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**Preventing and Preparing for Disasters – The Role of a Swedish Local Emergent  
Citizen Group**

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*Disasters such as the storms that affected Sweden in 2005 and 2007 showed that citizens initially conducted a large part of the disaster response, such as clearing roads, giving psychosocial support to affected neighbours and repairing power lines in collaboration with power companies. As a result of these storms, an Emergent Citizen Group (ECG) was established in a village which continued to work on risk prevention, even after the event. The aim of this paper is to describe and analyse this local emergent citizen group's continuing work on the prevention of local risk and vulnerability, and particularly, their work on flood prevention. The results indicate that authorities seldom understand the ECG's concerns about risks. Authorities also lack the experience and capacity to collaborate with, and support, the ECG's risk and vulnerability reduction work. Bureaucratic barriers and declining motivation among volunteers within the ECGs could undermine commitment to the prevention of risks.*

**Key words:** Emergent Citizen Group; risk; storm; flood mitigation; Sweden

## Introduction

Emergent phenomena form a natural part of social interaction and emergency management in local communities (Furedi 2008; Stallings and Quarantelli 1985). Citizen actions confirm that affected individuals and groups are far from being passive actors; on the contrary, they take the initiative in mounting response operations for themselves and others (Drabek and McEntire 2003; McEntire 2006). Frequently, they act as essential first responders when infrastructure is damaged and the interventions of professional actors are delayed, such as during Hurricane Katrina (David 2006; 2010; Brennan and Flint 2007; Rodríguez, Trainor, and Quarantelli 2006).

In Sweden, there has been a limited focus on emergent groups and their roles, capacities and potential for collaboration with public authorities with respect to disaster preparedness and management. Traditionally, the Swedish disaster management system has assumed that the authorities will direct the process. Although a discussion of the responsibility of individual citizens has begun, this is seldom a part of the authorities' disaster management work (The Swedish Government proposition 2007/08, pg. 92). The Swedish model corresponds with other findings which maintain that authorities and professional actors often view citizens' emergent actions as distracting elements in relation to their own disaster management. Even if emergent groups constitute a great resource for the local authority, they are rarely taken into account during the official planning process (Neal 1985; Stallings and Quarantelli 1985).

There is thus a lack of knowledge about the work of emergent groups in preventing risk as well as their capability to deal with a disaster, especially in a Swedish context. One way to deepen the understanding of the non-institutionalized emergency management capacity in Sweden is to identify and analyse emergent citizen groups (ECGs) and their preventive work at the local level. Therefore, this paper will focus on a local emergent citizen group's mobilization, efforts to stabilize, and its work activities after two severe storms in 2005 and 2007.

The aim of this paper is to describe and analyse this local emergent citizen group's continuing work on the prevention of local risk and vulnerability, and particularly, the work on flood prevention. The paper contributes to a deeper knowledge about risk and disaster management from an emergent-citizen-group perspective. The analysis is performed with the support of the actor-network theory (ANT) and Jürgen Habermas' theory of the lifeworld, system and communicative actions. We use these complementary theories as analytical tools to conceptualize the mobilization and stabilization of an emergent citizen group and to examine critically the various difficulties and situations that a local risk and disaster management network might face. In this context, the theories also generate different kinds of knowledge. Based on findings from the disaster research literature we believe that these theoretical perspectives can further contribute to a deeper understanding of emergent groups and their characteristics. ANT contributes to an increased understanding of the socio-

technical network that constitutes the emergent citizen group's existence. Habermas' theory produces knowledge about bureaucratic and communication problems the group would face in its work. Together, they contribute to exploring and clarifying essential aspects of non-institutional risk and disaster management, which is useful in the development of policies for risk and disaster management at the local level.

Following the introduction is a brief overview of emergence in disaster studies with special focus on the characteristics and conditions of group emergence and emergent groups. Furthermore, the paper's theoretical and analytical influences, as well as its methodological and empirical foundations, are presented. The background of the studied ECG is then described, followed by two analytical parts outlining its mobilization and efforts to stabilize. Finally, a discussion follows of ECG's status and future, as well as the paper's final conclusions.

## **Characteristics and Conditions of Emergence and Emergent Groups**

### **Characteristics of Organized Behaviours in Disaster**

Descriptions of organized actions in disasters are common in the research literature. Organized emergence is frequently presented and characterized through the Disaster Research Centre's (DRC) four-fold typology of organized behaviours in disasters (Dynes 1970; 1998; Quarantelli, Dynes and Haas 1966; Quarantelli 1970). The typology is a two-field model with the variables being: the nature of the tasks undertaken by the groups (regular or non-regular) and the structure of the group before the disaster (old or new). With respect to these variables, the typology contains four types of group formations: *Type I* – established; *Type II* – expanding; *Type III* – extending; and *Type IV* - emergent. The DRC typology is frequently cited in its original form but also with various types of modifications (Bardo 1978; Campbell 2010; Drabek 2006; Neal 1985; Quarantelli 1984a; Quarantelli et al. 1983; Scanlon 1999; Wachtendorf 2004). A connected approach used in this context describes different forms of organizations, including a classification based upon four structural and necessary elements, namely, domains, tasks, human and material resources, and activities (Kreps 1983; Kreps and Bosworth 2006; Saunders and Kreps 1987). An emergent organization includes all these elements. Although this classification is not used in this paper, the importance of the socio-material relationship between these structural and necessary elements is stressed.

