The Resilience of Community Led Flood Groups in the North West

Percival, Sarah[1], & Laidlaw, Sophie[2]

[1] School of Biological and Environmental Sciences, Liverpool John Moores University, UK.

S.E.Percival@ljmu.ac.uk +441512312607 (Corresponding Author)

[2] School of Biological and Environmental Sciences, Liverpool John Moores University, UK

s.m.laidlaw@2017.ljmu.ac.uk

Abstract

Flooding is a dangerous and widespread challenge to many communities in England, especially those in the North West (NW). A crucial element of effective flood risk management is resilient community led flood groups e.g., Flood action groups. These voluntary grassroot groups are a key part to founding and embedding resilience in flood prone communities, yet their resilience and longevity is precarious. To assess the successes/failures of these groups, a workshop was conducted in Cumbria, with results highlighting relationships with stakeholders as a significant barrier faced by groups, followed by internal factors such as the spirit and focus of the group.

Keywords: flooding; resilience; community flood groups; participation; engagement; hazards.

1.0 Introduction

Flooding is considered the principal environmental hazard in the UK's National Risk Register (Cabinet Office, 2023; Bates *et* al., 2023). Approximately 1.8 million people in the UK are currently living in areas where there is a greater than 1 in 75 annual chance of pluvial, fluvial, or coastal flooding. This is projected to rise to 2.6 million people by 2050, under a 2^{o}C scenario (Kovatas and Osborn, 2016), due to climate change, rapid urbanisation, and further population growth. Previously, flood science research has focused on flood risk and how to measure this including its communication (Kellens, Terpstra and De Maeyer, 2012). However, there is general consensus that 'traditional' flood control measures are inadequate when responding to growing flood risk (Restermeyer, Woltjer and van der Brink, 2014), and the focus needs to shift from risk-based approaches to more dynamic resilience-based ones. Resilience is a term that is now widely used, for many disciplines, and has many differing definitions. Within the flooding sector, it predominantly refers to either community, socio-economic and/or systems resilience (Laidlaw and Percival, 2024). Despite seen as a relatively new concept and with no agreement on the definition of community flood resilience (Laidlaw and Percival, 2024), it is still highlighted as a crucial part of a communities' pre-disaster preparation and post-disaster recovery (Frazier *et al.,* 2013). Whilst resilience has previously been included within vulnerability assessments when

measuring flood risk (i.e., Klein, Nicholls and Thomalla, 2003; Manyena, 2014; Percival and Teeuw, 2019), there is limited understanding of it as a standalone component, despite its significance. This is particularly the case for what can influence levels of underlying flood resilience in communities. As it is the community's resilience that is most effective in managing the risk of flooding and for some, might be the only form of resistance present. The establishment of community flood resilience via Flood action groups (>400 in England) is one such approach. Flood action groups are grassroot community groups, who act as a representative voice for the wider community (National Flood Forum, 2020) and can help provide the foundations to build and embed community flood resilience. Members of these groups have an interest in local flood issues, meeting to discuss flood-related issues, and provide advocacy for local communities, as well as aiding in times of crisis (Forrest, Trell and Woltjer, 2017). Expanding and safeguarding the Flood action group network is therefore critical and is part of the new Environment Agency Flood and Coastal Erosion Risk Management (FCERM) Strategy Action Plan 2021 (Environment Agency, 2020). Where a key directive of this strategy is to support vulnerable communities and develop community led flood response plans, elements Flood action groups can deliver, if effective.

However, the resilience of Flood action groups (including their longevity and functionality) is precarious. This is particularly the case in vulnerable areas such as Cumbria, NW England (e.g. Keswick and Finsthwaite), communities who have witnessed some of the worst UK floods in the past 550 years (2009, 2015, 2021). Primarily these groups are established and guided by the National Flood Forum (NFF), including their partnership with other flood stakeholders, to create community flood resilience. Then overtime, the community takes ownership of the group including its operation. Unfortunately, overtime, some groups become ineffective in their functionality and practice, including imperatively, their communication with other stakeholders. Furthermore, some groups go on to become dormant in presence and practice or disband and dissipate. It is key that Flood action groups are ultimately resilient, as that loss of functionality can lead to poor practices and recovery during disasters (Irawan *et al.,* 2021). Flood action groups longevity is therefore essential to ensure community flood resilience endures in vulnerable areas. Otherwise, it is likely vulnerability will return and impacts will again increase.

The following pilot study presented in this article starts to address these gaps through the assessment of Flood action group resilience and longevity in Cumbria, an area of the NW that has particularly experienced destructive impacts from flooding over the years and is very vulnerable to further impact. This was achieved via a workshop in Cumbria, designed to assess the practices and functionality of invited Cumbrian groups, as well as stakeholder relationships and communication strategies.

2. Methodology

A day long workshop was designed to identify, capture, and assess members of Cumbrian Flood action groups perceptions and ideas about their group's practices and functionality (i.e., the group's resilience). Assisted by the NFF, invites were sent out to all Cumbrian Flood action group members (23 groups in total), with 19 members from 14 different groups attending.

The aim of this workshop was to assess the groups practices, their perceptions of resilient Flood action groups, their relationships with key stakeholders, and their views on their group's functionality. These were assessed over 4 exercises:

- **Exercise 1:** Flood Action Group Practice
- **Exercise 2:** Flood Action Group Resilience
- **Exercise 3:** Stakeholder Engagement
- **Exercise 4:** Flood Action Group Functionality

General discussions that took place during these workshop exercises were also noted, to further enhance the results.

2.1 Exercise 1: Flood Action Group Practice

This exercise was intended to be an individual activity, with participants completing a written exercise outlining When, Where, How often, and Who meets? This was designed to assess the practises of the groups, and if they are active (i.e., meeting regularly) or dormant (no longer meeting) in practice.

2.2 Exercise 2: Flood Action Group Resilience

Was an exercise designed to assess what the participants believed made a Flood action group resilient (Figure 1*)*. This included identifying possible Flood action group resilience factors, and then adding those factors to a chart, whilst considering the factors' significance and importance.

