Disaster & Social Crisis Research Network Electronic Newsletter

Note from the D&SCRN Coordinator

Susann Ullberg (susann.ullberg@fhs.se)

Philip Buckle (philip.buckle@googlemail.com)

Going out…

As the outgoing coordinator I wanted to conclude my tenure with a few issues. I was sorry that at the end I did not have sufficient time to devote to the D&SCRN. Family matters which must take priority did intervene. I am sure that Susann supported by Eduardo will take us forward.

Sincere thanks also to Nick Petropoulos.

This network will stand or fall only on the contribution of its members. I started two years ago with several requests for input, ideas and suggestions and I was disappointed. This is largely a passive group.

It is sustained by Nick principally but also by Susann and Eduardo and Avi with one or two others. The need for such a network is now more pressing than ever. The impacts of climate change, the fires in Greece, the recent floods in the UK (despite our much vaunted overhaul of the legislation and EM arrangements just few years ago), the heat wave of 2003 all show that the need for a social science perspective and a critical perspective is more important than ever before and this importance is growing.

My request therefore is that Susann and Eduardo be supported actively by members. We will all benefit individually and corporately by greater collective action. No New Years resolutions, forgotten soon after they are made. Let's recognise that our strength lies in coherent, networked activity, not waiting for some one else to do it.

I am reading Naomi Klein's book of corporatism and disaster management in which she argues that the opportunities for intervention that disasters offer are exploited (or even created) by plutocratic elites to further their own ends. We have known for a long time that disasters can cause a social hiatus and can provide intervention points and opportunities but we have naively assumed that these interventions would be good willed and beneficial to people at risk. Klein argues otherwise. An important book.

Finally I personally thank Nick, Susann, Eduardo and Avi. I have enjoyed working with you.

Cheers

//Philip

Coming in…

As the incoming coordinator, and in line with Philip's words, I first of all wish to thank all those engaged in the network. Thanks to all who contribute to the Newsletter, and to the Conference sessions. Some of you deserves special mention: Nick, first and foremost, being the engine of it from the first beginning up until date, but also Philip, who has done a great effort in spite of a loaded work schedule and with family far away, and Eduardo, who is editing the E-newsletter with great skill and efficacy. Eduardo is also taking over as our web coordinator in the near future, and turning into our *Factotum* of communication, as we will change the web page host from Emergency Research Center in Athens to L'École des Mines of Paris. More on this issue in the Webmaster's report. Thanks also to those engaging in the Coordinating Committee. (**continues on p. 2)**

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At the business meeting during the ESA Glasgow Conference we elected a number of new members to join, while others left and some are still on the board. The CC for our network is thus as by September 6th 2007 is constituted for the next two year mandate as follows:

Susann Ullberg, Coordinator (Sweden) (susann.ullberg@fhs.se), Eduardo Runte, Member and E-Newsletter Editor, (France), Lindy Newlove-Eriksson, Member (Sweden), Philip Buckle, Member (UK/Australia), Nikos Petropoulos, Member (and web page manager for yet another while) (Greece), Maureen Fordham, Member (UK), Murat Balamir, Member (Turkey), Jose Rodgrigues dos Santos, Member (Portugal), and Sandrine Revet, Member (France).

The work of a network, as Philip underlines, is a joint effort. Although there are people with assigned tasks, such as those of the CC, there is no work-in-net without the people and their knowledge moving in it. We have the bi-annual conferences, the newsletter and the webpage as our principal meeting spaces, where we can hear about and discuss each other's research, and also where new fruitful collaborations can emerge.

It is thus important to realize the value of such a space, both in order to further our own understandings of the social dynamics in crises and disasters, and also to let the world of disasters (academic and that of practitioners and policy makers) know we are here and that we have important knowledge to share. Philip mentioned the importance of our work in view of all kinds of disasters world wide. I would add that our social science perspective is particularly needed in this context where natural sciences and systemic and/or a technocratic approaches tend to get the privilege of formulating the problem, and subsequently the solutions. But what about vulnerability? What about politics, economy, social organization, culture and the people involved? Let us realize that we as social scientists have quite a task ahead and that this network is an important space in and from which to accomplish this.

This endeavour takes place in a European framework, within the institutional setting of the European Sociological Association. The network members are thus preferably –at least in theory– to have a European connection, work in or on Europe. Now, in the light of the globalizing causes and effects of crises and disasters over the world, no matter how local the impact is, I think this network can have no other than a global scope of work. We are already fairly transcontinental when it comes to accepting members from countries outside Europe, and thus, our Newsletter both contain extra-European contributions, and also spread news outside this continent, not least to countries outside the so called Western hemisphere. Furthermore, our network gathers both practitioners and scholars, and of the latter, scholars from an array of disciplines within the social sciences. I think these features of our network are only positive, as they broaden our understandings of the problem, and my aim is that this shall not only continue, but be further institutionalized through articulations and collaborations with other networks and associations worldwide.

So, spread the word about us and do let us know more about the important work you are doing, in theory and practice through our newsletter and at our conference (Lisbon 2009 coming up!)! We recently met, old and new members of the network, in Glasgow at the ESA meeting in the beginning of September. We missed many of our members that had planned to come but that finally couldn't make it. Nevertheless, new people showed up, many interesting papers were presented and we had great discussions. For those of you who couldn't make it, and for those of you who now want to read the papers, some of them are published in this issue of the newsletter. Enjoy!

Yours sincerely

//Susann

Susann Ullberg (susann.ullberg@fhs.se)

Editor's Note

Eduardo Runte, Editor
efarunte@hotmail.com

Dear members and colleagues of the D&SCRN,

This issue of our newsletter covers the period from July to September 2007. In this issue, you will find the extended summaries of some of the papers presented during the Network's sessions at the 8th ESA Conference that took place in Glasgow last September. I was impressed by the quality both of the presentations and of

the discussions that followed each one of them. With these summaries - some of which written especially for the newsletter - those who were unable to attend the Conference can have a taste of what was presented there. The writers look forward to your comments and I encourage you to use the newsletter as a medium for dialogue.

Since I took the position of editor, I have been trying to enrich it by inviting our members to contribute their own perspectives on recent disasters and crises. In this issue, we have four such articles. Take a look at our section "Writers' Corner", and feel free to send me any material you may want to have published.

Finally, at the 8th ESA Conference our Website Manager, Dr. Petropoulos, expressed the need for a new host to our website. After some consultations, the Pôle Cindyniques at the Ecole des Mines de Paris (France) agreed to host the website. You will receive a message with our new internet address soon. In the name of the Network, I thank Dr. Franck Guarnieri, director of the Pôle Cindyniques, for allowing us to host our website at the Ecole des Mines.

I hope you enjoy the reading, and if you have any comments, suggestions or requests regarding the newsletter, please contact me through the newsletter's mailing address: dscrn.news@gmail.com.

