Danish University Colleges

**Post-spontaneous volunteerism**

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*Publication date:*
2018

*Document Version*
Publisher's PDF, also known as Version of record with the publisher's layout.

*Link to publication*

*Citation for published version (APA):*

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Panel: Panel 14: Dealing With and Preparing For Floods – Conflicts, Opportunities And Challenges
Title: Post-spontaneous volunteerism
Post-spontaneous volunteerism
Building a citizen preparedness organisation to handle a climate change induced risk
Dismantling the boundaries of emergency management

Introduction
This paper studies citizenship in relation to flood risk. Particularly the paper studies how flooding initiates organisational collaboration between the citizens’ emerging preparedness structures and the emergency management authorities.

The aim is to understand the possibilities for and constraints in integrating citizens and their preparedness structures in the formal emergency management organisation, particularly in the emergency phase of operations.

On Boxing Day 2016 the storm “Urd” passed Denmark and, among other issues, caused a storm surge in the Isefjord and Roskilde Fjord inlets on the island of Zealand. The authorities of Roskilde municipality mobilised a major emergency management operation involving large numbers of citizens. During field work for a forthcoming paper on spontaneous volunteerism in the storm Urd floodings it became clear, that the authorities and citizens now not just had a reactive approach to citizen involvement in storm surge emergency management, but are planning and taking active measures to prepare for citizen involvement in coming operations.

In the face of climate change and the expectation of stronger and more frequent storms, it is a real possibility that events like these will reiterate in the coming years which calls for a study of these population based emergency management practices and their integration in official response.

The concept “post spontaneous volunteerism” describes the phenomenon of citizens learning from the experience of spontaneous volunteering in emergency management operations and applying the experience in new, emerging civic structures aiming at mobilising, preparing and organising citizens for the participation in a particular emergency management operation in relation of the specific risk of flood.

Study site
Jyllinge is a small town on the shore of Roskilde Fjord, located in Roskilde Municipality on Sealand. The relatively new development “Nordmarken” to the north, which is the flood threatened area. It is a resourceful society of people with medium-length educations, few unemployed or socially vulnerable people and many families with children. Initially Nordmarken was laid out for summerhouses, but it has developed into permanent residences with large parcels close to the inlet, summer parties and social relations centred on schools and day-care institutions.

Prior experience with floodings
The history of Nordmarken as a residential area is relatively short as mentioned above. The area is low-lying and it was known to the farmers that you couldn’t grow corn on it, since it was too salty, however, the storm “Bodil” in 2013 was the first experience with flooding for many residents, as described by a citizen who had a key role in the Urd response:

We were not quite aware, that we lived by the sea when we moved in.

During the Bodil storm the sea raised more than two meters and about 250 houses where flooded with people losing more or less all their belongings. The next winter the storm “Egon” created a smaller storm
surge and thus “Urd” is considered the third in a row. During the storm “Egon” mitigation efforts with water tubes were applied for the first time.

Figure 1: Jyllinge in Roskilde Municipality and the storm surge flood risk map, indicating in blue the areas in that will be flooded in a 2.1m storm surge as experienced during storm “Bodil” in 2013. (Styrelsen for Dataforsyning og Effektivisering, 2017).

Citizens in Danish emergency management

In the national strategy for prevention of accidents and disasters, which focuses on fires, storms and floodings (Beredskabsstyrelsen, 2017) the role of citizens is mentioned as central both before, during and after serious incidents. In fact, the aim is that the citizens are co-producers of safety and security:

Co-production can be seen as a further development of the citizen involvement idea, where authorities in cooperation with citizens, businesses and local communities, including organisations and associations, develop common solutions to a given challenge. Work (or creation) is done with and not for the citizens. The aim is that the citizens become co-producers of their own safety, security and welfare (Beredskabsstyrelsen, 2017, p. 13).

This is exemplified by citizens with first-aid capabilities, citizens offering shelter during storms or heavy snowfall and particularly the ability to assist authorities with knowledge of local conditions and the current situation, as well as experience from prior incidents.

When the strategy puts the citizen at the center it is also to underline that the citizens must be considered a big and important resource both before, during and after serious accidents. (Beredskabsstyrelsen, 2017, p. 9).