### **Socio-Material Relationships**

The importance of interactions between human and non-human resources has long been established in disaster research on emergent organizations (see Dynes 1970; Forrest 1978; Neal 1983; Perry, Gillespie and Mileti 1974; Quarantelli 1984a; 1984b; 1987; Quarantelli et al. 1966; 1983). Internal and external resources such as equipment and materials, information and records, and personnel separately and together form essential elements in the management of disasters (Quarantelli et al. 1966). Insufficient internal material and non-material resources can limit an

organization's capacity. Representative examples from the disaster literature include cases where organizations' buildings are not large enough to receive and coordinate new volunteers or where external organizations' mobile radio units may be used instead of inoperative telecommunications networks (Quarantelli et al. 1966, pp. 6-7). A more recent example of a successful socio-material-related emergence is the "community bike project" in post-disaster New Orleans following Hurricane Katrina (David 2006). This new kind of task emergence in the aftermath of the hurricane included gathering, fixing and distribution of bicycles in the New Orleans community. The project contributed to the development of an alternative socio-material relationship that did not exist before the disaster. The increased use of bicycles in New Orleans after the hurricane can also be related to the independence of motor vehicles, fuel and owners, increased ability to move around in a city full of debris, autonomy in relation to the actors associated with power, order and control, and to some extent, new movements of green activism (David 2006, pp. 250-251).

### **Conditions of Emergence**

When it comes to important conditions of emergence, the pre-existence of social networks is crucial (Neal 1985; Quarantelli et al. 1983; David 2006). Emergent groups do not arise out of a vacuum but rather, they evolve in relation to other social movements and both informal and formal institutions (Quarantelli et al. 1966; Green, Neal, and Quarantelli 1984). During a disaster, the internal ties within these networks or communities are also likely to be strengthened (Wenger 1978). Another condition of emergence is that many networks are formed to meet unmet perceived or actual needs (Neal 1985; Perry et al. 1974; Quarantelli, Lagadec, and Boin 2006; Rodríguez et al 2006). There are emergent groups that are orientated toward specific goals while others are more general in their purpose. The emergence of such groups can be facilitated by various factors, such as neighbourhood activities or key individuals in the neighbourhood who perceive one or several threats to the community. Similarly, Neal (1985, p. 29) states that "emergent groups are derived from various individuals who have disaster related skills and use these skills to aid in mitigating the impact of the disaster". Some emergent groups can also be categorized as supra-organizational, and consist only of members from other established organizations (David 2006; Scanlon 1999; Wenger 1992).

Emergent citizen groups (ECGs) can also be seen as a type of collective grassroots movement or social movement organization (SMO) mobilized by concerned citizens (Green et al. 1984; Quarantelli et al. 1983). Quarantelli et al. (1983, p. 3) characterize ECG's "as consisting of private citizens who were informally or formally organized at the local community level to pursue either general or potential disasters." The latter form of emergent group often tends to become permanent associations with long-term goals (Quarantelli 1984a). A common property of emergent groups is that they perform non-regular tasks that are not done by professional disaster management actors or other organized groups, such as cleaning up the back roads to individual

properties. Another characteristic of an emergent group is that the structure of the group is rather new (Dynes 1998).

### **Pre- and Post-Disaster Emergence**

Emergent groups also occur during the pre- and post-disaster phases. These groups focus on preparedness, recovery, and mitigation. Their structure and process are the same as in social movement organizations (Quarantelli 1984b). According to Stallings and Quarantelli (1985, p. 84), “Emergent groups can be thought of as private citizens who work together in pursuit of collective goals relevant to actual or potential disasters, but whose organization has not yet become institutionalized”. Quarantelli et al. (1983) state that the survival of such emergent groups is dependent on interactions between, and fulfilment of respective roles of, core members of the ECG, selected peripheral members, and key public and/or private stakeholders. Other factors that may affect a new organization’s lifespan after a disaster are the type of disaster and the definition of the victims (Campbell 2010).

In an analysis of early stages of emergent disaster recovery organizations, Ross (1980) applies a model consisting of three phases. The primary crystallization phase, is about reaching an agreement and setting the course of action. In the second phase, Recognition, key members interact with the environment in order to establish recognition and legitimize the organization's significance. Recognition and acceptance from other organizations seem to be particularly important for the DRC-typology Type IV - emergent groups’ survival (Quarantelli 1970). As mentioned above, an important part in this process is being defined as a group that can perform tasks not carried out by other established groups, such as acquiring and distributing generators, or going door-to-door during a power failure (Scanlon 1999). The final institutionalization phase is reached when interactions with other groups and organizations are stabilized and are working smoothly (Ross 1980). This phase can be difficult to achieve. The actions of a new formalized group are likely to be more inefficient than those of the already established groups due to lack of an agreement on clear and established goals, absence of clearly defined management strategies, lack of resources, and skilled personnel and the absence of a functioning administrative structure (Perry et al. 1974, p. 115).

### **Swedish Context**

In this paper, we focus on emergent groups in a Swedish context. Studies of emergence and emergent groups in disaster situations in Sweden are rare. One reason can be that the formation of emergent groups is more common in major community disasters than for smaller local events (Dynes 1970; David 2006). Sweden has been relatively spared from disasters across larger geographical scales. However a few studies do exist. One example is a cross-national study of emergence and emergent group behaviours during response and recovery in the US and Sweden carried out by Neal (1985). The result indicates that emergence arises for the same reasons in both countries, i.e. the capabilities were exceeded by the demands. Both the US and

Sweden are highly organized and bureaucratized societies and “to organize” is an important step in addressing a problem. In his studies, Neal (1985) also found differences. In Sweden there is a tendency to defer to a higher authority within an organizational setting while in the US, the approach is more individualistic. Another difference was that democratic grassroots activities were encouraged by the Swedish government while in the US, the governments tended to prevent or inhibit the emergence of groups.

Other studies on emergent groups are related to Swedish disasters such as catastrophic storms, Gudrun (in 2005) and Per (in 2007) in southern Sweden, and the 1998 discotheque fire in Gothenburg. It was evident that these events, to a large extent, were handled by emergent groups made up of the affected persons and their network of families, relatives and neighbours (Guldåker 2009; Nieminen Kristofersson 2002). During the two storms, the village citizens had to create and utilize their own resources for emergent and recovery activities – for example, in order to access shelter, water, food, heat and emergency generators. Local emergent groups also took on a social dimension since they were able to provide help to isolated people living in remote locations before the authorities could. As the authorities lacked the resources to assist everyone in the affected areas, the response of emergent groups was an important complement to the authorities’ disaster management response (Eriksson 2010; Guldåker 2009; Nieminen Kristofersson 2007).