D&SCRN Web Manager report (January – June, 2007)

Nicholas Petropoulos, Webpage Manager
erc@otenet.gr

1. **New D&SCRN members**. During the period of July-September 2007 our Network acquired six new regular and associate members: (1) **Tracey Lisa Coates**, Ph. D. Student, Flood Hazard Research Center of Middlesex University, UK

   (coates@mdx.ac.uk), with interests in the impact of local community constructions on collective responses to floods; (2) **Roine Johansson** of Mid Sweden University, Sweden

   (roine.johansson@miun.se), with interests in the organizational aspects of disaster and crisis management; (3) **Fatma Belkis Kumbetoglu**, Department of Sociology, Marmara University, Istanbul, Turkey (bkumbetoglu@marmara.edu.tr), with interests in gender and the aftermath of disasters (4) **Margret (Maggie) Kusenbach**, Department of Sociology, University of Florida, USA (mkusenba@usf.edu), with interests in hurricanes, evacuation issues and perceptions of disasters; (5) **Meziyet Mozakoglu**, Department of Sociology, Marmara University, Istanbul, Turkey

(meziyetm@marmara.edu.tr), with interests in gender and educational problems in the recovery process; and (6) **Susan Nicholls** of the University of Canberra, Australia

(susan.nicholls@canberra.edu.au), with interests in community recovery, community resilience, use of communication to assist recovery, government communication and risk communication. We welcome these members and I would like to welcome the new members to our Network and look forward to their contributions to the Network's activities. The names, affiliation, disaster interests and full contact details of the new members not yet posted in our webpage membership list will be posted, along with the publication of the September 2007 Newsletter in our website.

2. **Updating of information regarding old members**. After a thorough cross checking of our membership list in the webpage with the updating e-mails sent to the server company and with the announcement of new members in our E-Newsletter I discovered that all the updates had not been made in our webpage. This involved principally two batches (1) the September 2005 updates involving colleagues R.M. Ocharo, S.S. Peethala, A. Widyowijatnoko, S.M. McCarthy, L. M. Newlove, D.E. Wenger and I. Kelman and (2) the September 2006 involving colleagues D.E. Alexander, J-A Rincon, P. Matczak and E.F.A. Runte. The Sept. 2005 have already been made in our webpage. The Sept. 2006 updates and those of two colleagues, B.B. Gadnayak and S.M. Degirmencioglu, all of which have been reported in our E-Newsletter but have yet not been made in our webpage, are now being processed. My apologies to the colleagues for the delays. Finally, there is some duplication of members in the Webpage membership list and two names that our out of alphabetical order. The membership list will be in order before transferring of responsibility to our new Webpage Manager. Possibly, better quality control of our membership list can be achieved if our new webpage manager can intervene and make the updates himself/herself.

3. **Updating of Coordinating Committee information**. During our Network business meeting at the 8th ESA conference, a new Coordinating Committee and a new Coordinator were elected. This information will also be updated in our website, along with the publication of the Sept. issue of the E-Newsletter.

4. **Transfer of the D&SCRN Webpage Management to Ecole des Mines de Paris**. At the Glasgow business meeting, the present webpage manager apprised the colleagues with regard to the expiration date of our webpage subscription (March 2008) and of the need to transfer the management to

a new host, if possible an institutional one. The new Coordinator of our Network, Susann Ullberg and the Editor of our E-newsletter, Eduardo Runte, undertook to search for new host. Eduardo's efforts met with success. Following consultation with our new Network Coordinator, our new website host, up to the end of 2009, will be the Ecole de Mines de Paris. There would be no cost for our network and Eduardo has volunteered to do the maintenance and management of the website. Our thanks to Ecole des Mines for accepting to host our webpage and to Eduardo for his efforts in securing "our corner in the virtual world" for the next two years.

Nicholas Petropoulos

Website Manager

Calls for papers

2008 Meeting of the Midwest Sociological Society

March 27 – 30, 2008

St. Louis, Missouri

This is a call for papers for a session entitled "Bridging Communities:

Hazards, Disasters, and the Public" to be held at the Midwest Sociological Society Annual Meeting in St. Louis, Missouri, March 27-30, 2008. Preference will be given to papers that address how researchers are communicating their findings to the public through policy, planning or additional means. Additionally, papers that examine any topic concerning the preparedness for, response to, or recovery from natural, technological, or human-initiated hazards and disasters will be considered. Both United States and international cross-cultural research are welcome.

All interested persons should submit inquiries, detailed abstracts, or papers directly to the session co-organizers, Christine Bevc (christine.bevc@colorado.edu) and Bill Lovekamp (welovekamp@eiu.edu). Submissions must be received by October 31, 2007. Additional information about sessions and the annual meeting is available from the Midwest Sociological Society web site: http://www.themss.org/. All monetary costs of participating in this annual meeting are the sole responsibility of the individual presenters.

24ᵗʰ EGOS Colloquium

July 10 – 12, 2008

Amsterdam, The Netherlands

I want to inform you about a call for papers for a stream of sessions (nr.29) on risk and risk management at the 24th EGOS Colloquium, to be held in **Amsterdam, July 10-12, 2008**. We welcome papers on risk perceptions, the institutional construction of risks and crisis management as well as more theoretical and methodical papers dealing with risk etc.

Please have a look at the website: http://egosnet.org/conferences/collo24/sub_29.shtml

Abstract submission closes **January 13,** 2008.

If you have any questions about this theme or the conference, you can contact me or one of the other convenors.

XVII World Congress of Sociology

July 11 – 17, 2010

Gothenburg, Sweden

In 1998, the World Congress of Sociology was in Montreal, Canada. In 2002, it was in Brisbane, Australia. In 2006, it was in Durban, South Africa.

In 2010, it is coming back to Europe after a 16 year absence. (It was in Bielefeld, Germany, in 1994.) The location is Gothenburg, Sweden and the dates are July 11-17, 2010.

It's still a long time away but it's worth marking the dates in your calendar.

Many of those involved in the network have found it difficult to find sufficient funds to travel to Australia or South Africa. This should be much less of a problem with the Congress back in Europe.

Please let the organizers of the Research Committee on Disasters know if you have ideas for a session topic or simply plan to submit a paper.

The organizers are Joe Scanlon from Carleton University in Ottawa, Canada

(jscanlon@ccs.carleton.ca) and Lori Peek at Colorado State University in Fort Collins in the USA (lori.peek@colostate.edu).

Disaster-related sessions are allocated based on how many persons belong both to the International Sociological Association and the International Research Committee on Disasters. The committee's new chair – he took office in February – is Ron Perry of Arizona State University. He can be reached at Ron.Perry@asu.edu.

Writers' Corner

A Practical Lesson in Disaster Management, by Lt. Col. K. C. Monnappa*

monaps1@gmail.com

The Andaman & Nicobar are a group of 572 picturesque islands, big and small, inhabited and uninhabited, lying in the South Eastern part of the Bay of Bengal. They lie along an arc in long and narrow broken chain, approximately North-South over a distance of nearly 800 km. They form the eastern most part of India. A severe earthquake measuring 8.9 on the Richter scale was felt in Andaman and Nicobar Islands having an epicenter at 3.7N and 95E off the island of Sumatra between 06h30 to 06h35 in the morning on 26th December 2004. The severe earthquake was followed by high tidal waves, which caused extensive damages to the archipelago. The extent of damage, loss of life and property especially in Car Nicobar was unprecedented.

