served as an instrument for the group to prove to flood management authorities the necessity to develop more comprehensive, context-sensitive measures to decrease flood risk in the area.

Professionalization of the volunteer groups tasks led to certain skills getting prioritized over others, influencing the groups' membership turnover. For example, being the only task that the Dutch dike watchers had access to, dike watching was accessible only to those who were physically able to walk a 10-km patch of the dike in potentially hazardous weather conditions, and who were ready



to keep up with the technical advances of reporting observations to the water authorities. Another example is provided by the English case. As the group became overly focused on flood modeling, the inability to professionalize their skill set and attain technical knowledge made several group members feel incapable of contributing to the group's activities and informed their decision to quit. At the same time, the unique pool of activities that the groups delivered signaled their professional development and delimited their spheres of involvement along other actors in the field of FRM.

#### 4.4. Positionality

The acquired data suggests that professionalization of the community groups through knowledge attainment and associated advancement of services they provide, has led to the group occupying a certain niche in the professional field of FRM. The interviews indicated that the group members negotiated their positions with risk management agencies and local communities, maneuvering between their professional identities and being community members themselves. For example, owing to mistrust of the Civil Protection by local communities, the Italian group, though affiliated to the Civil Protection, tried to put forward their local identities while educating people about flood risks, yet putting their professional 'hats' on during emergency situations. Interacting with local residents, the English group also communicated their positionality as one of many local groups, to ensure they were trusted and accepted in the local community. As the chair of the group recalled:

When you make that commitment to get close to the community, people don't look at you as a flood group, and I don't want them to look at us as a flood group. I want them to realize that as a community group we're interested in lots of them.

In the small Dutch village of Goudiep, dike watching was intrinsically intertwined with local village life, and so being a dike watcher entwined with being a Goudieper by means of contributing to the local community.

At the same time, the groups tended to delimit the boundaries between being local community members and acting as professional flood management stakeholders. For example, as follows from the interviews with one of the English groups, the group members considered flood risk management as often inaccessible and unattainable for the majority of community members, i.e. people outside the community group, since working in partnerships with risk management officials - as the group did - demanded dedicated professional development. According to the informants, to get the local community involved, flood risk management had to be combined with issues of people's daily concern that could be addressed with no specific knowledge or expertise. Hence, to involve the wider community, the group decided to launch a collateral environmental project that indirectly linked people's day-to-day matters, such as litter picking, to flood risk management. The following quote by the chair provides an example:

So this forming of the Clean river project is my way of trying to expand into the community, not just flooding but the environment and other social problems. My hidden agenda is at some stage I want to start asking people to start looking at the other assets like the drains.

Reserving flood risk management primarily for risk managers and trained dike watchers was also a commonly endorsed stance in the Dutch case. Both the water authorities and the dike watchers seemed to think that it is better not to bring flood management under the attention of non-dike watcher citizens too often, as this would only spark panic, and facilitate disaster tourism and journalistic sensationalism. As one dike watcher mentioned:

We are not walking around with a tag that says 'I'm a dike watcher'. There is a lot of reluctance around that, for example we have a coat from the water board, but you are not allowed to just wear it. It would give off the wrong signal. [...] That could create panic such as 'maybe there is an emergency'.

The distinction between the group members and general public was further corroborated with material artifacts and 'reward packages' that the members of community groups were entitled to. The material artifacts included uniforms, pins, and insignias. As noted by one of the Italian informants, wearing the uniform was part and parcel of becoming a group member: 'they [Civil Protection] gave me the uniform and I felt so proud when I was wearing it'. The rewards came in the form of monetary support, when the group members were entitled to compensation for a deployment day, as in the Dutch case, or a paid leave, as in the Italian case. Another form of compensation was recreational activities, such as educational group trips, followed by a lunch with meatballs, often referred to by the Dutch dike watchers, annual festivals for the group members and their families, as recalled by the German brigade members, or after-work "apericena" (dinners), mentioned by the Italian informants. The rewards for the group members' service also came in the form of increased credibility and recognition of the groups by the flood management authorities. For instance, the leadership of the English flood groups were granted authority to share their knowledge and experience during professional conferences and public lectures, as well as allowed access to information unavailable for the general public. The following quote by the chair of the English group gives an example:

We had to win over the confidence of the Council and said we really need to know where those [flooded] houses are and so I signed a letter in my own blood to say this is a list of properties and where they are but only for me. There are certain documents that if you went and asked - no, but once you've got the relationship you acquire information.