### **Theoretical Influences**

The analyses in this paper, and particularly those related to the ECG’s work, were conducted using an analytical model consisting of approaches and concepts from two established theories: the actor-network theory (ANT) and Jürgen Habermas’ theory of the lifeworld, system and communicative actions.

ANT is used in this paper to conceptualize and analyse the ECG’s mobilization, to identify key actors, driving forces, barriers (antiprograms), and in particular, to further emphasize the importance of both humans and material objects in risk and disaster management networks (Callon 1986; Latour 1991). The implication is that material contributions can be as important as those of people; thus, material objects are given the status of ‘actors’ in projects. However, equating objects with human actors has been criticized (Bloor 1999; Collins and Yearley 1992; Golinski 1998). In an attempt to avoid this dilemma, one approach suggests the use of the concept of ‘actant’, which, in brief, denotes ‘entities which do things’ (Latour 1992, p. 241). These entities can, from an analytical perspective, be both people and material objects, and they are important for the network’s continued existence. The ANT perspective can, to some extent, be related to the Resource Mobilization Theory, which stresses that it is the availability of resources, rather than social conflict or grievances, that leads to the generation of social movement organizations (SMOs) (McCarthy and Zald 2001). Another analytical ANT concept that is highlighted in this paper is the obligatory passage point. An obligatory passage point is the most important part of a network in

which information flows. The concept is central to the mobilization and integrity of a network, and its disappearance could lead to the collapse of the network (Callon 1986; Guldåker 2009).

Habermas's (1987) theory is used to problematize analytically the characteristics and the relationship between two different worlds, i.e. the County Administration Board and the local ECG. Central concepts here are lifeworld and system. The lifeworld, in which the citizens are acting, personal identities, social relationships and experiences are formed by communicative actions and are expressed through the use of language and symbols. The system consists of the economic and bureaucratic environment, which is controlled with the help of steering media of money and power, respectively (Habermas 1987, pp. 113, 153). One of the theory's strengths is that it can be used to understand better the conditions within the bureaucratic system and the lifeworld, as well as the differences and tensions between the two, in this case, between the County Administration Board and the local ECG. The bureaucratic manner of working means that authorities do not always understand the actions and demands for change that come from the lifeworld.

## **Empirical Foundation and Methods**

### **Interviews and Interview Methods**

This study expands upon earlier Swedish research to better understand local and non-professional individuals and groups risk and disaster management (see Guldåker 2009; Nieminen Kristofersson 2002; 2007) and to provide a more extensive study of emergent groups in Sweden. The study also applies a longitudinal approach, i.e., the empirical foundation for the study consists of qualitative and semi-structured interviews with village citizens who have demonstrated emergent behaviours during and after two major storms (Gudrun 2005 and Per 2007). The interviews between 2005 and 2011 focused on how the interviewees and other citizens experienced the storms, as well as their strategies and the strategies of the authorities (municipalities) and local emergent groups for coping with, and recovering from, these events (see also Guldåker 2009; Nieminen Kristofersson 2007). The first interviews were conducted between 2005 and 2006 (No. 1 in Table 1). In 2008, a second round of interviews was conducted in the municipalities with both the authority representatives (municipal officials) and local citizens (No. 2-4 in Table 1). During these interviews, a local ECG group was identified. In addition, a focus group interview was carried out with representatives of non-governmental organizations (NGO's). This was done to widen the knowledge base about active emergent groups during and after the two storms. Follow-up interviews between 2010 and 2011 were directed towards the specific local ECG group's proactive risk and vulnerability work, e.g. how the risk analysis was carried out and how new risks could be prevented (No. 6-7 in Table 1).

**Table 1 Overview of Interviews**

No.	Interviews	Type of interview	interviewees
1	Interviews 2005-2006	Individuals	Citizens, municipal officials
2	Interview A, 2008	Individual	Citizens
3	Interview B, 2008	Individual	Citizens
4	Focus group A, November 2008	Focus group	Citizens
5	Focus group B, November, 2008	Focus group	Municipal officials, representatives of NGOs
6	Interview, January 2010	Telephone, individual	Citizens
7	Interviews A-F, February 2011	Telephone individual	Citizens

In total, between 2005 and 2011, interviews were conducted with 35 respondents: six village citizens (major members of the ECG), 13 municipal officials, and 16 representatives of NGOs in three municipalities. Of these 35 respondents, 13 were interviewed twice or more.

All the interviews except telephone interviews in 2010 and 2011 were recorded and transcribed into text. The telephone interviews were written down during and after the interviews. In addition, the interviewees were asked after the interviews to read through the text and correct any misconceptions.

The data collection was conducted within the Framework Program on Risk and Vulnerability Analysis (FRIVA I and II) at Lund University, Sweden, 2004-2011 (FRIVA 2015). The Regional Ethical Review Board in Lund, Sweden has reviewed and approved this specific project's ethical approach. The interviewees have given their informed consent to take part in the study.

### **Method of Data Analysis**

Although data from all interviews are used, the analysis in this paper is mainly directed towards the interviews with members of the local group (Focus group A, November 2008; Interview, January 2010; Interviews A-F, February 2011). The description and analysis of the interviews were conducted in two steps. First, various prominent factors that could explain the mobilization and impact on the development of the group were identified. The formation of the ECG studied was based on a number of converging factors and occasions. At least six factors and contexts can be emphasized: the impact of the storms, skills, social and professional networks, risk awareness, a conserved administrative division and conducting meetings while the memory of the storms' effects still were fresh. These factors are addressed in the background section below.

Secondly, these factors and essential elements of the interviews were compiled into the following themes: mobilization, driving forces, barriers, authorities and local actors' worldviews (Lifeworld and System), communicative actions, and bureaucracy. Several of these themes are directly linked to the approaches and concepts from the actor-network theory (ANT) and Jürgen Habermas' theory of the lifeworld, system and communicative actions (see above section, Theoretical Foundation). These themes also correspond with the several headings in the analysis sections below. The development of the paper's analytical model and the formulation of empirically founded themes were carried out next to each other. Thus, the scientific reasoning in the paper is abductive rather than inductive or deductive (Haig 2008; Klag and Langley 2013). The purpose of the analytical model is to deepen our understanding of the emergent citizen group's mobilization, driving forces, barriers, socio-material relations and future development.