Andamans. (c) K C Monnappa 2007

During this tumultuous period, I was pursuing my Masters in Social Work at the Delhi University. I was commissioned by Oxfam Trust India, an NGO, to carry out a needs assessment in the Nicobar Islands to define the level and type of assistance required for the affected population. My assessment aimed at identifying resources and services required to help sustain the lives of the affected population. During the assessment I came across interesting aspects while planning for disaster relief assistance that I would like to share with other Disaster Management/Mitigation specialists/professionals while planning relief to affected population.

The most affected by the Tsunami disaster were the Nicobarese. It had complicated the issue of identity and sustainability of the islanders. Of the previous 30,000 Nicobarese, one-third had been washed out by the Tsunami waves, and the remaining had lost their homes, property and coconut plantations on which they lived. Despite this enormous loss, most of the relief efforts were concentrated in the Northern Group of Islands (Nicobar formed a part of the Central group of Islands). Four reasons are attributed to this:

- First, the Nicobars is located in a relatively remote area and when the tsunami struck, the lines of communication were damaged.

- Second the Nicobarese do not have much political clout to have their voice heard.

- Third since 1956 the Nicobar Islands have been a protected area under the Protection of Aboriginal Tribes Regulation.

- Lastly an important and sensitive airbase of the Indian Air Force is located in the Island. Therefore for reasons of national security, this part of the archipelago was out of limits to civilians. As a result, the local administration had not permitted many relief organizations to enter the Nicobars. The only Air Force airstrip was severely damaged.

Amongst the island's villages, Mus Village holds a unique position in terms of power and prestige owing to its proximity to the coast and the location of the island's only port. Most of the houses were located along the coast which was washed away by the huge tidal wave that followed the earthquake. The villagers now had moved into the interiors of the Island and were housed in makeshift camps.

The village headman is called Captain in the Nicobar Islands. The Captain of Mus village was also the Tribal Council's secretary. On arrival at Mus village, I was greeted with 'Leave us alone. We can manage on our own. We don't need biscuits and chips. We need to make our homes and plant our gardens. Give us tools, if you wish to help us'. These were the words of Thomas Phillip, Captain of Mus Village. The reason for his animosity was shortly to come to the fore. After a lot of cajoling and negotiation, the Captain finally acceded to my request of a patient hearing. I explained the reason why I was there. After gaining his confidence this is what he recounted to me.

One of the most essential belongings of any Nicobarese is a set of tools. With the Tsunami having washed away this important capital, the Nicobarese were unable to undertake the necessary steps towards self-rehabilitation. The Islanders were distressed that the importance of tools for their rehabilitation was not taken cognizance of by the Administration. The only tools that they had received were axes, the islanders were clueless as to how they could use it to shape and carve the poles and beams needed to erect the traditional Nicobarese cottage. Everywhere there were angry outbursts at the government officials. This state of animosity against the Government, who was the principal aid disburser, has to be understood in the right context. The Nicobarese are a proud and hard working race who pride themselves in being self sufficient.

Andamans. (c) K C Monnappa 2007

Mr. Phillip further added that the concern of the Administration to rehabilitate the Nicobarese in a suitable and safe environment was not being doubted. However, he rightly emphasized that any such process must accompany, even for a well-intentioned person, a certain level of sensitivity in what is socially and culturally appropriate as well. The new design of houses that was being promoted by the Administration for temporary rehabilitation involved the extensive use of iron pipes, large quantities of nuts and bolts and corrugated galvanized iron (CGI) sheets. An architect in collaboration with a seismic expert had apparently made the design. While this design was perfectly suitable for areas in the hinterland, the salty environs in the Nicobars would rust the iron and tin sheets used to construct the houses in no time. The Captain told me that the Nicobari huts were most suited to survive earthquakes. The design of their houses were scientifically proven by local architects to be well suited to an earthquake-prone zone and other natural conditions such as climate, ecology, and resource availability. The argument indeed was a genuine one. He wanted to know a few answers --- What makes us think that the Nicobarese have forgotten to make their huts after the Tsunami? Where will all the iron pipes after the temporary rehabilitation be dumped? What are the ecological consequences of this? If they are to become permanent structures, who will ensure a sustained supply of these materials for repair and maintenance? Who will pay for them? In short, is this economically and ecologically viable? Furthermore the concepts of 'temporary' and 'permanent' were alien to the Nicobarese. Temporary it seems never existed in their lexicon!!!

Mr. Phillip further astounded me when he shared with me his idea of resettlement and rehabilitation. He said that the tsunami along with destruction had offered them a wonderful opportunity to start life anew. He said that his intention and idea of permanent construction should be such that the settlements should have an inherent capability of self-sustenance, a capability to harvest fresh rain water that the island offers in abundance but cannot capture owing to lack of the necessary infrastructure. He also wanted that an intricate system of drainage be devised so that they could connect the same to a biogas plant which could then convert the refuse into gas that could be used for cooking. His idea had killed quite a few birds with a single stone---- he had solved the problem of fresh water, the felling of trees for fuel, the inherent pollution due to the garbage generated and the important issue of sustainable development. I wondered as to where had the so called planners gone wrong with all their scientific education, Captain Thomas could sure teach all our administrators a lesson or two in planning and sustainable development!!! A visionary in his own right.

The Nicobarese were longing to re-establish their home, to re-establish their roots, and to rekindle their sense of belonging once again to a place that though had taken away so much had also given them a lot in the past and would still do so in future, provided they were given equal opportunity to pitch in in the process of rehabilitation. Here they wanted to be active participants in their own rehabilitation, they wanted to rebuild their houses on their own and all they required was the right tools and timber, but the Administration had on the other hand taken their needs and requirements for granted and had blindly dumped on the Island materials that were unsustainable. The administration was slowly reducing the hardworking islanders into passive recipients of dole. A dangerous trend in making disaster affected people totally dependent on outside aid. They had slighted the intellectual prowess of the local tribals. They had erred in the very first principle of disaster relief by not making the affected people stakeholders in the planning process and aid disbursement. The Islanders were of the opinion that if at all the administration was committed to comfort them in any way, there must first be a sensitive recognition of their needs, allow them the necessary dignity to choose, and show respect for their capacity to deal with the forces of life, which they were better equipped to do so anyway!!

Needless to say, I walked away a much chastened man. I had come as a conceited outsider expecting a totally beaten people holding out their hands for whatever was being doled out. Was I surprised when my first lesson in disaster relief was being provided by a people who though were reduced to a state of destitution, had not lost their self esteem and pride, a pride of being able to cater to their own needs, a right to determine for themselves what was best for them. This indeed was a resurgent people that I was pleasantly surprised of. A people though victims of disaster, were not ready to be subjugated yet – neither by nature nor by their own aid disbursing brethren.

* Lt Col K C Monnappa is a Disaster Mitigation professional. He is an MA in Social Work from the prestigious Delhi University, India. He has published a book on Disaster Preparedness and has been a regular contributor of articles to various professional journals. He has wide ranging

experience in dealing with both man-made and natural disasters and was a consultant to Oxfam India Trust during the tsunami disaster that struck the coasts of Tamil Nadu and Andamans. He helped the organization in implementing various disaster relief programmes and also helped in its evaluation and assessment. He has also conducted various training programmes and workshops to help spread disaster awareness in schools, colleges and professional institutes.