The requirements to professionalize instigated through the groups' institutional affiliations enhanced the development of the groups' professional identities and increased the community groups' capacity to work on a par with risk management professionals. At the same time, professionalization did not fully relieve the gatekeeping exerted by the official risk management agencies. As observed in the Dutch case, assisting the water authorities with dike inspection in yet to happen (near-)emergencies was the sole activity of the dike watchers and dike coordinators, while further involvement in dike watching was limited, if not impossible. Although there were several highly involved dike watchers willing to assist the water authorities with its regular, year-round inspections, this branch of flood risk management was closed-off to community members. As explained by a water authorities' representative, the potential loss of

precious time spent away from the desk and out in the field was a sensitive topic to the WDOD employees who take care of the yearly inspections. As a result, the transferal or sharing of the dike watching duties to or with community groups was avoided by the water authorities.

In the German case, the informants voiced their discontent with the regularity of communication between the brigade and the risk management officials, as well as with the actual extent of the group involvement despite their high degree of professional training. A senior brigade member pointed to a regular postponement of the rehearsal of the flood crisis committee sessions, aimed at stimulating the community groups working together with the municipality and district administration. The regular postponement caused an impression of the brigade's inability to participate in flood risk management on equal terms with the officially responsible institutions:

It's going totally wrong. Because ... they really haven't grasped that. [...] this crisis committee as such, it should actually work the same way as if it was in an emergency; now, the city administration [...], if they do what they want at the moment and do not cooperate with us or sit down together beforehand; [...] we then get the deployment orders, the section, ... and all the trimmings, that's our job then.

Summarizing, along with aligning with institutional regulations and expectations, advancing organizational formats and service delivery, and acquiring relevant knowledge, professionalization revealed itself in the community groups' positionality in the professional field. The process of professionalization induced through the implicit and explicit requirements for formalization, unification, and congruence made the groups gravitate towards the risk management professionals more so than to the local communities.

## 5. Discussion

Despite the unique institutional contexts and regimes of flood risk management in the four country cases discussed in this paper, we observed four facets of professionalization invariant in each of the studied community groups engaged in flood risk management. Namely, professionalization instantiated in the structure of the groups, in their knowledge and requirements to learning, in the groups' activities, and in their positionality in the field. In this section we aim to discuss the ambivalent implications that each identified facet of professionalization may have for community engagement in flood risk management.

### 5.1. Positive implications of professionalization for community engagement in FRM

Firstly, as outlined in the previous section, professionalization enhances formalization of the community groups structures. Through the formalization of organizational structures, the division of roles and responsibilities as well as inter- and intragroup communication become coordinated in accordance with a specific organizational form that the group adheres to, rather than executed in a loosely organized and unstructured manner. The formalization of the groups' working structures has positive implications for the groups' functioning. In the Italian case, for example, community group members exclusively acted on their president or vice-president's orders, ensuring a unified execution of directions, which might become more haphazard should actions be based on individual members' judgment. A clear division of roles and responsibilities allows for a better allocation of time and human resources, ensuring that group members do not replicate each other's activities in vain. This is especially important for services executed under significant time pressure, such as flood response and rescue operations, for example, performed by the German brigade members. The formalization of the groups' organizational forms contributes to operational discipline [33,34], and decreases organizational fatigue, as the group members have a clear understanding of interactional and procedural arrangements.

Secondly, as observed in the four cases, intensive knowledge attainment and learning represent a prerequisite for community engagement in flood risk management and plays an important role in the professionalization of the community groups [20]. Developing a unique body of knowledge contributed to the group members becoming more aware of the existing risks and approaches to their alleviation, as well as enabled them to engage in complex and effective FRM practice. The Dutch dike watch, for example, required its members to learn about different types of dike damages, their causes, and related restorative measures — knowledge that contributes to the group members' capacity to provide the water authorities with valuable information that allows making highly informed risk assessments and taking appropriate measures in response. The state-regulation of knowledge acquisition through training (such as in the Italian, Dutch, and German cases) also guarantees certain uniformity of knowledge and shared understanding of practices and values [13], meaning that individuals with different professional backgrounds can work together on flood management-related tasks [63].