### **The Mobilization of a Local Emergent Citizen Group – Background**

The ECG in the village studied was mobilized after two severe storms, Gudrun in 2005 and Per, in 2007. These storms forced citizens in the storm-affected area to work together and support each other, which led to stronger social relationships and new discoveries about local capacities. The storms also resulted in a greater awareness among the citizens of various risks and threats (Interviews 2005-2006; Focus group A, November 2008).

During the storms, it became clear that there were residents in the village with special skills and social networks that could possibly be useful in efforts to reduce risks and vulnerabilities. For example, one of the key persons had a leadership role in the Local Civil Defence Organization with direct contacts to, and information about, the municipal disaster management organization. Another active person worked in the municipality's technical administration. These people had taken the initiative in establishing the local group (Focus group A, November 2008). In rural areas within the studied municipality, there are Voluntary Village Organizations, which function as a kind of umbrella organization with support from other local associations, such as sport clubs and local heritage associations. It was natural to be subordinated by an established organization: "...that we talked about during the start-up meeting, it is appropriate that we are working under the Voluntary Village Organizations umbrella, we can get help with administration and establish contacts..." (Focus group A, November 2008). Being assembled under an umbrella organization is a common way for several emergent groups and their core members to become stronger in relation to authorities (Neal 1983; Quarantelli et al. 1983, p. 23). This umbrella organization represents the villages in their contact with the municipal authorities. The information meetings held during the two storms resulted in increased contact between the village and the municipality. Farmers with good mechanical resources and well-developed networks within the Federation of Swedish Farmers were also important in mobilizing people and resources.

Another contribution to the local initiatives is an ancient local association called the *Rote*, which can be described as a conserved administrative division composed of smaller geographical units than the village itself (The National Encyclopaedia 2012). This old system facilitates the distribution of information and communication among local residents (Focus group A, November 2008).

The actual mobilization and stabilization of the ECG was also a result of several local meetings in the village after the storms. One of the first was an information meeting initiated by the Voluntary Village Organization. This important meeting included not only village citizens, but also the municipal preparedness planner, representatives from the school and other local associations. During the meeting, it became apparent that there were villagers with skills and experience within the area of safety - for example, the nuclear industry. These villagers were willing to participate in the risk and vulnerability assessment process.

Some of the questions that came up during the information meeting included the following (Focus group A, November 2008):

- What are the risks in the village?
- How can these risks affect the village and the villagers?
- What risks can the villagers themselves prevent or obtain more information about?

An important decision arising from the meeting was the decision that a local group should be formed under the Voluntary Village Organization. The task of the group was to “conduct an initial inventory and assessment of risks” (Focus group A, November 2008). During the following working meetings, the group listed a number of extreme events: power failure, train derailment, flooding, forest fire, fire in buildings, fuel shortages and emergencies in general. However, it was unclear who at the local level could provide psychological and social support in the event of fatal accidents.

The preventive work in this ECG has led to multiple actions. An information centre, which could serve as a coordination centre during long-term power outages and other related events, was established. It can be staffed by various voluntary organizations. Moreover, a local company has promised to provide parking space for an emergency generator that the municipality cannot accommodate which means that the generator will be placed in the village. In addition, a stream running through the village overflows periodically, and old maps reveal that the area is a river delta that is growing in size. In recent years, increased water flow has dislodged reeds that had been blocking the stream; consequently, these reeds needed to be mechanically removed. There is a risk that ice and meltwater could cause the river to overflow its embankment. This has happened once, resulting in flooding in the village. Moreover, a private dam that is not maintained is located further upstream of the village. The ECG has identified flooding as a risk for power failure because one transformer is

located adjacent to an area with a high risk of flooding (Focus group A, November 2008).

The ECG considers reducing the risk of flooding to be its highest priority, even though it aims to assess and document all the risks in the village. The ECG has a simple form, characteristic of an emergent group, with an executive core that lacks hierarchy and members who make decisions democratically. In addition to the core members, there are potential active citizens who can be engaged for various activities as needed.

### **Mobilization of a Local Emergent Citizen Group - An ANT Perspective**

#### **Mobilization**

A general aim of the ECG was to identify risks, and to reduce such risks in order to enhance the village's disaster management capabilities. To initiate this work, a network of people and resources was mobilized. From an ANT perspective, central actors in such network mobilizations can be thought of as 'obligatory passage points', as defined previously.

The ECG consists of members from the Federation of Swedish Farmers, the Local Fish Conservation Union, the Local Heritage Association and the Voluntary Village Organization (Focus group A, November 2008; Focus group B, November 2008). These NGO's are examples of the popular movement that has existed in Sweden for a long time and which still functions despite the presence of a strong welfare state (Jeppsson Grassman and Svedberg 2007; Rothstein and Trägårdh 2007). Through these associations, the ECG had access to important resources, people and, consequently, their networks, which allowed it to mobilize local forces very rapidly. The ECG's composition and strong commitment confirm previous research suggesting that the effectiveness of emergent groups is based on previously well-functioning social networks (c.f. Dynes 1994).

An obligatory passage point here consists of individuals who are able to motivate others and who are strongly committed to the village and to reducing the village's vulnerability to extreme events. A few core members were particularly noteworthy for taking initiative and for their motivational value for the ECG. Moreover, these members have direct contact with the municipality and can, therefore, provide important knowledge to the group. They are, nevertheless, aware that they cannot run the group alone, although they feel a certain expectation from the others to do so. They are also careful not to take up too much space. As one of them puts it: "I could do more but I do not dare to get too big in the group..." (Focus group A, November 2008). Furthermore, they suggest that the ECG should eventually be permanent and self-driven.