The Value of Climate Change, by Ilan Kelman
http://www.ilankelman.org

Climate change has been receiving plenty of publicity as not only a global crisis but also as perhaps the greatest global crisis which humanity has ever faced. There is little doubt that climate change resulting from human activity is threatening many ecosystems and many human settlements. From rapid species extinctions and biome shifts to evacuating coastlines and low-lying islands, greenhouse gas emissions, especially from using fossil fuels but also from other human activities, are a major culprit. Even if human greenhouse gas emissions were to total zero as of tomorrow, we would still be facing climate change's legacy for decades, possibly even centuries.

But if human-caused climate change could be miraculously halted tomorrow, would that solve the identified threats? A November 2006 fisheries study "projects the global collapse of all taxa currently fished by the mid-21st century" (Worm et al., 2006: 790) with the focus being overfishing, not climate change. Deforestation leads to landslide and flood disasters and is destroying ecosystems, as Curran et al. (2004) document for Borneo including inside protected areas.

Flooding in Norton, U.K., November 2001. (c) Ilan Kelman 2007

Powerful interests behind overfishing and large-scale logging have even argued that climate change will ruin these resources, so humanity might as well exploit them now. Of course, without climate change, these interests would still be involved in these destructive activities and would still be ignoring the consequences.

So if human-caused (or natural) climate change were

not of concern, humanity--at least, some sectors of humanity--would still sport impressive results in wrecking the environment. This value of immediate exploitation irrespective of the long-term costs is the same value which led to human-caused climate change: fossil fuels are cheap and easy-to-use now, so we must use as much as possible regardless of the consequences.

That means short-term gain for long-term pain. A slogan summarizes: "Earth First! We can strip-mine the other planets later".

Compared to the important, needed, and inspiring work ongoing for tackling climate change, how much effort is being put into tackling the root causes? That goes beyond greenhouse gases. Instead, that means changing the fundamental values which lead some of humanity to live completely out of balance with the environment, from the local level to the global level. Climate change is one manifestation amongst many of unsustainable environmental values.

The real crisis is how we think and act. The crisis is values, not climate change.

The new Greek tragedy and its television coverage, by Charalambos Tsekeris and Nicos Katrivesis*

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At least most of D&SCRN Newsletter readers must be aware of the recent gigantic Greek tragedy. This summer's devastating forest fires (of yet unknown origins) in southern Greece have been unusually deadly and resulted in an unprecedented environmental-ecological catastrophe.

Sixty-seven people have been killed, according to latest estimates. Some died in their cars, trying to escape as the fire roared in, some were trapped in their homes, and some made split-second decisions that cost them their lives. In addition, many thousands of people have been forced to flee their homes, amid the total destruction of entire mountainous villages and cultivated landscapes. And even ancient Olympia, the site of the birth of the Olympic Games, was seriously threatened by the wildfires. What such a tragedy ultimately entails for Greek economy and the country's natural environment in the long run remains to be seen (even worse is to come?). But it undoubtedly leaves open wounds and poses the vital need for courage and sensitivity.

Of course, this is not only an environmental disaster; it is a civic and political disaster as well. The official response to the crisis has been visibly inefficient and dilatory, revealing a poorly trained public administration staff. Obviously, the Greek state (largely dependent on technical assistance from its European Union partners in the short-term effort of firefighting) is still ill-equipped

to cope and effectively coordinate civil forces. Most importantly, as Professor Chronis Polychroniou comprehensively points out, it has no developed "long-term plan" that properly meets the pressing needs of forest restoration and ecological management. In parallel, Greek governments' lack of political will and governing capacity in dealing with the overwhelming problem of forest fires, including those started deliberately, explains the vast national disgrace of the entire political and judicial system.

Nevertheless, mass media played their own idiosyncratic role within such a context. This indisputably relates to the general power/cultural authority of television and its particular ability to performatively represent/define the devastation of "natural" disasters (fires, earthquakes, floods, hurricanes, blizzards, etc) both as they occur and in their aftermath. Media representations/definitions have been strategically articulated in an almost dramatic and emotionally-charged way, which overwhelmingly captured audience attention and "reframed" the disaster by raising value-loaded questions about human security and social justice, equity and vulnerability, solidarity and power relations. From the very first moments, the media have been challenged to cope, left to try to make sense of the tragedy in terms of its "hidden" causes and its "secret" meanings, ambivalently moving between a justificatory "asymmetrical threats" talk (that is, an ill-judged endorsement of the contemporary language of geopolitics) and an extremely accusatory discourse of absolute "governmental failure".

In general, television seems to increasingly serve a vital societal function, informing and instructing viewers, sharing real-life disaster stories with a nationwide audience, evoking empathy, community and national action. But a sharp critical-reflexive eye should be always kept, since it also has the essential strong tendency to merely "follow" everyday narratives or images and, therefore, to divert audiences from less detailed/empirical and more complex/theoretical issues of politics, moral responsibility and wider historic implications.

> * Charalambos Tsekeris (PhD) is co-editor of the Greek interdisciplinary journal *Intellectum*. Nicos Katrivesis is Reader in Sociology at the University of Macedonia, Thessalonica, Greece.

Do disasters bring about community disruption?

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Sharon Link (Israel Institute of Technology)

Introduction

A long assumed outcome related to extreme disasters is that the affected communities social functioning will be disrupted. The basis for this originates in the argument that disasters are social phenomenon having social consequences and outcomes embedded in social life, in the social economy, sociopolitical situation and technological environment. Yet, there is no clear or unambiguous empirical support for this contention! Quarantelli & Dynes (1976) seminal work on

community conflict after a natural disaster stressed this ambiguity and the variable conditions affecting what might or might not lead to social disruption. More recent descriptive post-disaster and similar community "boom-bust" case studies have recorded instances of social disruption as well as long term increased community solidarity and cohesion. These findings suggest that there may be a fine line distinguishing disasters as catalysts promoting social disruption or in encouraging greater solidarity and cohesion. In addition, the time framework of a disaster may have a different impact on behaviors; the immediate impact may cause social disruption but with the passing of time behaviors may become adaptive and even strengthen individual social and community bonds.

Short and Long Term Disasters

There is a growing body of evidence that suggests the disaster 'social disruption-cohesion' contention is associated with behaviors found primarily in the immediate aftermath of short but intense disaster events. This impression stems from the large number of case studies describing the aftermath of a variety of different types of disasters a relatively short time after the event. In contrast to intense short-term disasters are long-term disasters such as droughts, massive floods, health issues, toxic waste and even resource isolation. These types of disasters can best be described as slow evolving, sometimes repetitive, but continuous low intensity events.