Thirdly, professionalization drives the advancement of the community groups' activities and their delivery. In the Italian, German, and Dutch cases professionalization of the groups' activities takes place within the institutionally defined areas of intervention, under specified modes of operation established in protocols, contracts, or charters, sanctioned by the risk management authorities. These help manage the regularity and uniformity of the groups' activities, and ensure their compliance with the practices and demands of the official risk management authorities overseeing the groups. In the absence of formal protocols, such as in the English flood groups, the group activities do not show haphazard organization either, but take place in accordance with the guidelines provided by the organization that the groups are affiliated to (such as the National Flood Forum). Professionalization of the delivered services allows the groups to make meaningful contributions to flood risk management in the long run, which would be difficult, if not impossible, to do when exclusively relying on common-sense know-how. Engaging in the institutionally familiar and legitimized practice, as, for example, flood modeling that the English flood group participated in together with local flood authorities, the community group members attain capacities to complement professional risk managers in their flood management activities and co-participate in decision-making and delivery of FRM measures in their local environments.

Finally, professionalization ultimately reveals itself in the positionality of the groups. Engaging in flood risk management, the community groups delineated professional boundaries [64] that delimited them from other professional and non-professional actors in

the field. Professionalization of the groups marked out the ‘professional’ identities of the group members, and made the groups gravitate to professional risk managers. Such a position contributed to the groups’ understanding of their capacities to contribute to flood risk management, as well as to their sense of belonging in the professional field increasing the chances of sustainable participation [65].

Along with the positive implications, the present research suggests that professionalization can have less desired implications for community engagement in flood risk management. These are discussed below.

### 5.2. Unfavorable implications of professionalization for community engagement in FRM

As mentioned before, professionalization instantiates in formalization of the organizational structures and the emergence of associated hierarchies in the community groups. Along with positive implications, outlined above, this may have drawbacks. Our research suggests that access to information as well as to risk management professionals is often limited to group members in leadership positions. For example, the president and vice-president of the two Italian groups were the single points of contact between the group members and the representatives of the Civil Protection and the municipality. Similarly, in the German case, the leaders of the community group were the ones in touch with the municipality’s representatives and other emergency responders in the field. In the Dutch case, communication with the water authorities mostly relied on the dike watch coordinators. The limited access to information of those in non-leadership positions pertains to both the amount of information that becomes available for the group members, and to the very understanding of the group members that gathering, retaining, and releasing information is reserved for the management of the groups. This creates significant pressures on the leaders of the groups and can contribute to ‘communication saturation’, meaning that the group’s capacity to understand and make sense of information provided by flood authorities will be limited to the capacities of a group leader to do so [66]. As observed in the English case, the so-called ‘multi-agency meetings’, attended by the members of the groups and representatives of flood authorities with the aim to address specific FRM-related issues, can potentially ensure a more equal access to information among the group members, minimize unshared information, and allow benefitting from a pool of knowledge that group members possess.

Extensive knowledge attainment and learning is another facet of professionalization. Although clearly contributing to the community groups becoming more knowledgeable and capable of making meaningful contributions to FRM, the analysis suggests it may serve as a filtering instrument and promote ‘social closure’ [42,43]. This is especially so when requirements for knowledge acquisition are set by risk management authorities (as in the Italian, German, and the Dutch cases), meaning that only those willing and capable of meeting the requirements can participate in flood risk management [42]. This can promote the impermeability of flood risk management practice, reinforcing the boundaries between (paid or unpaid) professionals and lay people and alienate local community members from the involvement in flood risk management policy and practice.

Community groups professionalization through knowledge acquisition directly translates into professionalization and subsequent advancement of their activities. In institutional settings where community groups act as operating arms of the risk management agencies (such as in Italy and in the Netherlands), the groups are assigned tasks that help deliver authorities’ services and are expected to professionalize in the delivery of those tasks. When institutional arrangements are less stringent, leaving community groups relatively autonomous in choosing the tasks to deliver (as in the English and German cases), the groups still narrow the scope of activities to those contributing to the work of risk management authorities. The empirical data suggests that the tight specification of tasks and their adjustment to institutionally supported ones delimits the range of skills and competences valued in the community groups, and influences the turnover of the group members. While no specific skills were required upon entry in the observed groups, only those willing and able to participate in the circumscribed set of practices could stay in the groups. For example, the dike inspection, being the sole task of the Dutch dike watchers, was accessible to only those individuals physically able to walk a 10-km segment of a dike and willing to acquire competences in compiling a standardized report on observations. As the group members reported, the increased technical requirements made older dike watchers leave the group. Additionally, the increasing advancement of tasks may cause the exclusion of those volunteers ready to bring local rather than technical knowledge. Becoming focused on flood modeling, the English groups lost members with profound historical knowledge and organizational skills, who decided to quit the group owing to their inability to follow the modeling task. Furthermore, professionalization through advancement of tasks raises questions of community empowerment. Namely, how much room is left for those unable or unwilling to adhere to the (pre)defined set of group practices and associated institutional requirements? And to what extent do these forms of community engagement promote local communities’ ownership of their own safety?