It is of key importance to the strategy to make use of the potential of the citizens to take care of themselves and help each other, and thereby contribute to creating safety and a stronger overall preparedness in society.
On the other hand, there is only a limited framework for the involvement of citizens in operational emergency management work. The Danish Emergency Management act only addresses this in the case of fire, and not in other emergency operations (Danish Emergency Management Agency, 2009) and the incident command guidelines mainly mentions citizens in relation to their need to be informed and communicated with about an incident (Beredskabsstyrelsen, 2013, p. 9 pp).

It is in this ambiguous framework that the authorities in Roskilde are developing ways to involve citizens in the operational work, and the citizens are organising themselves to take part the operational work. This leads to the following research question.

Research question
How does recent flood-hazard experience initiate emerging community preparedness structures, and how can the emergency management authorities integrate these preparedness structures in the formal emergency management organisation, particularly in the emergency phase of operations.

Research literature on volunteers
Definitions
There are several definitions of spontaneous volunteering in emergencies (synonymous terms: convergent volunteering, unaffiliated volunteering, walk-in-volunteering) but they generally encompass the offer to help in the emergency management effort by people who are not affiliated with or trained by the emergency management authorities prior to the emergency, although they may have relevant skills from other experiences or engagements. Spontaneous volunteering is different from the brief intervention offered by bystanders who respond to an immediate situation simply because they are present (Harris, Margaret, Shaw, Duncan, Scully, Judy, Smith, Chris M., & Hieke, Graham, 2017, p. 353). For a review of the discussion of the terms and the phenomenon see for example Skar et al (Skar, M., Sydnes, M., & Sydnes, A. K., 2016), Harris et al (Harris, Margaret et al., 2017) and Whittaker et al (Whittaker, McLennan, & Handmer, 2015).

Whittaker, McLennan & Handmer (Whittaker et al., 2015) identifies three types of informal citizen participation in emergency and disaster management, these are emergent volunteerism, extending volunteerism and digital volunteerism. This is a useful typology since it considers volunteerism of individuals as well as organisations, thus embracing both the individual act to volunteer as well as the actions of existing or emerging organisations and institutions to mobilise or organize volunteer efforts.

*Emergent volunteerism* is the “new forms of volunteering that occur in response to unmet needs” (Whittaker et al., 2015, p. 362), this may be once an emergency has begun, but it may also emerge beforehand in relation to prevention and preparedness activities.

*Extending volunteerism* are existing community groups without emergency or disaster functions who extend their activities to volunteer in times of crisis (Whittaker et al., 2015, p. 363).

*Digital volunteerism* entails people who utilise for instance social media and web-based mapping software to “produce and disseminate their own emergency related information” (Whittaker et al., 2015, p. 364)
Constraints and opportunities

In the literature, there are two points of view on the issue of spontaneous volunteers; “stay away” and “given the right conditions, spontaneous volunteers might be a valuable resource”.

Alexander (Alexander, D., 2010, p. 152) considers volunteers as an essential part of the civil protection system but mentions a number of reasons why untrained and unorganised volunteers may be more of a hindrance than a help to relief efforts. These considerations are in line with the concerns of official responders as described by Harris et al (Harris, Margaret et al., 2017, p. 361) who found a number of common problems regarding the management of spontaneous volunteers.

The concerns can be summarised in five points:

1. Adding to the disaster: unorganised and untrained citizens converging at an emergency site may simply increase the number of people in need.
2. Lack of professionalism: they may take unnecessary risks and be untrained or unauthorised for the use of available equipment.
3. Lack of equipment.
4. Management and communication: spontaneous volunteers need to be managed in order to work within the priorities of the responsible authorities.
5. A double-edged sword: if they are involved and the result is bad, the responsibility falls back on the emergency management authorities, as does the dissatisfaction if they are not involved, or are involved but disagree with the priorities or tasks given.

(Alexander, D., 2010; Harris, Margaret et al., 2017)

So spontaneous volunteers are in some cases seen as an impediment for the emergency response efforts since, among other things, they may not have proper training, congest infrastructure or take high risks in their work compromising their own safety and perhaps adding to the number of casualties.