Figure 1*: Workshop participants partaking in Exercise 2: Flood Action Group Resilience, including example answers.*

2.3 Exercise 3: Stakeholder Engagement

This again was an individual exercise, yet with many of the participants consulting with one another. Participants were asked to identify on post-it notes the key different stakeholders

each group has had to work with, including their interactions (e.g., how they are contacted and how often, their receptiveness and if the relationships are beneficial) and the significance of that stakeholder (Figure 2).

***Figure 2**: Example of stakeholder significance ratings from Exercise 3: Stakeholder Engagement*

2.4 Exercise 4: Flood Action Group Functionality

This exercise was split into 6 sections, with each aiming to assess the different aspects of the group's functionality:

A. What works?
B. What doesn't?
C. What could be better?
D. What barriers have you faced? Before/after NFF stepped away?
E. The support received from agencies? Before/after the NFF stepped away?
F. What else is needed?

Participants were asked to go round the room, answering each of the questions listed above (A-F) on giant post-its and explaining the answers given (Figure 3).

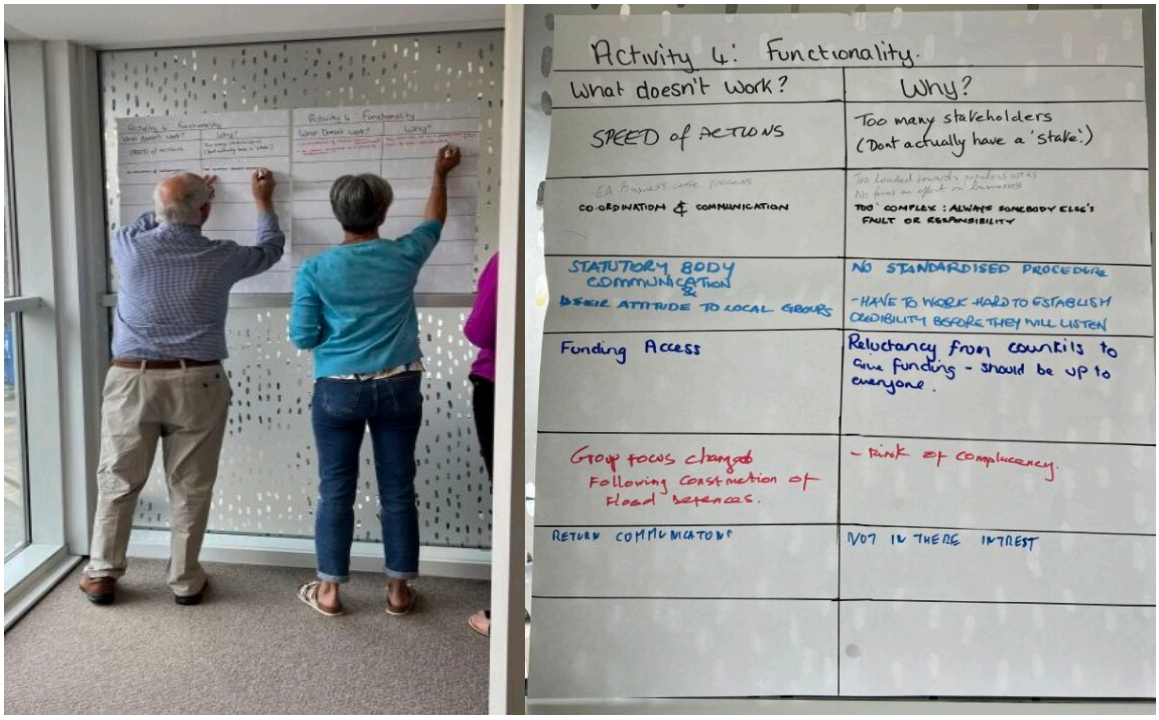

***Figure 3**: Examples of participants completing Exercise 4: Functionality, including example answers for 4B: What's not working?*

3. Workshop Results

3.1 Exercise 1: Flood Action Group Practice

Only 9 responses were collected from Activity 1, with some of the participants choosing not to complete this, and some working with the other members of their Flood action groups when answering. The results predominantly highlighted that the majority of groups meet variably. Some groups meet quarterly (16% of all attendees), others meet infrequently (16% of all attendees) and one group meets monthly for board members, as well as a yearly Annual General Meeting (AGM). Nearly all groups that responded met to discuss flooding and alleviating the risk to it. However, one group has become dormant and has not met since the 2009 flood events. Although limited, these results highlight there is no fixed practice in terms of meetings but a fixed goal in terms of meeting agenda.

3.2 Exercise 2: Flood Action Group Resilience

This was a popular exercise and the results from Exercise 2 could be thematically categorised. The analysis was conducted using a similar approach to Braun and Clarke (2019), creating a flexible approach to the categorisation of the data. Five categories were created (Figure 4), encompassing a range of aspects of Flood action group resilience. The Flood action group resilience category highlighted the most was 'group spirit' (i.e. 'bloody minded', 'determined', 'courage'), with 29% of identified Flood action group resilience

factors falling under this category. 'Group knowledge and experience' was also frequently featured, with 24% of identified Flood action group resilience factors falling into this category. Factors included 'knowledge', 'foresight and forward planning' and 'know people and resources available'. Two other popular Flood action group resilience categories included the 'engagement of communities and stakeholders', as well as 'group dynamics'. Flood action group resilience factors identified within these two categories equally equated to 22% of responses.