In the process of mobilizing and maintaining the ECG, there has been a continuous supply of new assets in the form of people, resources and knowledge (see Quarantelli 1966; 1983; 1995). The ECG held an informational meeting on flooding,

to which they invited the public, the municipal technical administration and the safety division of the County Administrative Board. After the meeting, members from the Local Fish Conservation Union took a boat tour through the identified stretch of the stream; they concluded that the stream needed to be cleared of debris (Focus group A, November 2008).

The ECG assembled the affected land owners to discuss possible actions to clear the stream. One of the proposals was to collaborate with the Local Civil Defence Organization. The clearing of the stream required machines to remove trees and reeds. Since the stream drains a larger area, the ECG decided that this was a problem involving an area larger than the municipality, and that the higher authorities should fund the necessary measures. In this context, it was important to justify this flood risk reduction project and to try to get diverse actors to take on various roles and tasks. Some important actors are landowners and residents who have good contacts with the authorities. In addition, reliable documents and methods for risk and vulnerability analysis were needed. The introductory meeting was of major importance, as it addressed questions about potential risks, their possible consequences, and preventive measures that the village inhabitants could take (Focus group A, November 2008).

Subsequent meetings and work with risks and potential extreme events attest to the development of the project. Flood risk was prioritized, but other risk assessments have also been initiated. The involvement of new actors has kept pace with the identification of new problems. In addition to the ECG, inhabitants and landowners, the Red Cross, the Local Fish Conservation Union, the County Administrative Board and local businesses have become involved in the project. Resources such as locations for emergency generators, the information centre, old maps, documents, and methods for risk analysis have also been assembled for the project. It was apparent from the interviews that new knowledge had been acquired in the form of water level measurements in the municipality. These measurements can be combined with information from weather forecasts, so that the water level in the lake feeding the stream can be regulated. Members of the Local Fish Conservation Union will measure the levels manually to corroborate the electronic readings (Focus group A, November 2008; Focus group B, November 2008). It is significant that involvement, even in an analytical sense, also includes the contribution of material resources (see also Dynes 1970; Forrest 1978; Neal 1983; Quarantelli 1984a; 1984b; 1995). Both the driving forces and the barriers involved can clearly be seen in the ECG's project and work process.

### **Driving Forces**

As explained above, driving forces can consist of key people (obligatory passage points) in the mobilized network. Other driving forces come from increased social cohesion and interaction between people in the village. The positive social cohesion which originated as a result of the storms, Gudrun and Per has been maintained and developed. Throughout the process, from the early identification of issues associated with the ECG's risk reduction work, relations amongst the village inhabitants and

between the village and outside actors have been established and strengthened. This has also given the parties an increased understanding of legislation, the functioning of society, and the way in which local competences and resources can be used. The cohesion within the ECG and the village may also be due to the residents' experience in finding themselves outside of prioritized urban areas. The interviewed ECG members claim that the central urban areas receive the majority of municipal resources used to pay for public utilities such as road improvements and street lighting (Focus group A, November 2008).

### **Barriers**

Difficulties in the ECG's work can be examined through the ANT concept of 'antiprogram': various kinds of resistance that network mobilization efforts may face (Latour 1991). The ECG's narrative indicates that unclear lines of responsibility, legislation and a lack of material and economic resources hamper their risk reduction work. An example described by the ECG is the lack of heavy machinery needed to clear the stream. The insufficient maintenance of the stream and the resulting flood risk affect an area larger than the village. Members of the ECG argue that the municipality should allocate funds and resources to accomplishing the clearing of the stream and to keeping the floodgates functional. When the ECG raised this issue with the County Administrative Board, it was told that "the responsibility lies with the land owners" (Focus group A, November 2008). EU funds were proposed as a potential solution, but this was complicated by the fact that only half of the project could be financed in this way. *Leader*, a method for development of the countryside used in Europe, was presented as a second alternative, and this had the advantage that partial funding can be compensated by work contributions (Swedish Board of Agriculture 2015). The formation of a local water council has been suggested as a third option in finding funding for the project (Focus group A, November 2008). The lack of material resources was obvious in this context. The ECG has clearly specified its need for diverse and valuable resources, such as 'acting entities' or actants in the form of tugboats, bilge pumps and relevant machinery for clearing the stream.

A further antiprogram in this context consists of legislation that hinders the possibility of using resources, which, at present, can only be mobilized by the Local Civil Defence Organization in the case of an extraordinary event. Only when a flood has occurred can the rescue services be engaged. The ECG claims that they have taken responsibility for this issue: "The municipality should also allocate funds and material resources for preventive purposes. Even such a simple thing as allowing the Local Civil Defence Organization's tugboat to be used to transport the work platform... bilge pumps and other relevant equipment..." (Focus group A, November 2008). The focus group members unanimously asserts that preventive work must be cheaper than waiting for a flood to strike with its resulting power cuts and other damages to the village. With the help of the Voluntary Village Organization and the Federation of Swedish Farmers, the ECG tried in various ways to secure funding for the required measures. According to interviews with the ECG members, the stance of

municipal officials has, admittedly, softened somewhat. The Local Civil Defence Organization may be used for clearing the stream if it takes the form of a municipal disaster management exercise. Unfortunately, this has not been realized because of heavy rain and torrential water flows (Focus group A, November 2008).

It is notable how attempts to secure external funding have been hindered by bureaucracy and other difficulties. Various regional and municipal interests often oppose one another. The County Administrative Board sees flood risk reduction measures, such as the removal of trees alongside the river, as a threat to biodiversity. The ECG perceives the County Administrative Board, whose role is to satisfy various interest groups and to follow the relevant legislation, as yet another barrier, or antiprogram. Criticism is levelled at the County Administrative Board for its lack of initiative and enthusiasm regarding local initiatives and for only acting as a supervisory authority. Moreover, a number of fallen trees have now sunk into the water, making it even more difficult to clear them from the stream than when the ECG was founded. Further criticism was raised after the severe icy conditions in the winter of 2010/2011. According to the interviews, the floodgates froze, and the ice contributed to the flood risk (Interview, January 2010; Interview A, February 2011). The ECG facilitated a dialogue between representatives from the municipality and the County Administrative Board and the owner of the dam complex. The County Administrative Board determined that they could not force the dam owner to repair the floodgates; however, the ECG convinced the dam owner to pay for a digger to clear away the ice. The County Administrative Board wanted the floodgates to be removed because rare mussel species and fish had been found in the area. One of the members in the ECG was considering enlisting the help of the Federation of Swedish Farmers to pursue the issue of flood risks further (Interview, January 2010; Interview A, February 2011).