On the other hand there are also examples where spontaneous volunteers are valuable in the response either through operational work (Albahari, Amin & Schultz, Carl H., 2017, p. 2) or as source of information (Kvarnlöf, Linda & Johansson, Roine, 2014) and there is an anticipation among professional responders that spontaneous volunteers might add needed capacity in dealing with the emergency (Skar, M. et al., 2016). One of the points stated by Harris et al (Harris, Margaret et al., 2017, p. 365) is that despite concerns about risks official responders are keen to draw on local knowledge, contacts and self-organizing capabilities of local communities.

This is the core “involvement/exclusion paradox” as discussed by (Harris, Margaret et al., 2017). On the one hand the volunteers may be needed as an additional resource to the official response, but they are not wanted by disaster managers as they might pose risks to themselves and/or those they attempt to help (Harris, Shaw, Scully, Smith & Hieke 2017:353).

Harris et al found that the involvement-exclusion paradox can be understood as a product of four key elements which interplay in a disaster, these are:

1. The operating culture, including official guidelines, local customs and practices which can range from rejection over tolerance and acceptance and full incorporation of spontaneous volunteers.
2. Management approach of official responders, including whether they are prepared or not for spontaneous volunteers, the level of integration and management style they chose.
3. Task allocation, including risk tolerance (accept risk vs. zero tolerance)
4. Community and volunteering context, including whether spontaneous volunteers are seen as a resource invited and used by official responders, or whether they are entitled to participate and able to guide and advice the official responders about needs and priorities and access to local resources.

(Harris, Margaret et al., 2017, p. 365 p)

Points 1-3 covers the overall management of spontaneous volunteers whereas point 4 describes the supply of spontaneous volunteers. It is between these four points that that the involvement-exclusion paradox plays out and the behaviour of both spontaneous volunteers and official responders is affected by numerous interacting variables, which explains the wide variations found in different flood episodes.

In a Norwegian case study (Skar, M. et al., 2016) it was found that generally guidelines for the successful integration of spontaneous volunteers requires government or non-government organisations (NGO) to take responsibility for disaster management, establishing a framework for the spontaneous volunteers to work within. However, as Albahari & Schultz (2017) have shown in relation to severe floodings around Khartoum (Sudan) in 2013, it is also possible that spontaneous volunteers organise themselves and respond to an emergency in a successful manner.

Harris et al (2017:367) suggests 5 principles for involving spontaneous volunteers:

1. Anticipate convergence of spontaneous volunteers
2. Avoid thinking that exclusion or incorporation into official response are the only two choices
3. Be aware of the possible need for “surge capacity” which cannot be met by official responders
4. Consider community characteristics
5. Manage spontaneous volunteers expectations

So it is in no way a given that citizens should be involved in an emergency management operation as spontaneous volunteers, it may very well be best to usher the citizens away from a potentially dangerous situation and consider them somebody who are in need of information, as the Danish operational guidelines do (Beredskabsstyrelsen, 2013).

Field methods
Key actors and a general informant, who was also a spontaneous volunteer, were interviewed during summer 2017 using semi-structured interviews, which were recorded and transcribed. The list of informants include

- the mayor,
- the managing director of the emergency management organisation,
- a citizen who actively organised spontaneous volunteers
- the chairman of one a land-owners association and the newly established dyking guild in Jyllinge Nordmark
- as a general informant the local vicar
- an informal interview was performed with the former head of the municipality emergency management organisation regarding the storm “Bodil” I 2013
- a representative of the Danish Emergency Management Agency was interviewed about the legal aspects of spontaneous volunteers in civil protection in Denmark
All interviews were performed in Danish, and the author has translated the quotations in this paper, as well as translation of texts that are only available in Danish.

Relevant Facebook groups related to Jyllinge and local press was also monitored during and after storm “Urd”. The aim of the fieldwork was to be able to qualitatively describe the involvement processes, which is why the interviews are mainly with key actors and not, for example, with a large number of citizens who participated as spontaneous volunteers.

It is relevant to mention that the author has a professional background in the emergency services, meaning that the national incident command guidelines and normal operational considerations didn’t have to be explained in the interviews. This is especially relevant for the interview with the director-general of the emergency management organisation. This prior knowledge of operational conditions and guidelines is also an underlying knowledge in the interpretation of the interviews.