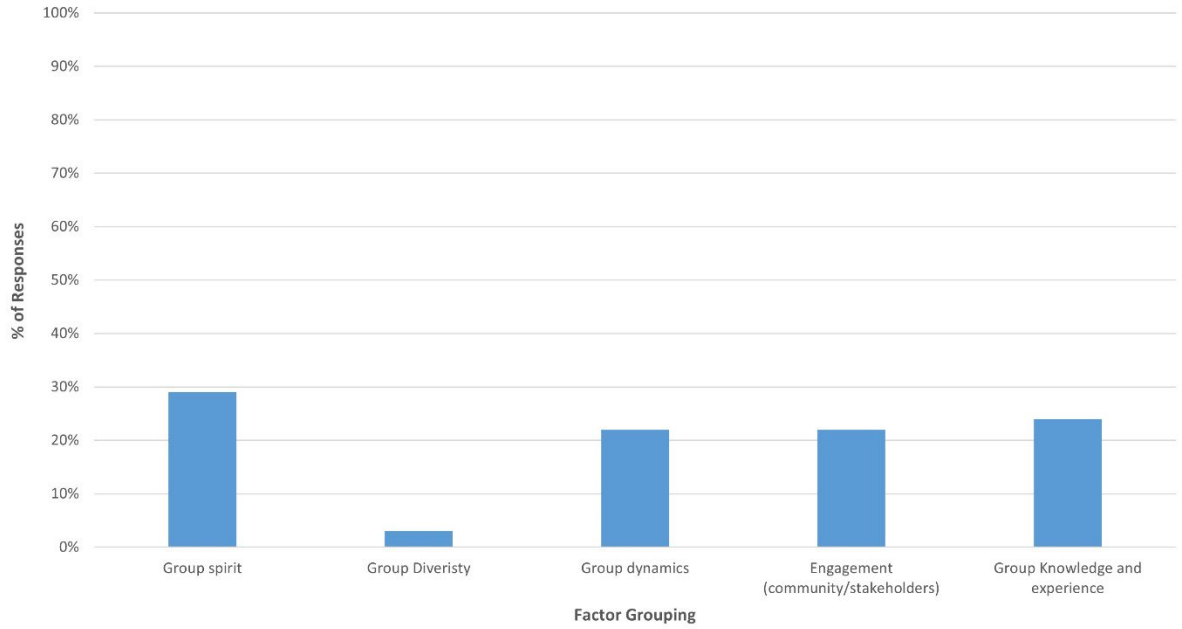

***Figure 4**: Frequency of responses per flood action group resilience category from workshop exercise 2.*

3.3 Exercise 3: Stakeholder Engagement

Exercise 3 assessed the different stakeholders that are involved with Cumbrian Flood action groups and their significance (Figure 5). Many of the participants highlighted councils (including local and county councils) (34%) as being the most significant. Other significant stakeholders included the Environment Agency (18%), and 'Associations, charities, trusts and parks' (i.e. NFF, River's trust and Lake District National Park Association) (20%)).

Interactions with stakeholders differed between the groups and the different stakeholders, with most interactions being via email (i.e. with local councils, Environment Agency (EA), and emergency planning committees). The frequency of these interactions also varied, with many of the workshop participants indicating that communication is infrequent, and sometimes very difficult. The receptivity of the stakeholders, and if the relationships were beneficial was also precarious (*Tables 1 and 2*), with many of the participants reporting them to have issues, with sometimes the relationships only being beneficial for the stakeholder and not the Flood action group as well. However, there were some stakeholders, such as

United Utilities, Local Resilience Forums and sometimes the County Councils that were identified as being both receptive and beneficial.

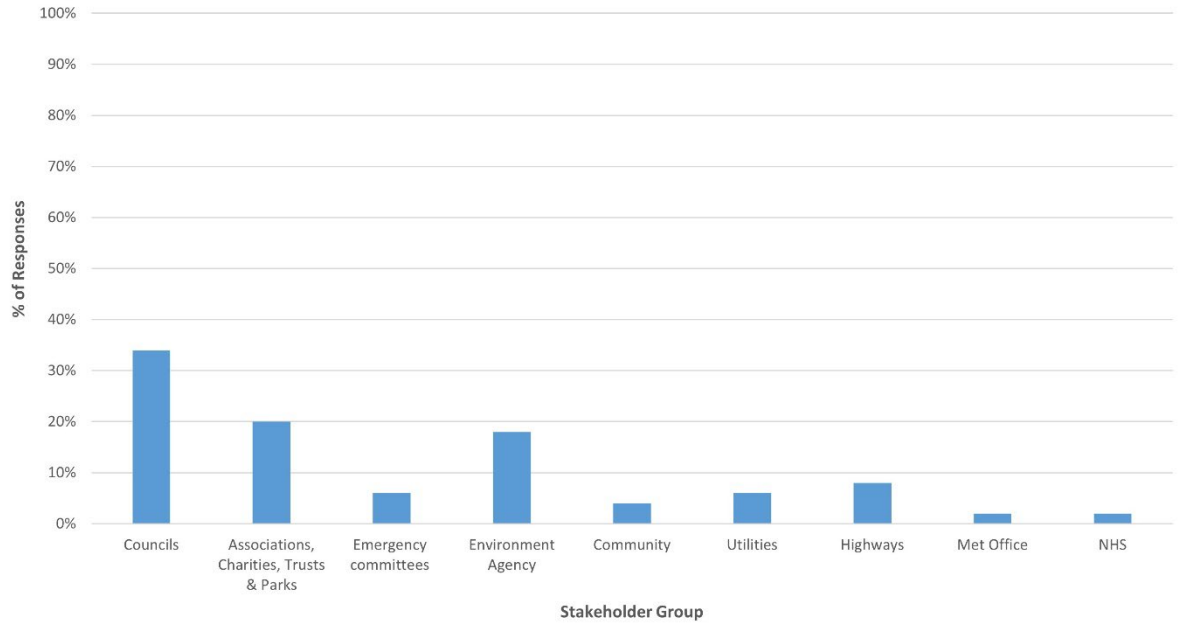

***Figure 5**: Frequency of responses per stakeholder grouping*

Stakeholder Group	Not Beneficial	Not Very Beneficial	Sometimes Beneficial	Fairly Beneficial	Beneficial	Very Beneficial
Councils	0%	0%	29%	0%	43%	29%
Associations, Charities, Trusts & Parks	0%	0%	0%	0%	0%	0%
Emergency committees	0%	34%	0%	0%	33%	33%
Environment Agency	0%	0%	0%	100%	0%	0%
Community	0%	0%	0%	0%	0%	0%
Utilities	50%	0%	0%	0%	50%	0%
Highways	0%	50%	0%	0%	50%	0%
Met Office	0%	0%	0%	0%	100%	0%
NHS	100%	0%	0%	0%	0%	0%