Measurement Issues

The issue of how to measure the social disruption-cohesiveness continuum further complicates this quandary. In general, there has been a growing concern about the use of various and sometimes misleading measures in disaster research. This may be especially relevant in the case of examining social disruption. Some examples of the wide variety of measures relate to individual behavioral changes as indicative of aggregate changes, as psychologically oriented studies seem to imply. Others are based on aggregate community behaviors or even entire societies. For example, there are "boom-bust" community studies focusing on the changing impact on an urban or rural economy, stressing the dynamic nature of communities and disruptive impact based on the residents' ability to subjectively adjust behavior to shifts in objective economic conditions. Some are measures based on disaster-induced changes in a community's social stratification and division of labor. Some measures have included levels of well-being and the ameliorating effects of social communal integration on (disruptive) crime levels. Others have focused on post-disaster stress as a proxy of disruption-cohesion by employing measures of pre-disaster family cohesion and leadership during earthquakes while some on out-migration as the key to determine disruption. Disaster oriented cross-cultural studies have also generally employed various measures of community social integration to measure post disaster disruptive responses. In some cases, especially long-term technological disasters, the emphasis has been on measures of perceptions of community damage, stress and alienation.

Extreme Case Approach

As an alternative strategy to the present short or long-term studies that have focused primarily on post-disaster analysis, we will utilize an extreme case approach that examines an intense but on-going long-term type disaster. This approach combines both the characteristics of short (immediate impact) and long-term (adaptive behaviors) disasters while controlling for the continuous intensity of the impact over time. In addition, as an on-going disaster, the specific time period at which the data is obtained is not prejudiced by the disasters' cessation that may lead to the one-sided analysis of post-disaster behaviors. By all accounts, such an extreme ongoing disaster takes into account the time and intensity elements that would have the most impact on disrupting or strengthening social communal changes. Such an approach would also need to obviate interventions by external organizations (an extremely difficult task) as well as being able to discern and contrast social behaviors in evidence before and during the disaster. Our underlying contention would be that the more extreme and longer a disaster continues the greater would be the likelihood of discovering if indeed, community social disruption appears.

Methodology

Strategy: A strategy was chosen that focused on examining communities that had been relatively free of disasters but are now in the midst of an extreme long-term disaster. For this reason we chose communities that experienced over a substantial time period an extreme type of disaster represented by continuous terror attacks. These communities were still being attacked at the time of the field study.

Data Source: To satisfy the criteria of examining communities that are characterized by long-term and intense disaster impact, a random sample of household residents in two Israeli communities were selected. Located in the southwest of Israel in and very near the Gaza Strip, these two communities were exposed to a massive terror campaign begun in September 2000. Since the Palestinians terror campaign begun, tens of thousands of terror attacks were launched against the two community's' residents. On average, there were eight (8) terror attacks a day (including Kassam missiles, bombs, mortars, suicide bombers, demolition charges, shootings, etc.).

To implement the "before-after" component of the study to determine the impact of terror on the two communities, we compared a data set obtained from a

random national household sample (N=814) five years earlier (2000) before the onset of Palestinian terror campaign to that of the present (2005) sample. The "before" sample reflected behaviors and attitudes during a period of relative calm before the onset of the second Palestinian Intifada in 2001 while the "after" sample focused on the specific geophysical areas where intense terror was being perpetuated. Both surveys had similar formats and comparable questions. Comparing the two samples on most major socio-demographic characteristics showed that both were similar except with certain differences explainable by the specific character of the surveyed settlements in 2005.

Disruption-Cohesiveness Scale

A scale was developed to assess the impact of this type of disaster on a community's social structure. The aim was to seek a sensible proxy of the core social components of disaster communities, specifically their social networks. In addition, other sets of potential measures of disaster related community change were also introduced into the analysis, including preparedness components and levels of risk perceptions.

Results

Comparing the responses to the two surveys revealed that the continuing terror experienced by the two communities led to a general strengthening of community social cohesiveness. Responses to three levels of social network activities employed as proxies of community level cohesion reveals that there had been a significant and positive increase in the intensity of the network interactions at the micro-neighborhood and macro-service community levels.

Examining how the reality of the ongoing terror campaign by the Palestinians affected their perception of the risk of injury or death reveals little disillusionment or denial on part of the residents. In all three risk perception categories, being injured by missiles, exposing oneself and family to a life threatening situation and the chances of being killed in the near future, there was a significant and positive increased perception of risk.

The assumption that the "reality check" based risk assessment would lead to being better prepared did not universally appear when comparing responses to the two pre-terror and terror surveys. Examining skill levels, for example, showed a significant negative decline in all categories, namely skill in first aid, CPR and firefighting. On the other hand, there was a significant positive increase in planning, especially family evacuation plans. The emphasis of storing supplies and provisions, composed of five basic measures, revealed only two of the five items comparable over the two surveys to be significant, both being negative. In the case of being prepared through the use of physical protection showed there was a significant and positive (130%) increase in having available an in-place home bomb shelter.

Summary & Conclusions

Conditions of continuous and extreme threats to lives and property can theoretically lead to a possible breakdown of existing social structures or, on the contrary, toward enhancing community social cohesiveness. To examine these alternative possibilities, a research strategy was chosen to evaluate the impact of continuous extreme terror attacks on community social life. The study design compared community behaviors prior to ongoing terror attacks with community behaviors after five years of ongoing terror attacks. The study incorporated two Israeli communities in and near the Gaza Strip, based on a random sample of 370 household heads responding to a structured interview questionnaire. Pre-terror behaviors from a national random sample were compared to corresponding behaviors in the communities under terror attacks. Employing a "Community Social Cohesion" composite of social network densities, levels of risk perceptions and disaster preparedness components, the results pointed toward a general strengthening of community oriented behaviors. While risk perceptions rose dramatically, reflecting the reality of five years of terror, key measures of social network densities also increased in strength. Interestingly, the levels of preparedness generally declined but did increase for those items of immediate survival necessity. A detailed examination showed that religious beliefs, self-reliance, and an intense community social network acted to foster adaptation behaviors without loosing sight of a realistic risk perception of death and harm. These adaptive survival strategies provided proof that even under extreme conditions, social capital inherent in individuals, families and communities can, and do, enhance community cohesiveness and ameliorate the reality of annihilation.

Home, Community, and Disaster in Florida Mobile Home Parks
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With over 870.000 homes inhabited by close to 1.5 Million people (2005 American Community Survey), Florida has the largest number of mobile or manufactured homes and mobile home residents of all fifty US States. Florida's highest concentration of mobile homes and mobile home residents can be found in the West-Central region on and near the Gulf Coast. Even though mobile home residents in this area are economically and socially diverse, they all share a high vulnerability to natural hazards such as hurricanes and

tornadoes due to the type of home they inhabit. In recent years, the number of hurricanes striking the Gulf Coast region has risen sharply and this trend is predicted to continue for at least another decade. West-Central Florida's existing conditions of high vulnerability and high risk, exacerbated by a severe insurance crisis and rapid growth, are likely to result in a disaster of Katrina-like proportion in the not too distant future. The region is thus an important strategic for research on the disaster preparedness and resilience of vulnerable populations.