Through the interviews with key actors, a number of issues where covered, including existing networks between the actors, their experience with storm surges, who they communicated with during the operation and whether they anticipated and prepared for the involvement of spontaneous volunteers.

Findings and analysis
Emergent citizen preparedness structures
The emerging preparedness structures in Jyllinge have developed gradually from a self-help initiative in the aftermath of storm “Bodil” over mitigation advocacy to organised and prepared response.

From restoration to recovery and mitigation...
In the aftermath of the storm “Bodil” a local network developed, centered around a facebook group which is now called “Oversvømmelser I Jyllinge – Vi Hjælper Hinanden” (floodings in Jyllinge – we help each other) organising restoration and recovery activities, such as clearing and cleaning and distribution of second-hand household items. A network of informal leaders emerged speaking with both local and national authorities on behalf of those affected in relation to both recovery and mitigation issues, such as insurance conditions and the need to build dykes. Among other things, the work led to insurance laws being changed by parliament with retroactive effect.

... and on to developing response
In the following storms, an informal leader in the emergent network, used his influence in mobilisation (Skov, T., 2017). He describes his own role as developing out of the advocacy work after the storm Bodil but materialising by somewhat a coincidence during the storm “Egon” when somebody contacted him with the information that the water tube was being overflown and he felt obliged to do something:

I don’t know anything about such work, I am an officeman and a salesman, but I went there, and we agreed that we had to do something ... so we wrote on Facebook “everybody to Strandvænget now” and I expected a few people to show up, but in about 15 minutes there were 60 people.

The dyke was repaired with sandbags that the emergency management organisation had placed in the area. The citizen organiser reflects:

That was the first time I thought “this can’t be true”, it was very impressive ... during that night these chains were formed where the women followed with coffee and cake, we went from place to
place all night and the next day … and I tried to write on Facebook that we need 60 or 40 persons or whatever we needed. It went rather well, but it was completely unprepared.

After the first incident the efforts where coordinated with the emergency management organisation and nothing was done without their request, in the citizen organisers own words They are in command, we help, we simply meet with hands. Facebook was used to communicate since it turned out to be efficient, as people where following it.

In this way the citizens moved from being the victims of a storm surge, through restoration and recovery efforts into mitigation activism and back to the impact situation, where they take action to participate in the response efforts.

Initial preparation activities and response – the storm “Urd”

When the storm “Urd” approached the network from the aftermath of Bodil existed and the authorities where better prepared, as were the citizens.

Based on his experience from the storm Egon, the citizen organiser took some intiatives to mobilise volunteers via Facebook, making telephone lists, establishing contact with the director general of the emergency management organisation to know the status of preparations and saying let us know, when you need us to come.

During the actual operation, his main contact point with the emergency management organisation was the leader of the local fire station. The communication went both ways, since tasks for spontaneous volunteers were communicated to the citizen organiser, and he relayed operational information about equipment needs or other things from the spontaneous volunteers working in the field.

However, there were also frustrations by citizens who felt they had relevant local knowledge who were not recognised as relevant resource persons by the emergency management authorities as the chairman of the house-owners association mentions.

Improving response

In the aftermath of storm “Urd” the citizens in Jyllinge used social media to discuss preparedness measures and contingency planning, including sharing of situational information such as terrain heights, equipment and supplies needed for spontaneous volunteers and organisation.

Based on their experience from the latest storm the citizens and the authorities have taken their experience a step further and began to establish a more structured and formalised cooperation. The authorities encouraged this at a meeting with citizen representatives after the storm Urd. The authorities explained that there was a need for local emergency management initiatives, since the emergency management organisations capacities were stretched to the limit by a storm surge and wouldn’t be able to respond to the storm surge if there was a simultaneous incident of higher priority.