***Table 1**: Percentage of responses per stakeholder category outlining how beneficial the relationship with each stakeholder is.*

Stakeholder Group	Not Receptive	Not Very Receptive	Sometimes Receptive	Fairly Receptive	Receptive	Very Receptive
Councils	0%	0%	14%	0%	14%	71%
Associations, Charities, Trusts & Parks	100%	0%	0%	0%	0%	0%
Emergency committees	0%	34%	0%	0%	33%	33%
Environment Agency	0%	0%	100%	0%	0%	0%
Community	0%	0%	0%	0%	0%	100%
Utilities	34%	0%	0%	0%	33%	33%
Highways	100%	0%	0%	0%	0%	0%
Met Office	0%	0%	0%	0%	0%	0%
NHS	0%	100%	0%	0%	0%	0%

***Table 2**: The receptiveness of each stakeholder grouping.*

3.4 Exercise 4: Flood Action Group Functionality

Exercise 4 was split into 6 sub-exercises, all of which assessed a different part of the functionality of the Cumbrian Flood action groups.

3.4.1 What's Working?

'Group dynamics' and 'achievements of groups' were both substantially highlighted for what is currently working within the groups (27%) (Figure 6). This was followed by 20% of participants emphasising the 'installation of defences' as a factor that was also working well. Finally, 13% of the participants stressed that 'productivity' and 'community engagement' were also elements that were working well. Whilst most of these factors were based on what is working well within the groups, the 'installation of defences' in essence is not a functionality factor. Whilst this is possibly an achievement of the group, it does not reflect what is working well within the group itself in terms of its functionality.

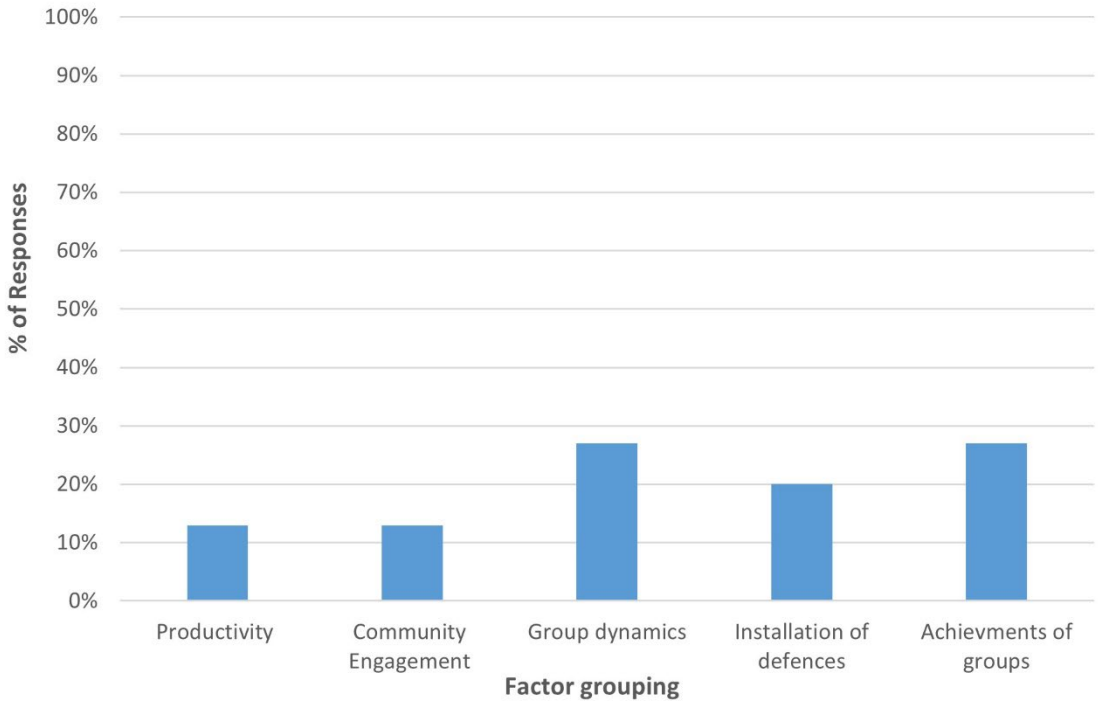

***Figure 6**: Percentage of responses per factor group for the question 'what's working well?'*

3.4.2 What's not working?

Participants identified 4 main factors that they felt weren't working for the groups (Figure 7), with stakeholder relationships and stakeholder actions being the most prominent (55%). Other elements identified as not working well in terms of Flood action group's functionality in Cumbria included the 'group focus' (27% of responses), 'Tenancy' (i.e. holiday homes that are not always occupied) and 'funding' both with 9% of responses. Whilst most of these factors are related to the groups themselves, and what resources are available, tenancy is related to the wider community and the community's resilience to flooding.