The ECG's overall project to reduce the risk of flooding is limited because of the difficulties in finding people who can drive the process. The stability of the ECG is threatened by the fact that the project is heavily reliant on volunteer efforts, which take time and energy from the group members' day-to-day activities. A professional organization's driving forces take the form of legal duties and obligations. In an ideal operation, these driving forces would be replaced by a real interest in local issues and a strong commitment to addressing local risks pre-emptively. Nevertheless, at the time of the focus group interview, there remained a strong desire to take the initiative, despite antiprograms. From interviews with members of the ECG in 2010, it became clear that the group had not held any meetings that year. On the other hand, the group members had made concrete efforts with respect to the frozen floodgates, for instance (Interview, January 2010).

### **Local Enthusiasm in Conflict with Bureaucracy – Lifeworld and System**

#### **Lifeworld and System**

Another way to conceptualize the ECGs work process and relations with other actors is by using one of Habermas' theories. The contributions of local actors, including NGOs and ECGs, are grounded in what Habermas calls the lifeworld. The lifeworld is the social and material context taken for granted "...intuitively present, in this sense familiar and transparent ..." (Habermas 1987, p. 131). It is the frame for values, interpretations, communication and actions (Habermas 1987, p. 119). Society consists not only of the lifeworld but also of what Habermas calls the system, which has the financial and bureaucratic power. The negative effect of the system means the reduction of the citizens' roles to that of consumer and client (Habermas 1987, p. 347). On the other hand, laws and regulations (namely within social welfare) have a tendency to intervene increasingly in aspects of the lifeworld (Habermas 1987, p. 361).

### **Communicative Actions**

According to Habermas' theory, the driving forces and barriers that characterize the ECG's work are the result of the divergence of local enthusiasm and interests from the bureaucracy as the lifeworld meets the system. The ECG's contact with various authorities and its difficulties in getting help to prevent floods are clear examples of such a disagreement. The ECG members' experience of risk is based on individual perceptions and experiences, which come from their immediate environment, and are, therefore, part of their lifeworld. In this immediate environment, the inhabitants' homes and cultivated land may be threatened by flooding, which could lead to economic and material consequences. The members' attempt to do something about these risks emanates from the lifeworld: social integration through communicative actions such as discussing or arguing a problem (Habermas 1987, p. 139). The participants help each other to interpret the situation and achieve an ethical and mutual understanding, which involves taking their own initiatives to prevent floods. Other communicative actions consisted of taking the boat along the stream, studying old maps and participating in the measurements of water levels to establish facts.

### **Bureaucracy**

Another part of the process was to contact the authorities. In this context, the system is about the bureaucracy of the authorities and government control of citizens. The form of organizations within the bureaucracy is different from that in the lifeworld; they are built upon administrative laws and governmental rules. The persons employed in these administrative bodies are public officials who must work in accordance with the relevant legislation while excluding their personal attitudes (Habermas 1987, p. 307). The ECG encountered several bureaucratic rules: one is that the system, in this case the state represented as the county administrative board, will use its power and would apply legal consequences if the members of the ECG break the rules regarding the sensitive natural environment.

What was made clear during the ECG's contacts with the various authorities is that the system cannot easily meet the ECG's demands, anchored as they are in the lifeworld. Habermas (1987, p. 322) considers the problem in our society to be that the system is "colonizing" the lifeworld. The bureaucracy is built upon laws and regulations which seem to become increasingly numerous and impenetrable for the private citizen (Habermas 1987, p. 362; 1990, p. 361). While the general welfare has increased, this has also led to the close regulation of most spheres of an individual's activity through laws governing animal husbandry, business and the social and health insurance systems. Without regulating laws, our complicated society would not function. However, this means that the authorities can control citizens' actions, even though mistrust of bureaucracy and political institutions is increasing amongst the general public (Habermas 1987, p. 391). One initiative-taker in the group who had contact with the County Administrative Board described the situation thus:

And if the society of which we are a part continues in this way... if we continue to accept that the authorities create more and more rules and regulations... eventually there will be no one who dares to act, eventually no one will dare to make a decision and then deal with the consequences later. We are paralyzed. (Focus group A, November 2008).

The risk with these bureaucratic barriers is that the ECG will lose interest. According to Habermas (1987, p. 392), it is not surprising that new movements such as environmental, women's rights and peace groups have grown over the last decades. New conflicts arise along the interface between system and lifeworld (Habermas 1987, p. 395).

These movements represent one way for individuals and NGO's to make the bureaucratic power hear their voices, because, according to Habermas, the bureaucratic power is unable to generate solidarity amongst citizens (Habermas 1990, p. 363).

### **The County Administrative Board**

The members of the ECG discussed whether the County Administrative Board understands its role as specified in the EU directive. The County Administrative Board's drafting organization performs varied operational work for the Water Authorities, such as deciding on the status of water, communicating with programme practitioners and producing proposals for actions (Water Authorities n.d.).<sup>i</sup> This operational orientation can be interpreted in different ways. According to the ECG, the function of the County Administrative Board should be largely outreach-based. The ECG members claim that the County Administration Board should actively seek to inspire people's interest in the locality and not act solely as a supervisory authority (Focus group A, November 2008). The directive requires that all factors, including socioeconomic concerns, be considered, not only questions of biodiversity. Therefore,

the authorities must also take into account flood risks - for example, a private landowner whose actions are too drastic (removing too many trees) may be liable to pay compensation. The ECG wants the County Administrative Board and the water authorities to clarify the responsibilities of the public authorities, but this would mean a long delay before the practical work could begin. The ECG claims that the authorities' inaction may be in order to avoid flooding at other locations along the stream (Focus group A, November 2008). In this context, questions about acting together with other actors along the stream should be raised, rather than not acting at all. Discussions and solutions to prevent flooding need to take a broader geographical area of the stream into account.