My ESA paper discussed preliminary findings from a qualitative pilot study entitled "Community and Disaster in West-Central Florida Mobile Home Parks" which I conducted with the help of several undergraduate students at the University of South Florida between fall 2005 and spring 2007. The main data set consists of interviews with 49 mobile home residents distributed over 41 households, living in 18 mobile home parks and neighborhoods in four counties. Participants included 33 women and 16 men between the ages of 20 and 88; among them were 5 African Americans, 10 Hispanics, and 34 Caucasians. This group of participants is largely a convenience sample yet efforts were made to capture a cross-section of the existing economic, social, and regional diversity of West-Central Florida mobile home residents, ranging from middle class seniors and so-called "snowbirds" to poor families with children and migrant farm workers. The open-ended interviews were conducted at the homes of participants; they were tape-recorded, translated if needed, and transcribed in full. Other data collected includes observations of a variety of meetings that were recorded in fieldnotes, Census Data and maps, newspaper articles, and a visual archive of photographs. This summer, I received a grant by the US National Science Foundation to conduct a much larger, mixed-methods study of disaster-related issues in Florida mobile home communities in 2008 and 2009. The main focus of my research are the links between community characteristics and patterns of vulnerability in mobile home parks, yet I am also interested in the life histories and identities of mobile home residents, as well as their strategies of managing the negative stigma that is commonly associated with the "trailer" life-style.

My presentation at the ESA conference discussed the issues of evacuation readiness and evacuation practices in those instances in which an official evacuation order had been issued. In the United States, evacuation orders can be issued as "voluntary" or "mandatory," yet in the latter case there is little enforcement to insure that people will actually leave. Due to the structural vulnerability of their housing, mobile home residents are among the first group of people to receive evacuation orders. Consistent with previous studies, I found that despite their considerable vulnerability, between a third and half of all people living in manufactured housing have not evacuated their home in the past when an order had been issued, and are

reluctant to do so in the future. Mobile home residents vary greatly in their knowledge and interpretation of evacuation orders and in their ability to follow them, rendering evacuation a complex social issue in need of in-depth investigation. Structural challenges that can complicate evacuation include the presence of young children or pets in the household, lack of access to private transportation, and disabilities or health problems of self or family members, besides an array of other special needs (such as large household size or dependants living in other households). Only a small minority (approximately one in 12) of the people that were interviewed did not encounter any of the above challenges in situations requiring evacuation. Almost half of all respondents experienced one type of problem, and over forty percent struggled with two or more of the mentioned problems. Economic and social factors such as these can be more or less systematically investigated and analyzed, and they have been studied repeatedly in the past.

In contrast, another important factor affecting evacuation readiness and practices is much more difficult to research and discuss. I am speaking of "vulnerability perceptions"—defined as individual and cultural beliefs regarding one's own vulnerability—that play a huge role in the decisions and abilities of people to leave in dangerous situations. For instance, an outright refusal of the idea that a hurricane might ever come to their area was found among a small minority of West-Central Florida residents, despite the recent history of storms striking the Gulf Coast. Other people did not believe that evacuation orders issued to mobile home residents applied to their personal situation. They were convinced that their home was much safer than others due to its elevation, positioning, an array of various protective devices, or even nearby trees. Further, several residents held religious beliefs that discouraged them from leaving or protecting themselves because they felt that a higher power, and not their actions, ultimately determined the course of their lives. Interestingly, it also seems that previous experiences of hurricanes (without having suffered greater damage) negatively affect the willingness of mobile home residents to evacuate in the future.

Another problem with vulnerability perceptions is that they can change considerably as threats or hazardous events reoccur in a brief time period. For instance, a Latina mobile home resident who was impressed with the services when she evacuated with her three children to a public shelter at a nearby private college early in the 2004 season was eager to leave every time another evacuation order was issued. In contrast, an elderly White man who lived by himself never evacuated again after his home was burglarized while he was sitting out the first storm of the season at another public shelter. These examples raise the question of what disaster vulnerability means in the context of other

vulnerabilities and challenges people experience and deal with in their daily lives.

My paper continued with a brief discussion of the networks of mobile home residents, and an assessment of the kinds of resources social ties provide in situations requiring evacuation. Many of the interviewed seniors had vibrant social lives and extended social networks, yet their contacts were typically limited to people in their own or other mobile home parks, thus others who were in a similar situation and not able to help. Many of the poor families and migrant workers lacked social contacts outside their immediate households and families even though their neighbors were often very similar economically, socially, and culturally. It appears that the prejudices attached to living in a "trailer" and "trailer park" undermine the formation of strong communal ties in low income and immigrant settings. In sum, not all of the social ties mobile home residents had were by definition helpful, and some even presented an extra burden when it came to disaster preparation and planning for evacuation. There is a clear need for more research on the situated meaning and significance of social networks in the context of disasters.

I concluded my talk with a short summary of the issues affecting evacuation decisions and disaster vulnerability in general, including geographical, physical, social structural, and cultural factors, and a brief look at the implications of my ongoing research for disaster planning and mitigation.

Justice for disaster victims: comparative legal and socio-psychological outcomes

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The legal aspects of disasters and their long-term consequences on the survivors and/or their relatives have not been systematically studied by social scientists. Disaster trials, that have to do with the accountability processes, often last a long time. There is always the danger of statute of limitations as well as the death of those accountable, and the possibility that survivors and/or relatives of victims will not obtain justice or psychological closure, with all that that implies for their

long-term psychological rehabilitation.

To explore these impacts, the author adopted a comparative approach. He focused on three types of disasters/crises – the Athens earthquake of 1999, the sinking of the ferry-boat "Express Samina" in 26/9/2000 and the 17 of November terrorism (1975-2002) – where criminal trials had been completed on two levels (Courts of First Instance and Appelate Courts) by July 2007.

During the Athens EQ, 143 people had lost their lives, 42 of which in one single factory ("Ricomex"). In the ocean disaster, where the boat sank within one hour, 82 out of 511 people lost their lives. Among the victims were also tourists from other countries. Finally, in the 17 of November(17N) terrorist attacks, 23 people had been killed and over 55 were wounded. Most of the target-victims in the "17N revolutionary organization" (N=15) were Greeks (e.g. industrialists, politicians, medical doctors, judges, ship owners, bankers, newspaper publishers and police); the rest (N=8) were American, British and Turkish officials (Petropoulos, 2003, p. 3-4).

The trials on the two levels had lasted 8 years for the Ricomex case (1999-2007), 7 years for the "Express Samina" (2000-2007) and 5 years for the 17N (2002-2007). In the last case, the counting begins with the arrest of the terrorists in 2002, not with the occurrence of the tragic event, that may have taken place anytime between 1975 and 2002 and which *may be the more immediately relevant period* from the viewpoint of the psychology of survivors and their relatives.

The verdicts (of the Appelate Courts) varied in the three disaster cases. They were most severe *in the case of the 17N* (two acquittals because of insufficient evidence, two acquittals because of statute of limitations and 13 convictions with sentences ranging from 8 years to 17 times life-sentence plus 25 years). *In the case of the "Express Samina" trial*, the verdicts varied from 10 months with 3 years suspension (Radio Operator) to 12 years and 10 months (First Officer). The two ferry-boat company representatives received 2 years and 6 months but purchasable, while a third company representative, said to be a key person in the Company, committed suicide soon after the tragedy and never came to trial. The Captain and the First Officer (the latter was on duty during the disaster), received 12 years and 12 years plus 10 months, respectively. Finally, the First Engineer and the Chief Officer (Yparchos) received 7 years and 6 months and 5 years plus 1 month, respectively, but also purchasable. Finally, *in the EQ Ricomex trial*, the two architects that had taken part in the building modifications/interventions (made in 1994) were acquitted. Two of the potential defendants in the Ricomex trial, the two brothers (owner and civil engineer) who had the right to signature regarding building/structure interventions etc had died before the

trial proceedings began, one during the disaster along with the other 41 victims and the other later on of a heart attack. Therefore, in two of the disasters ("Express Samina" & "Ricomex"), the process of justice was clearly truncated.