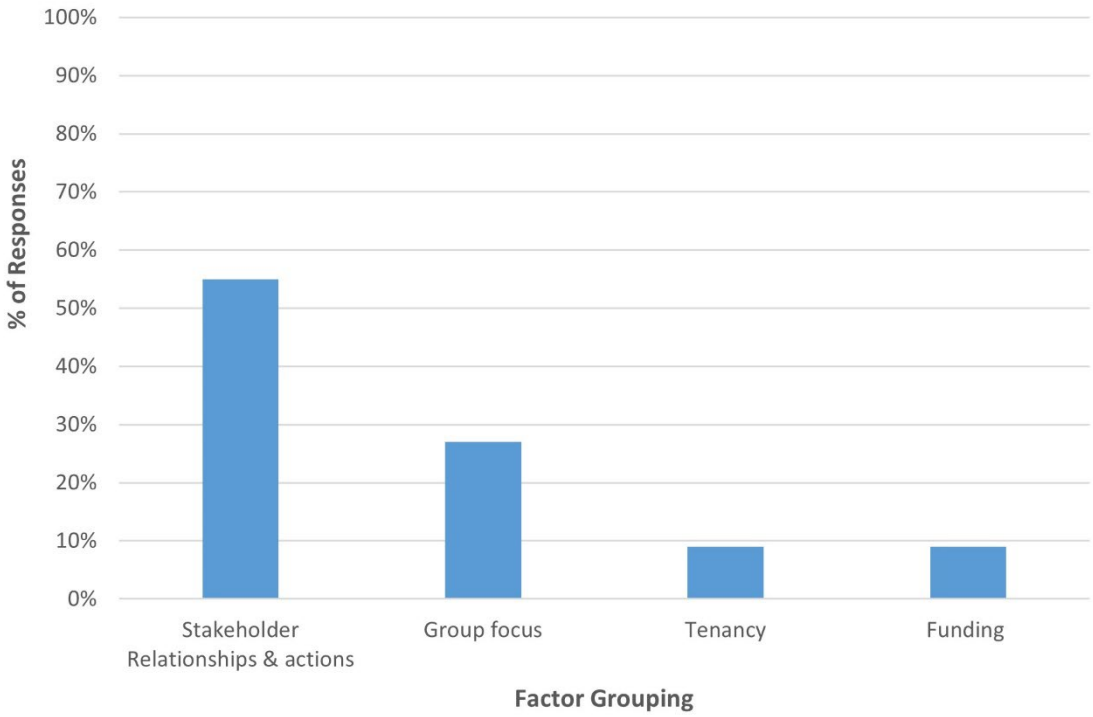

***Figure 7**: Percentage of responses per factor group for the question 'What isn't working?'*

3.4.3 What could be better?

Like 'What's not working', participants highlighted that stakeholder relationships and actions could be better (36%), along with the inclusion of Flood action groups in decision making (18%). Another popular factor identified was again not specific to the group's functionality itself (Insurance and funding (27% of responses)), but the wider communities and their resilience to flooding (Figure 8).

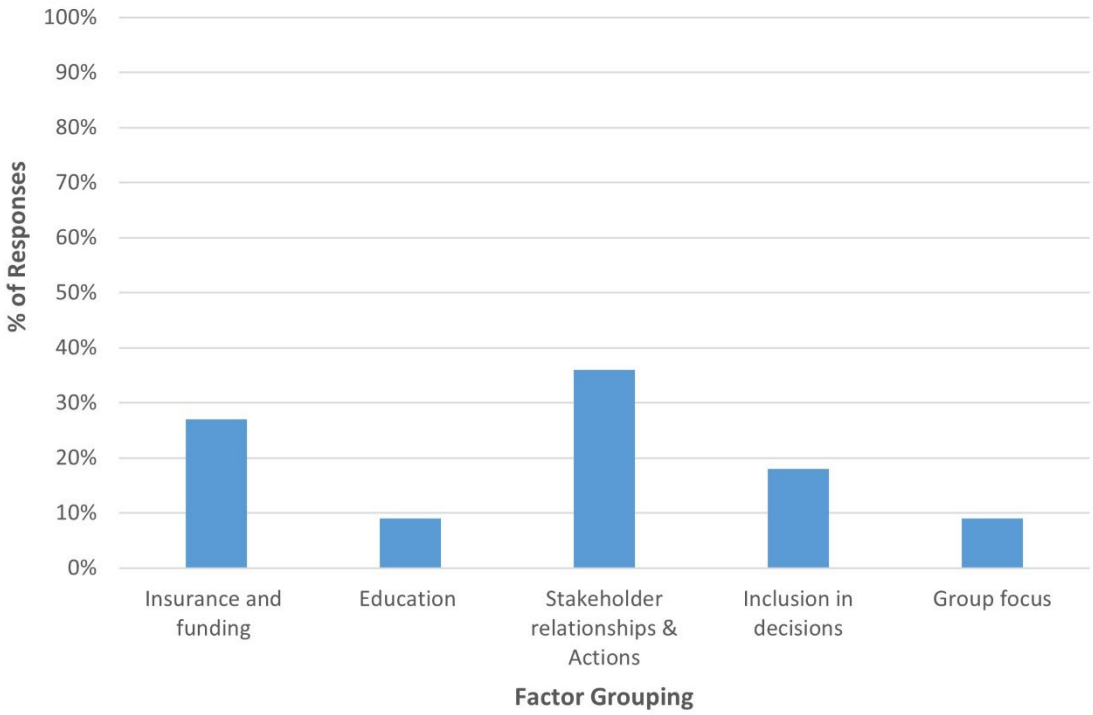

***Figure 8**: Percentage of responses per factor grouping for the question 'What could be better?'*

3.4.4 What barriers are faced?

Participants frequently mentioned again that 'relationships with stakeholders' as a major barrier that Cumbrian Flood action groups face (60% of responses) (Figure 9). The other two barriers identified by the workshop participants to Flood action group resilience included 'funding' and 'timescales' (equally 20% of responses). Timescales included time taken for actions to occur, suggesting that timeliness, consistency, and long-term commitments are required for group success.