The ECG's concern about the effectiveness of the County Administration Board has grown. In the matter regarding the ice on the dam construction, the ECG was struck by what they interpret as the County Administration Board's sense of nonchalance. Instead of requiring the landowner to take responsibility for his unreliable equipment, the Administration was only interested in environmental concerns, such as focusing on the conservation of rare animal species (Focus group A, November 2008).

## **Discussion**

### **ECG and Common Interest**

The studied village does not differ from other villages in the municipality in terms of socio-demographics. However, according to municipal officials, the umbrella organization, Voluntary Village Organization, is very active and central to the village's activities (Interviews D-F, February 2011). Interviews also show that the villagers and the Voluntary Village Organization had had contact with the police and local authorities, due to criminal activity in the village, even before the storms (Interviews 2005-2006; Focus group A, November 2008). This contributed to strengthening the cohesion among the villagers, which facilitated the formation of the ECG. This also corresponds with the conclusions of earlier research, i.e. that the pre-existence of a strong social network is a fundamental condition for the development of an ECG (Dynes 1994; Forrest 1978; Neal and Phillips 1990; Scanlon 1999). As Quarantelli et al. (1966, p. 36) puts it, organizational response is often dependent on inter-organizational relationships, both pre- and post-disaster. The members of the ECG have necessary ties and contacts with other organizations which strengthen their possibility to act.

The ECG has grown from the desire of locals to assess the risks in their village. It does not have ideological roots, unlike subgroups within the environmental movement who are strongly opposed to prevailing political policies. Instead, the ECG gathers actors from diverse associations around a common interest.

### **From Emergent to Permanent?**

From a local emergency preparedness perspective, the ECG constitutes a distinct obligatory passage point in the village. The members are not important only for the village and its socio-material network, but also, the active members in the group each have ties that anchor them to associations that are active both at local and regional level. Material resources, such as tugboats, forestry machines, chainsaws, tractors, the information centre, and emergency generators, provide, in addition to the members, significant actants in the village network. The socio-material network is also open in the sense that there is a possibility to receive and pass on knowledge, thoughts, ideas and material resources through the ECG's own work in the village.

During an interview in 2011, the ECG was described as stabilized but not permanent (Interviews A-C, February 2011). From the research on emerging organizations, it can be said that the ECG is crystallized and recognized by the municipality, the County Administrative Board, and other NGO's but is not yet institutionalized (Ross 1980; Stallings and Quarantelli (1985). Its future remains uncertain. With the management of storms and flood risks, the ECG can use its existing networks, structure and leadership to pursue new goals. These objectives must be clear and shared among the members of the core leadership. In addition, to succeed, it must probably be ensured that the ECG has an effective administration, a clearly defined leadership, and good access to resources and trained personnel (Perry 1974). Furthermore, continuous interactions and fulfilment of roles and tasks of different key actors, including core members, peripheral members and organisations in- and outside the village, and officials from the municipality and the County Administrative Board, are crucial for the ECG's survival (Quarantelli et al. 1983). Other factors that may affect a new organization's lifespan includes the potential scale of the threat (flooding), the potential magnitude of damage and loss for the village and how much the citizens may suffer, estimated time for recovery, recruitment of new members, and education and training of members (Campbell 2010; Dynes 1970; Haas, Kates and Bowden 1977; Perry et al. 1974; Stallings and Quarantelli 1985). The ECG can be transformed into a new permanent network or join an existing organization, such as the Voluntary Village Organization. Regardless of its future, the village is dependent on key persons and resources that can be used for risk prevention and in response to extreme events.

Irrespective of its future structure, the ECG can also be developed to become a resource outside the village. The ECG's experience of the local risk management process is important in its communication with other local groups, municipalities, and County Administrative Boards. From the interviews, it is also clear that strong local networks and actants can support professional emergency managers. A good example comes from the disaster management of the storm, Gudrun. The emergency service discovered that several farmers had large manure barrels, which could be used to store and transport water. Consequently, a contract was established which provided emergency services with the possibility of using the local farmers' tractors and manure barrels during larger forest fires (Interviews 2005-2006). The focus group interview reveals that there are established relationships between emergency services and

villages with strong socio-material resources: “We have constant contact with the emergency services. There is a list on both manure barrels, excavators and such things found in the villages” (Focus group A, November 2008).

### **Local Responsibility and External Support**

According to Habermas (1987, p. 396), new organizations that emanate from the lifeworld and are responsible for communal issues will limit the restrictions of the bureaucracy. The ECG is a good example of how citizens seek to influence the political-decision-making system.

The ECG has had a certain degree of success - their insistence on certain actions regarding the flood risks in their village led the municipal authorities to find some flexibility within the rules. Although the Local Civil Defence Organization is supposed to act only after a disaster has occurred, it may actually be engaged beforehand to clear the stream as a practical exercise. In addition, other villages have emulated the ECG's initiatives, such as the establishment of an information centre as a resource in the case of long-term power cuts (Focus group A, November 2008; Focus group B, November 2008).

The ECG's conflict with the County Administration Board is not unique. According to Quarantelli et al. (1983) as well as Stallings and Quarantelli (1985), emergent groups' concerns are not always understood by the authorities. This can, in fact, stimulate the ECG's activities by encouraging them to refine and clarify their goals and strategies, which appears to have been the case in this study. Despite the barriers, the group wished to show their ability to take initiatives and not giving up with the flood risk reduction work, even though the authorities were unable to accommodate the ECG's desire for funding to clear the stream. The ECG's establishment and activities arise from the lifeworld. Its vulnerability and contact with the system clearly show how its problems are not unique - they are, in fact, symptomatic of a larger societal issue. The members of the ECG noticed a relationship between the storms' effect on the forest (the trees which absorbed the excess water in the ground are no longer there) and the flood risk (Focus group A, November 2008). However, the County Administrative Board has not recognized this connection, even though it is responsible for environmental matters.