Finally, in terms of positionality, professionalization enhances community groups gravitation to professional risk managers. This may result in a situation where the voluntary groups act as officials’ ‘loudspeakers’ on the ground, while their potential to represent the local communities, and translate their voices and concerns, becomes sidelined. In other words, this may lead to the community groups disconnecting from the local communities while gearing towards state requirements [18,67].

## 6. Conclusion

Community engagement in flood risk management is a paramount instrument in attaining community preparedness and resilience to flood hazards. In a field traditionally dominated by expert top-down decision-making, technical expertise, and a limited number of stakeholders, community engagement is paired with professionalization, which is often considered a requirement for an effective and efficient service delivery. The study presented in this paper examines how professionalization manifests itself in the functioning of the organized community groups involved in flood risk management in Italy, Germany, England, and the Netherlands, and discusses the ambivalent implications that professionalization has for community engagement in flood risk management.

Regardless of the differences in institutional contexts and regimes of flood risk management in the four countries under study, the organized community groups exhibited four invariant facets of professionalization. In particular, we observed professionalization manifesting itself in the structure of the community groups, leading to the groups formalization; in the knowledge and intensive learning, encouraged with explicit and implicit institutional requirements; in the advancement of the groups' activities and their delivery, formally and informally enhanced with existing institutional arrangements and practical FRM-related demands; and in the groups' positionality in the professional field of flood risk management, balancing between risk management authorities and local communities, but gravitating more to the former and alienating from the latter. The implications of professionalization for community engagement are ambivalent. On the one hand, professionalization strongly contributes to better coordination of the local groups' activities and decreases organizational fatigue, which is often reported as a significant obstacle for community engagement. The advancement and oversight of the groups' service delivery facilitate their capacity to meaningfully assist risk management agencies in accomplishing complex and multifaceted tasks and aids the groups' compliance with institutionalized risk management regulations, practices, and demands. Intensive knowledge attainment, facilitated by state-approved educational programs and training, permits the group members to build shared understandings of their tasks and responsibilities, and contributes to their sense of belonging to a professional community.

At the same time, as this study demonstrates, professionalization entails the burden of explicit and implicit institutional requirements on the community groups. These are requirements for group membership, as well as demands of formalization, knowledge attainment and service advancement, promoting the community groups' alignment with the institutionalized risk management frameworks. Professionalization contributes to a production of boundaries around community engagement in flood risk management, reproducing impermeability of flood risk management to those unable or unwilling to professionalize and potentially compromising community empowerment efforts.

Observing similar facets of professionalization of community groups in four country cases, we also identified certain differences in the impacts of professionalization for community engagement in FRM that can be attributed to the differences in the institutional contexts. Professionalization of the English local flood groups, which were the most autonomous from risk management authorities compared to other cases, positively contributes to the groups' co-decision power in FRM. Attaining skills, knowledge, and mode of functioning necessary to collaborate with flood authorities, the groups were able to impact local-level decision-making and co-develop approaches to FRM viable for their localities. At the same time, further professionalization of these groups, that already have high social capital, socio-economic status, and extensive knowledge of FRM [16], can further exclude from FRM less privileged groups that are not as ready and able to professionalize. Professionalization of community groups in the Italian, German, and Dutch cases unfolded in a context where every member of a community willing to participate in FRM could receive equal support and resources (such as training, certification, membership rewards etc.) from the parenting institution. At the same time, the institutional support provided to the groups and enhancing their professionalization, left little room for their capacity to affect decisions. Rather, the groups' professionalization was the instrument to foster their capacities in delivering government services to the community.

Taking the ambivalent implications of professionalization into account during the development of community engagement strategies is strongly advised. This would help ensure that communities have enough room and a variety of ways to meaningfully contribute to risk management.

Studying the implications of professionalization for community engagement in risk management invokes the question as to how professionalization is understood and perceived by community members themselves. The informants' narratives analyzed in this study demonstrate their awareness of professionalization and uncertain attitudes towards it. However, the data collected for the presented study does not allow to fully address this question and further research is required. Furthermore, deeper examination of the relation between professionalization and flood risk management impermeability to communities would require interviewing community members uninvolved in flood risk management about their perceptions of participation possibilities and entry thresholds. Last but not least, extensive professionalization of community groups contributes to the blurring of boundaries between the voluntary and paid workers, and an overlap in the services they provide. Therefore, further research is required to identify the approaches that would promote meaningful and efficient synergies between the community groups, professionals, and residents not involved in FRM.

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