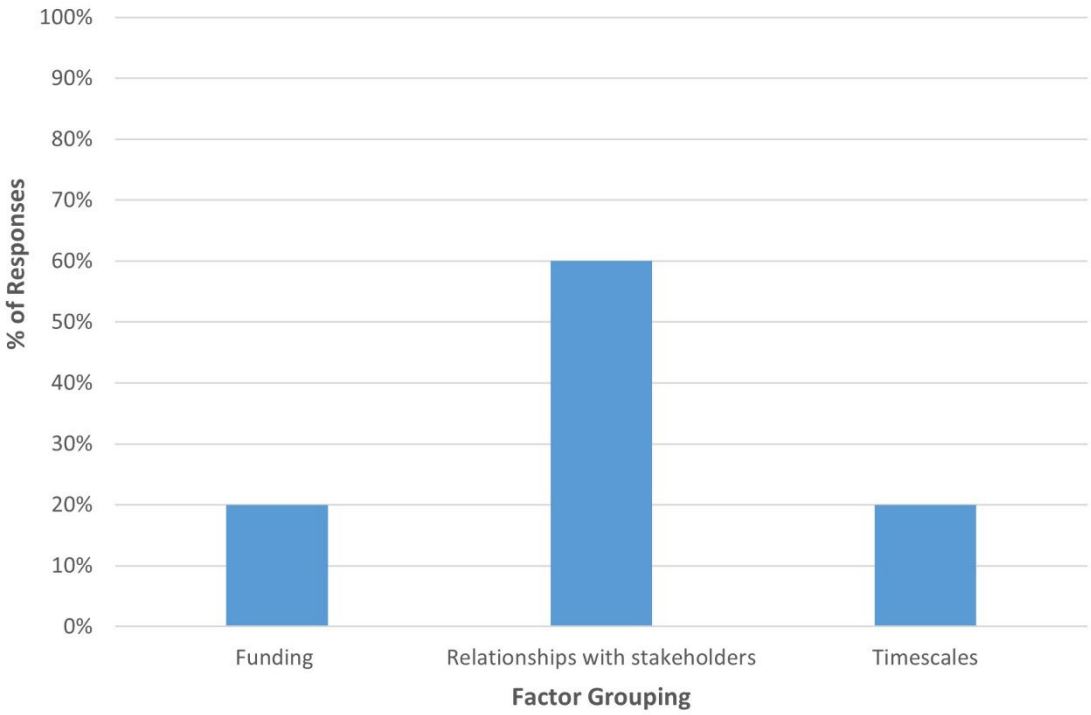

***Figure 9**: Percentage of responses per factor grouping for the question 'What barriers are faced?'*

3.4.5 What support is received?

Participant responses to this question suggested there is a range of support for Flood action groups in Cumbria (Figure 10). 'Funding support' was underlined the most (28% of responses) including factors described as 'Local council help with funding grants' and 'Financial support from Cumbria Community Foundation (CCF)'. 22% of participants highlighted the EA as fairly significant providers of support to Cumbrian Flood action groups. This included a range of comments, including 'EA community officer helped us set up the group' and 'EA flood warnings', which can help warn communities when a flood may occur. Highlighting that when that support is obvious and more consistent, this has a positive effect on the Flood action group. Further factors identified were predominantly aimed at the reduction of flood impacts, including 'flood alleviation' (i.e. flood schemes, culvert maintenance) and 'flood warnings'. These again are not just focused on the support for the groups but the community as a whole.

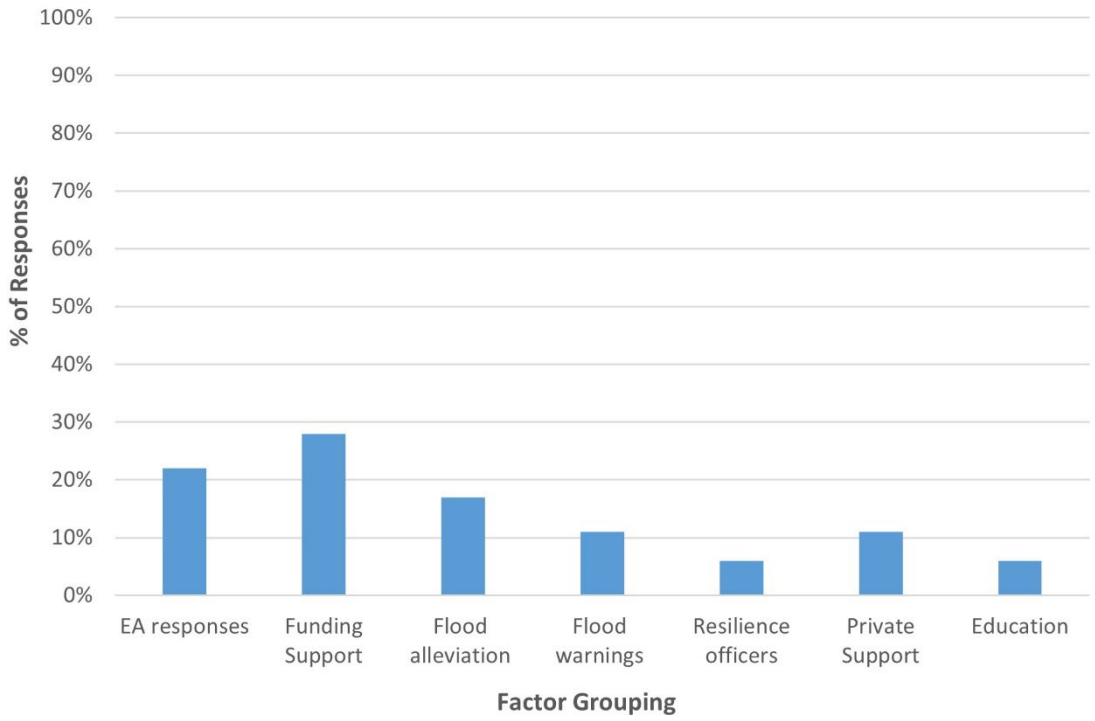

***Figure 10**: Percentage of responses per factor grouping for the question 'What support is received?'*

3.4.6 What else is needed?

Governmental and legislation change was identified the most by the workshop participants as the dominant factor needed (47%) (Figure 11) to enhance Flood action group's functionality. This included identified elements such as 'new department for flood risk reduction' and 'central agency with power and resources, instead of multiple agencies'. Another factor that was mentioned was 'commitment and consistency' (20% of responses), including elements such as 'nationwide standardisation and best practice' and 'more commitment from stakeholders to fulfil their commitments', and 'consistency in the responses to flooding across communities'. Again, highlighting stakeholder actions and relationships as a critical element that needs improving. Finally, another factor that was identified as being needed to improve group functionality was 'diversification of the groups', which included encouraging younger people to join the groups and take over.