The more structured and formalised cooperation involves a number of things to an extend where it seems that this initial spontaneous volunteer initiative is developing into an established emergency preparedness structure in the community. The topics the citizens are developing contingency plans for are:

- identification of local resource persons
- analysing different operational options that they can present to the authorities
- analysing equipment needs for the different operational options, including equipment from the emergency management organisation such as pumps and water tubes
- detailed operational planning such as identifying the best track for laying out watertubes and best starting/ending points for the tube as well as time-phase planning of different tasks such as filling sandbags and laying out watertubes within the warning time of a storm surge
- planning the construction of a stable track for laying out the water tube – which will also serve as a mitigation, since it involves ground levelling in low-lying areas
- planning a common practical exercise for the local resource persons and the emergency management organisation
- the formation of operational working teams organised for different tasks such as heavy/light and dry/wet work
- organising a shelter and supplies of food and beverages for volunteers
- receiving converging volunteers from outside

This is done by both organisations extending their volunteerism from their normal activities such as the local Red Cross society and the Rotary Club (Kenneth Tanzer, 2017), the house owners association, as well as by emerging volunteer initiatives.

Based on experience the citizen organiser wants to be able to match the tasks with citizens with the necessary abilities and equipment, since there were events during Urd where the wrong people or the wrong numbers showed up for a task. *next time we have to do it differently, you have to divide them into some groups whether you are strong, can you carry sandbags, do you have waders – is it a wet area or not – and a team of coffee ladies.*

... *next time we must* - *this is part of my plan* – *we need some road foremen who carry a special colour vest saying “road foreman” so that the guy from the emergency management organisation knows who to talk to, and he will be the one who knows, and we will get people from all the roads instructed in water tubes and other things.*

In order to facilitate the organisation of citizen response efforts, the Facebook group “Sammenhold I Jyllinge ved storm” (solidarity in Jyllinge during storms) the purpose of which is to coordinate help, publish plans and muster rolls. When people join the group they are prompted to inform their name, contact details and which type of work they can participate in, in the categories:

- hard work with sandbags etc.
- as above but with waders
- helping with lighter tasks
- volunteers with coffee and cake

When the group was established word was also send round to for people in the affected area to volunteer their kitchens for making coffee and cake and asking for knowledge of people with specialised equipment or vehicles that might be useful.

**Authorities**

Through the repeated storm surges, the authorities on their part had learned that citizens could be valuable resource not only as manual labour but also as informants and in some cases specialists at different tasks, using the capacities from their everyday job. The authorities are working with the citizens to develop citizen based preparedness structures with three aims that can improve the emergency management effort: access to information, empowering the citizens in relation to the storm surge hazard and surge capacity.
From the interview with the director-general of the emergency management organisation, it is clear that the involvement of citizens enhanced the quality of the storm “Urd” operation. This materialises in two ways, one is the contribution of the citizens pertaining to labour, knowledge and insight, enabling a better operation saving houses and property as opposed to a simple evacuation operation focusing on saving lives. The other is the professional quality of involving the citizens in the work in order to empower them in a stressful situation.

Citizens as sources of information
For the emergency management authorities it is a challenge to know whether information given by citizens in the flood affected area is valid or not. There are many people and they give a lot of information that needs to be selected, it may be good advice, important insights or something that is imagined might happen. There is a big difference in the validity of the information, but the emergency management organisation has identified different people with specialised skills through the operations during the storm surges, e.g. a land surveyor who could check the actual height of the dykes after they were established.

We have a dialogue with the citizens about a contingency plan, not in a professional sense but where they identify the resources they have, marking them with yellow vests so that when the emergency management professionals arrives they will be able to recognise the surveyor even though they don’t have local knowledge – we get new staff and the national rescue centres get new staff or conscripts. But if they are aware that there is a contingency plan for the area, and a person with a yellow vest saying “citizen Jyllinge” or whatever it will say, then it is actually a resource person with valid information.

We are trying to systematise the competences… so that next time something happens… it is possible to take out a plan, and then perhaps you have identified the first hundred persons that you know can do this. Hopefully it will make things a bit easier.

Establishing a core of more or less uniformed citizens has two purposes
- one is to have identified the citizens with expert local knowledge beforehand in order to be able to train them to some extent, and
- the other is the actual marking of these key actors among the citizens, in order to communicate to official responders called to assist the municipality’s emergency management organisation from the national rescue centres or otherwise that these citizens are in fact resource persons for the response efforts, that are entitled to approach the official responders and inform them on local conditions and experience

Empowerment
It is also an aim to empower the citizens to be able to take action on their own: We are not asking the citizens to have an opinion on how many meters of watertube is needed or how many sandbags they could use. This is about what you can do yourself from the very beginning.