Ultimately, it comes down to the question of how responsibility should be allocated. Is it only the local landowner's responsibility to clear the stream? There is support in the Swedish legislation for the idea that the municipality and the County Administration Board can act proactively and attempt to reduce flood risks which have been identified at the local level but which might affect several other areas in the region (SFS 2006, pg. 544). There is a lack of understanding and communication between the villagers' lifeworld and the system, i.e. the County Administration Board. The authorities do not have the tools, methods, or the experience to deal with, and assist in, the ECG's risk and vulnerability reduction work. Bureaucratic and legalistic obstacles complicate the process. The County Administrative Board is perceived more

as a supervisory body than as an authority which leads and stimulates local engagement and initiatives. Possibilities to secure assistance through the County Administrative Board and the EU for local flood risk reduction efforts were perceived as complicated and difficult to achieve. The ECG has had to depend on voluntary efforts to reduce the flood risk. One of the members in the ECG wants to pursue the question of the County Administrative Board's authority further through his lobby group, the Federation of Swedish Farmers (Interview A, February 2011). In so doing, the emergent efforts will have been transformed into political activity (see Stallings and Quarantelli 1985). The Federation of Swedish Farmers is a powerful association and a voice for rural areas. It is not inconceivable that the question of the authorities' role in risk reduction work will be discussed in a wider political context.

Another tendency that is apparent from the interviews with the municipal preparedness planners is that after the latest storm in 2006, the preparedness planners stressed that the individual citizen has a responsibility to prepare for extreme events, especially in rural areas. For example, the municipalities did not distribute emergency generators in the same generous way as they did after the storm, Gudrun, in 2005 (Focus group B, November 2008; Interview A, 2008). For the ECG, this means that it is even more important to prepare for power outages. In this context, the County Administrative Board has an important role and responsibility. By supporting the flood prevention work, it can also help prevent other potentially extreme events such as power outages.

### **Conclusions**

The aim of this paper has been to describe and analyse a local emergent citizen group's continuing work on the prevention of local risk and vulnerability, and particularly, its work on flood prevention. The research implications can be linked to different strategies regarding how society as a whole can minimize risks, prepare for, and respond to, disasters, and in this context, how the understanding of non-institutional groups' efforts may increase. In the paper we emphasize the following three conclusions:

First, preventive work and initiatives carried out by emergent groups are essential for disaster management. One way to increase society's disaster management capacity is to facilitate the participation of emergent citizens' groups in proactive risk and vulnerability analyses. As described in this paper, earlier research makes clear the significance of local, private, and voluntary engagement in risk and disaster management. Local risk and disaster management efforts reduce the dependence and burden on professional actors, and thus indirectly increase the national capacity for disaster management. Emergent groups provide a comprehensive support to professional actors' disaster preparation and recovery. These groups are also important in the process of risk mitigation. The narrative of the ECG highlighted in this study is essential for professional institutions and rural villages in their plans to address local risks. In this context, it is relevant to describe and analyse the parts of the process, i.e.

the procedure followed, driving forces, bureaucratic barriers, and what is necessary to sustain the process. Among the driving forces identified are the relationships developed between village inhabitants with respect to former extreme events, the efforts of individual key actors, and the inhabitants' support of the ECG. The barriers consist of poorly defined responsibilities, complicated bureaucracy, insufficient legislation regarding the Swedish disaster management system, and a lack of materials and economic resources at the local level. In the studied village, flood risks had been highlighted even before the storms. As a result, the desire among landowners and residents to prevent flooding was already established. In addition to saving money for the local actors, one could argue that flood mitigation would also save money for local and regional authorities.

Secondly, as previous research and this paper show, the general awareness of emergent groups in Sweden is inadequate. Although some municipalities have some form of organized cooperation with NGOs, the general knowledge regarding local emergent groups, their capabilities and roles in the Swedish disaster management system is insufficient and far from comprehensive. However, the Swedish disaster management system has great potential at the local level. Therefore, the capacity and resources of authorities, such as municipalities, county administrative boards, and the Swedish Civil Contingencies Agency (MSB), to collaborate with, and support, the ECG's risk and vulnerability reduction work should be developed further. A more extensive and systematic inventory and analysis of emergent groups in Sweden, comparable to that carried out in the US during the 1980s, would provide "insights of inter-organizational relation phenomena and would contribute to a greater understanding of community organizational environments" (Green et al. 1984, p. 4).

In this paper, it is therefore argued that the Swedish emergency management system should be developed to include citizens' initiatives such as the studied ECGs in risk and disaster prevention work to a greater degree than before. These efforts should comprise several elements:

- improving communication related to local threats and risks between regions, municipalities and rural areas;
- easing access to appropriate methods for risk and vulnerability analysis; and
- enhancing possibilities for obtaining financial support for risk reduction initiatives.

Finally, based on existing theories and findings from the disaster research literature, we are confident that further operationalization of social science theory can deepen the analysis and understanding of the complex expert-related, socio-material, relational, and bureaucratic context in which non-institutional groups must operate. We see that social science theories and approaches such as ANT and Habermas' theory can be used to enhance the understanding of complex social and material relationships before, during, and after disasters. The theories can be, and continue to

be, applied in research on risk prevention at the local level. The concept of 'actant' makes it clear that the risk and disaster management capacity of self-organized groups are dependent not only on the interaction between individuals, but also on materials. The lack of actants, such as relevant machinery and motivated people, reduces the possibility of effective action not only for the ECG but also for the authorities in helping citizens prevent and manage disasters. Furthermore, Habermas' theory of the lifeworld, systems and communicative actions may also explain why self-organized groups and their contacts with the authorities can lead to conflicts, discouragement among group members, and difficulties in maintaining voluntary risk prevention.

### Notes

<sup>i</sup> The various water authorities are responsible for ensuring that the EU's framework directive for water is carried out in Sweden, where there are five water districts. One county administrative board in each district carries the main responsibility for the management of water and water quality within that district. Besides this responsibility, county administrative boards have a drafting organization for the water authorities. In accordance with the directive, the drafting organization must be operational and function as contact points for regional and local actors (Water Authorities 2012).

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