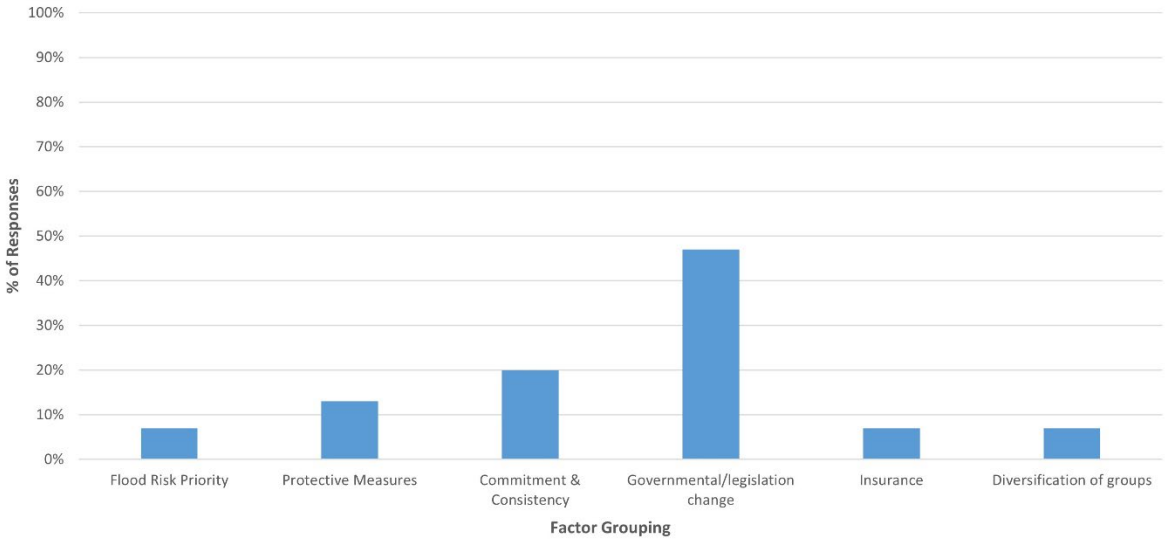

***Figure 11**: Percentage of responses per factor grouping for the question 'What else is needed?'*

4. Discussion

Flooding is one of the most dangerous challenges to settlements in the UK, and current levels of flood adaptation are considered inadequate (Committee on Climate Change, 2017; Percival, Gaterell and Teeuw, 2019). Hence, many communities take it upon themselves to set up Flood action groups, to increase their resilience to flooding, reduce impacts and ensure the community is protected from future events. Hence, increasing the longevity and functionality (their resilience) of these groups is key to ensuring flood resilience is embedded within communities.

However, these groups face many barriers, both within the groups themselves i.e. demographics, spirit, focus and engagement; as well as externally e.g., communication and relationships with stakeholders. Issues can arise within the groups when there is a lack of group structure and defined roles for the volunteers (Studer and von Schnurbein, 2012) or even lack of flood events in the area. As indicated by the workshop's first exercise on Flood action group practice, one of the groups no longer met due to a lack of local flood events, suggesting apathy, which can occur in other flood risk management practices where stakeholders (such as Flood action groups) are excluded from management discussions during periods of reduced flood events (Thomson, Mickovski and Orr, 2014). Another group also highlighted potential apathy setting in since the construction of flood defences in their area during general workshop discussions between exercises, stating they feared *'the group was at risk of losing focus and determination'*. Whilst flood defences can provide protection for communities, they can also encourage more development in flood zones (Fazey *et al.,* 2007). This was the case in New Orleans, where houses were continually built on wetland areas, due to the construction of levees (Stevens, Song and Bird, 2010), resulting in more people at risk from flooding. However, the presence of a Flood action group can also positively influence the uptake of flood management techniques as well (i.e. flood warnings, flood insurance, sandbags) (Dittrich *et al.,* 2016). Therefore, even if there has been no recent flooding, it is important that the groups remain active, not only to keep and enhance

awareness of the risk and educate the local communities, but also to ensure the initiative of flood risk management practices in the area don't come to a halt, further helping to protect the communities in the future.

Other internal factors that can have detrimental effects on the group's resilience include the spirit of the group. This was one of the main factors highlighted in the workshop by participants when asked about what Flood action group resilience means/looks like (Section 3.2, Figure 4). It is expected that the idea of having a shared social identity can bring people together to form Flood action groups, as well as create a positive output for the groups, increasing collective efficacy and empowering members (Ntontis *et al.,* 2020). This can be further solidified during flood events, due to sharing similar experiences (*Ntontis et al.,* 2020; Barnett *et al.,* 2021). However, group dynamics can also affect the spirit of the group, which was another highly voted Flood action group resilience factor. If volunteers do not have defined roles within the groups, they may experience higher burn out, leading to increased volunteer turnover (Allen and Mueller, 2013; Harp, Scherer and Allen, 2016). This can also be the case if there is increased organisational constraints, for example lack of stakeholder engagement, can cause frustrations and lower overall engagement by the volunteers (Harp, Scherer and Allen, 2016).

4.1 Stakeholder Relations

One theme that was consistent within the results was that the relationships Flood action groups have with stakeholders is crucial. Initially, when set up, the NFF aid stakeholder relations, including organising meetings with the Flood Risk Managers (FRM's), and ensuring effective communication (Shepherd per comms, 2024). However, the relationships can break down once the NFF step away. If the stakeholder engagement with the groups fails and the expected outcomes are not met, conflict can occur between them, which may escalate into distrust between the groups and the stakeholder in question (Emery, Mulder and Frewer, 2014; Reed *et al.,* 2018).