Surge capacity
Here we have 4 persons on duty 24 hours a day 7 days a week… 4 persons… that is paid employees… and in Jyllinge we need somewhere between 250 and 450 persons a day… and you only pay for the 4 persons, what do you do with the last… and it is my task to figure out how to get 400 people, for a given assignment that I don’t know beforehand and I don’t have the resources for. That is the question.
Discussion:
What is discussed here are examples of both emergent and extending volunteerism (Whittaker et al., 2015), and the authorities’ approach to involving these in formal response efforts. The emergent volunteerism are citizens who, out of experience organise themselves and seek ways to adjust to the official response system. One initiative is a Facebook group called “Sammenhold i Jyllinge ved storm” (solidarity in Jyllinge during storms). The extending volunteerism is local organisations like the Danish Red Cross and the houseowners associations, which form the basis of a new dyking guild, and who also seek to influence response operations with their detailed local knowledge.

The case studied is one where the official responders have decided that they believe more is gained for the response operation through involving citizens in terms of knowledge and surge capacity than what is lost through lack of operational control and the risks of citizens getting injured during the work. The authorities also believe that more is gained through openness about aims and priorities and by giving citizens tasks than what can be lost by citizens being unhappy about the tasks they are given or the priorities of the authorities as are concerns mentioned above (Alexander, D., 2010; Harris, Margaret et al., 2017).

Furthermore the authorities are planning active measures to embrace the citizens and involve them operationally in order to achieve a higher quality of emergency management – a better solution to the problem by having more manpower, specialised skills and better information. Which is in line with what others have found that the authorities are looking for in citizen involvement (Harris, Margaret et al., 2017; Skar, M. et al., 2016).

The authorities are taking responsibility for involving the citizens like Skar et al (Skar, M. et al., 2016) consider a prerequisite for the involvement to be successful, and they are acting within the 5 principles for involving spontaneous volunteers that Harris et al (Harris, Margaret et al., 2017) have drawn up.

However, it is interesting that the citizens want to do more and have a stronger sense of their own role in the response operation than the one the emergency management organisation is planning to give them. The authorities are very focused on the citizens as a source of useful and valid information, while the citizens seem more focused on the tasks they can perform. It could seem that whereas the authorities have realised that specific citizens can be a source of valuable knowledge they haven’t realised the full potential of the citizens in relation to emergency management initiatives since they not only have knowledge of the area and are able to provide manpower, they are also the owners of the terrain the emergency management operation is performed on, which enables them to take critical initiatives such as constructing a stable track for laying out water tubes, which will improve the working conditions for the emergency response effort considerably.

This shows that citizen involvement is a dialectic process, where neither of the two parties (the authorities and the citizens) have the power to define the role of the other. It is through action, reaction and dialogue between the involved parties that the actual form of the emergency response materialises.

Co-production of emergency management as is the stated aim of the national strategy for prevention of accidents and disasters is not a static situation but rather an ever developing interaction between citizens and the authorities. It is not a situation where strict operational guidelines with well defined tasks for all actors are realisable, but rather a situation where roles and tasks are negotiated, and dependent on the resources, knowledge and capacities of the involved parties.
**Conclusion**

The co-production of emergency management which is seen in Jyllinge in relation to the storm surge hazard has developed from restoration and recovery work into mitigation efforts, and then into response when a new storm surge threatened and finally into preparation and improved response, where citizens are organising themselves and taking measures to adapt to the leadership of the authorities.

The emergency management authorities can integrate these emerging preparedness structures by supporting their development and discussing the role of the citizens with them, in this case encouraging the citizens to focus on the issues they can address themselves and to identify key informants and resources that can be useful in the authority-led emergency management operation. However, the authorities must also realise that the citizens are a resourceful and critical part of emergency management who are not only capable of supporting and informing the emergency management operation, but, at least in some cases, are also able to change the conditions under which emergency management operations are carried out.