Both questionnaire and observation techniques were used to collect empirical data. The questionnaires contained quantitative and qualitative questions on the reactions/attitudes of survivors and/or the relatives of victims. Specifically, the questions gauged the strategies the survivors and the relatives used to obtain justice, their participation in the trial proceedings, their attitudes/opinions about the trial proceedings and outcomes, their opinions with respect to improvement of court procedures following mass casualties, the impact of the tragic event on their health and their utilization of services. The questionnaires were either administered by the author or were completed by the survivors/relatives themselves. In addition to the questionnaires, the author also took part, as a spectator, in a number of the trial proceedings before constructing the questionnaire, to get a better feel of the complexities of the court processes and in order to make contacts for prospective respondents to the questionnaire study. Finally, he also had interviews and made contacts with the lawyers of the survivors/relatives of victims. Respondents were located by direct contacts during the trials, from the lawyer's litigation files but also from the newspapers – which had listed the victims/survivors.

The collection of data in the above three cases was not an easy task, in view of the fact that *the research process itself could reactivate traumatic memories* for the survivors and /or the relatives of victims, despite systematic attempts of the author to project the research as a truth-seeking process, to make the respondents feel that they are contributing to prevention of future tragedies, exploitation and pain, i.e. to make the respondents feel as co-participants in a research mission. Up to 20 July 2007, when the data collection was temporarily suspended because of summer holidays, the author had managed to complete 16 questionnaires, 9 from the ferry-boat and 7 from the EQ survivors/relatives. Although several contacts and rendez-vous were made with the relatives and survivors of the terrorist attacks during a two week period, the author did not manage to complete a single questionnaire. Part of the problem also has to do with the relative inaccessibility of higher SES groups, that characterized the victims of 17N, to survey studies. However, other factors may have also played a role in the differential response of 17N survivors/relatives of victims. In one case, two brothers-survivors communicated their refusal via their attorney saying that "they wanted to put it behind them." In another case (a mother who had lost her son who had not been a target), the respondent kept the questionnaire for a week in

order to complete it herself, but after reading it she decided not to complete it, saying even that the emotional stirring probably aggravated her temporary physical condition (had a cold). Apparently, the avoidance of the questionnaire is indicative of the unsolved post-traumatic stress, 15 years after the tragedy. Respecting the respondent's privacy and not wanting in any way to aggravate her psychological pain, the author decided not to insist, to retrieve the questionnaire and make an attempt with other survivors/relatives of 17N following the summer holidays.

Due to the restricted response, the author decided to present a progress report of the research at the ESA convention and to focus on some preliminary differences in the reactions and opinions between the survivors/relatives of the "Express Samina" (ferry boat) and the "Ricomex" (EQ) disasters. The preliminary results -- quantitative and qualitative -- pointed to greater aggression and anxiety about the court actors, to a lesser use of direct compromise with the companies for compensation, as well as to a greater sense of injustice and frustration of litigation goals in the case of the Ricomex litigants. In addition, while aggravation of "organic" and "mental health" (self-report) was observed after the tragic event in both cases, the preliminary analysis suggests greater impact among the EQ Ricomex relatives of victims. Nonetheless, matters of health impact are complex since they involve problems of classification and require a consideration of medical history etc. of the respondents to draw clear-cut conclusions. From the observation during the trials, it seems that the truncated justice (deaths of key actors) did not contribute to the psychological closure, especially for the relatives of the Ricomex victims where there were no convictions. One respondent who lost her son in the EQ disaster, in discussing the trial proceedings during a break and in referring to the death of one of the key actors before the trial, used the word Greeks use when they refer to the death of animals.

The author intends to continue the empirical research, hoping to secure interviews from the survivors/relatives of the victims of the 17N and improve the response rate on the two other disasters. In addition, he will translate the two questionnaires (for "Express Samina" and 17N) into English and attempt to obtain interviews from foreign survivors/relatives of victims. It is hoped that the expanded samples will accord more confidence in generalizations and conclusions. Finally, in the write-up, the author plans to take into account the interesting interventions made during the ESA conference sessions regarding memory and closure, transnational accountability in ocean disasters, peoples' tribunals and class action suits which might be more effective and therapeutic in cases of litigation following mass deaths. Since the research is in progress, the writer is also open to receiving relevant literature and suggestions.

Modern Accident Investigation – Six Challenges
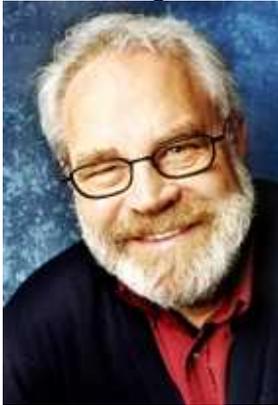
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The Challenge of Investigation

Investigations of accidents have a long tradition in three of the main transport sectors: air traffic, sea traffic and rail traffic. Traffic accidents have generally been treated as single events and investigated by the police. Many countries have institutionalized a separate investigation body in one or more transport fields. Also other technological accidents, for instance in factories or power plants, must be investigated, in line with mandatory requirements. In addition, natural disasters like earthquakes, flooding, wildfires etc., are often investigated, but usually separately. Investigation bodies or separate investigations may be set up or implemented by various institutions or organizations – parliaments, governments, ministries, inspection bodies, international organisationsorganizations, private enterprises, etc. In recent decades, there has been an increasingly clear distinction between the search for causes and preventive measures after accidents, and the police investigation to ascertain guilt/blame. In other types of investigations on both individual and collective levels (e.g. concerning economic matters like fraud, corruption and insider dealing; or questions concerning sexual harassment and discrimination, scientific quality, psychiatric cases, terrorism, genocide etc.) borderlines are quite often very vague, with high priority to the question of individual or collective blame and guilt.

Today, accident investigation is faced with several challenges – due to lack of integration on various institutional levels (global, regional, national, local) and sectors, to the different interests held by stakeholders, and to organizational and methodological shortcomings.

Safety Investigation of Accidents in Europe

The European Community has made investigative bodies in the air, rail and sea sector mandatory by directives in recent years. Accident investigation procedures have been implemented in high-risk industries, like the process industry and power plants. In addition, in July 2004 the EU appointed a special expert group to advise the Commission on a strategy for dealing with accidents in the transport sector. The methodology sub-group, established on 8 December 2004, successfully proposed in its report of 3 July 2006vi several recommendations to the Commission's Group of Experts. This document now has status as a Guideline on a Methodology for Safety Investigation of Accidents in the transport sector, and is to be employed as a reference document for European and national legislators and administrations.

On the national level, terrorist attacks in the transport field in Europe (e.g. Madrid 2004, London 2005) with deeply tragic consequences, have been investigated by several bodies. The facts and conclusions have been reported in various reports, adding the security dimension to the traditional accident investigation tradition.