With stakeholder engagement being a core aspect of integrated flood risk management (Thaler and Levin-Keitel, 2015), ensuring stable relationships between Flood action groups and stakeholders is key. Groups can reach key objectives with the help of stakeholders, for example Churchtown Flood action group (Southport, Merseyside), were able to obtain funding for the construction of a bund to help reduce the impacts of flooding, through having beneficial relationships with several stakeholders (United Utilities, Environment Agency, local council) (Newground, 2022). Highlighting, successful relationships such as those in Churchtown, not only influence the Flood action groups and the local area but can also aid Flood action groups in influencing policy and effective management, through sharing experiences and working cohesively. Unfortunately, though unlike what occurred in Churchtown, these relationships aren't always productive. This can be due to a multitude of factors including unstable relationships with stakeholders (lack of/loss of trust), loss of focus from group members and lack of desired results.

Flood action groups need to have contact with many different stakeholders (Figure 5), therefore managing all these relationships from a voluntary context could be difficult once the NFF step away. There is potential this is the likely point when relationships start deteriorating, and communication breaks down. This could be due to them being considered 'Spontaneous Volunteers', who are volunteers that are unaffiliated with established associations, and may be considered a challenge or risk to stakeholders (Daddoust *et al.,* 2021). Due to the complex nature of the issues the groups and the stakeholders deal with, it therefore key that all stakeholders are transparent in their decision making and flexible with one another (Reed, 2008), including Flood action group members. In these situations, to ensure a successful relationship is restored, transparency and trust are required, to help rebuild stable and healthy relationships (Jahansoozi, 2006). In this regard, the creation of guides of best practice for both the stakeholder and Flood action groups would be beneficial, which would create a standardised methods of communication, dependent on the stakeholder, as well as advice for each user.

4.2 Challenges faced by Flood action groups.

As well as issues with stakeholders, Flood action groups also face a range of different challenges, including funding, timescales of actions, and education. It is extremely difficult for the groups to access funding, with limited funding available through local councils. The Flood action group needs to become a constituted group before gaining further funding from local organisations (Newground, 2021). Even once the groups are formed and constituted, they may not receive any funding, which can dishearten the groups, and break down relationships with stakeholders further, creating a wider sense of despair, as relationships with stakeholders can be key in accessing resources, including further funding (Balser and McClusky, 2005). Thereby, ultimately affecting the resilience of the group itself.

Further, the timescales faced by Flood action groups can be difficult. During the Cumbrian workshop general discussions indicated that the speed of actions by different stakeholders can affect the groups outcomes and hence, their resilience. However, the groups may have unrealistic timelines for the stakeholders to reply/work to, either by organising a meeting, replying to funding, or building a defence (Shepherd per comms, 2024). This can put pressure on both the stakeholders and Flood action group members, which again can further deteriorate the relationships between them, again highlighting relationships and trust are core factors for the resilience of Flood action groups.

Education is also a key aspect in increasing community flood resilience and can be provided during different stages of a flood. Flood action groups can assist in this education, as many of the members are from the local area and have predominantly experienced flooding. This lay knowledge is extremely important, as it can help build local knowledge for residents and stakeholders alike (McEwan and Jones, 2012). If this knowledge is lost, the community's resilience may be reduced, and flood impacts will again increase.

4.3 Further Research Recommendations

Whilst this pilot study provided an insight into the Flood action groups functionality, stakeholder relationships and views in the NW, it only included a very small number of the Flood action groups of the total that are present in England, and these were all from the same county. Therefore, further exploration of Flood action group resilience is required, expanding to cover the rest of the NW and England. Providing insight into how these groups work in other parts of this vulnerable area (NW) and the country. The issues they face when faced with different flood types, or when the groups themselves are in different states/stages e.g., dormant, new, stable, successful etc.

A guide of best practice is also required, not only for the Flood action groups themselves, but also for key flood stakeholders that they need to work alongside, in order to provide effective flood risk management. A guide for resilient Flood action groups would aid in increasing their practice and functionality, providing resources that will help them interact with their communities, stakeholders, and other groups (both locally and nationwide). Whereas the guide for key stakeholders will standardise communication methods, ensuring that both the stakeholders and Flood action groups needs are understood and met. The production of this guidance will help increase the impact of the Flood action groups, and hopefully reduce the issues faced by the groups and the communities they represent.

5. Conclusion

With flooding being considered the UK's primary natural hazard, there are more communities at risk to flooding than ever before. A shift of focus from risk-based approaches to more dynamic resilience-based approaches is now required, to definitively help reduce the impacts of flooding on vulnerable communities. One way to achieve this is by establishing resilient Flood action groups. These groups are grassroot community groups, who act as a voice for the local communities, advocating for local changes, as well as assisting in times of need (i.e. during a flood event).

However, the resilience of these groups is precarious, especially in Cumbria, where some of the worst flood events in England have been experienced. Once the NFF step away, the members take over the Flood action groups practices, which can in turn cause dormancy of the group, or breakdowns in communication, especially with stakeholders. Internally, this can be due to a loss of focus and drive from a lack of flood events, which can in turn affect the spirit of the group, which was considered a key part of flood action group resilience by many of the workshop participants. However, the precarious relation with stakeholders is considered one of the biggest barriers faced by Flood action groups and can have a substantial impact on the group's functionality, with many participants stating it as a hindrance faced by the groups. Other external factors including the availability of funding and the speed of actions, can be detrimental to the groups, as without these, the groups may not be able to produce any tangible outputs, which may demoralise the group members and affect overall resilience.

To increase the resilience and longevity of these vital groups, a guide of best practice needs to be produced, not only for the groups themselves, but also the key stakeholders that they are involved with. This will help standardise group practices, whilst providing beneficial and stable relationships between the groups and stakeholders. Helping to establish resilient Flood action groups and further embedding flood resilience within vulnerable communities.

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