In addition to technological accidents, including industrial accidents and food scandals, and security challenges, Europe has faced many severe natural disasters during recent years.

The *20th Century Asian Disasters Data Book* summarizes the situation in Europe as follows:

In Europe, 70% of the total disasters are caused by windstorms (27%), floods (26%) and earthquakes (16%); Europe also has more wildfires (8%) than other areas. As to human fatalities, 46% were due to earthquake and 20% to extremes of temperature, as in cold waves. Windstorms (30%), floods (22%) and drought (22%) also greatly affect people. In terms of economic effects, it is floods (56%) that cause the greatest damage in Europe.

The number and consequences of disasters in Europe have increased by recent years. Statistics from the *International Disaster Database* indicate that in Europe (20 countries) in the period 2000–2003 at least 234 natural catastrophes of large severity occurred; in addition, 96 disasters in the same period are classified in the database as industrial accidents, miscellaneous accidents and transport accidents. Altogether, these various disasters have left several hundred thousand people killed or severely injured and millions homeless or/and otherwise affected. The estimated costs of damage caused by disasters in Europe during that period amount to millions and millions of Euro.

Many of these natural disasters have been investigated by *ad hoc* commissions set up by the parliament, the government, or the ministry in charge.

Major Challenges Facing Accident Investigation Bodies

Modern accident investigations face several challenges, none of which have yet been satisfactory solved. Among the most important are:

Independence: Most accidents investigations are declared to be independent, by mandate, structural

position, composition, and functions. The results – the description of facts, the conclusions and the recommendations – are all held to be objective findings and proposals. This applies to permanent as well as *ad hoc* commissions, and to public as well as private investigations. However, closer examination often reveals a very vague kind of 'independence'.

Some examples of institutional, administrative and/or professional lack of independence:

- The most prominent body on the international level – the US National Transportation Safety Board (NTSB) – was originally established under the Ministry of Transport in United States. These institutional ties undermined its formal independence, and the NTSB was in 1975 set up as a body responsible to and reporting to the US Senate. Its five members are appointed by the US President and then approved by the Senate, so that some degree of political influence is maintained over the NTSB. The importance of political appointments on the personal level has been clearly demonstrated in connection with the selection and composition of judges to the US Supreme Court.

- The same power constellation applies to the US Chemical Safety and Hazard Investigation Board (CSB).

- In Sweden, regulations regarding The Swedish Board of Accident Investigation (SHK) require that the Director-General of the Board and one of the investigators shall have formal legal training and experience as judges.

- Most national public investigation commissions in the transport field are subordinated bodies under a Ministry, often Ministries of Transport or Justice.

The challenge is to provide the structural and functional conditions to enable an investigation body, team and process that are really independent, as measured on such important indicators of independence as organizational freedom, legal freedom, financial freedom, adequate resources and appropriate expertise, transparency, free publication, and follow-up actions.

Scope: By tradition, a single sectorial- or a case-based approach is still common in many countries. This has various consequences. The sectorial approach limits the accumulation of experience to only one sector in the society. Sometimes, the frequency of major accident in one sector in one country is too low to allow more general conclusions about causes or adequate measures. And the added safety contribution from analysis of only one accident is usually limited. The advantage of cross-sectorial – or even more, cross-national – comparison, knowledge exchange and learning is usually lacking. The single-case approach is often combined with the appointment of an *ad hoc* accident investigation commission by the public authorities. The composition

of the members in the commission is often biased in favour of individuals with a legal/judicial background, and the power to supervise the follow-up of recommendations as well as other continuity preferences is missing. The most serious defect, however, is the lack of institutionalized and systematic public safety investigation of accidents and near accidents in important societal sectors with high-risk activities, such as the health sector and certain consumer services.

Since the 1990s, a more holistic scope for the permanent accident investigation commissions – as all transport accidents or all kinds of national, large-scale accidents – has developed in Finland, Sweden, Norway, and the Netherlands. This model has many advantages, both in the analysis of single accidents and in safety studies and safety promotion, but implementation has remained limited to a few countries. The challenge is to demonstrate the broader safety benefits and improve the holistic process.

Methodology: Many investigations use only a very traditional method: insight and knowledge based on experience with operational practice. This has been widely used in sectorial approaches, such as air accident investigations and rail accident investigations. In a European survey of accident investigation carried out by the European Safety, Reliability and Data Association (ESReDA) a few years ago among several organizations, most respondents admitted that they did not use any standard methods at all. Those that did use a method had a simple approach: 11 organizations used different methods, but the use of only one method per organization was common (8 organizations used only one method). And yet, the scope of available basic methods is considerable: one overview lists 14 main categories of formal methods of major importance. In practice, there are even more: many companies have in addition developed there own methods. In order to reflect the complex chain of events and multi-factor causes involved and to handle problems arising during the investigation process, a range of methods should be employed.

In general, the situation in Europe today seems alarming: The absence of a multi-methodological approach or use of standardised methods weakens the analytical part of the investigation process. In addition, many investigators may lack the necessary expertise to use scientific methods in their work. The urgent challenge to public authorities and research institutes in Europe is to develop and implement harmonized, high-standard basic training courses for investigators. So far, elementary and very brief learning programmes in accident investigation have often been offered by private consultancy firms on a commercial basis, usually in one sector or type of activity.

The problem is not only the need for the more

scientifically based development of new, improved investigation methods. Even more crucially: throughout Europe, standard methods are not implemented, and there is a lack of relevant expertise and satisfactory application in formal investigations.

Safety studies: By tradition, each accident is investigated separately. This has been the prevailing pattern for many years, not least in investigating transport or industrial accidents or natural disasters. However, this focus on analyzing single accidents obviously has limitations when it comes to preventive improvements in systematic safety management: 'Severe accidents (…) are usually the result of an unusual combination of circumstances, and it is unlikely that this particular combination will recur. A second and equally important task is therefore to make a systematic and independent examination of the organizational, technical and individual circumstances around the accident.' This conclusion, based on scientific research, is seldom heeded by public safety investigation commission.

A few safety boards, among them the US NTSB, have devoted several man-years to studying, analyzing and drawing recommendations from accidents with some shared characteristics. But in everyday life, with scarce resources and time pressure, it seems that safety studies are rarely undertaken by accident investigation commissions. This is a paradox, since many accidents share some common factors, such as human and/or technological properties, and the learning effect of such studies could be highly beneficial. The safety-promotion consequences of conclusions from safety studies may be far greater than the preventive effect to be gained from the specific recommendations of the investigation of a single accident.

Implementing recommendations: Usually, each investigation report contains several recommendations based on fact-finding and in-depth analysis of undesired events, on a case-by-case basis. The aim of the recommendations is to strengthen the preventive approach – 'an accident like this should never happen again!' Such recommendations represent the distillation of knowledge acquired from the accident in question and a limited potential for safety learning – if implemented by all those involved. However, there are some weaknesses: usually, the safety board has no power to insist that proposed recommendations be implemented by the relevant players; the power is based partly on ethical influence, partly on supervision. Recommendations are usually put forward to a public authority that makes the evaluation and – perhaps – converts some of them into mandatory orders. (Private companies are of course free to implement any non-binding recommendations as well.)

Some investigation commissions, like the US NTSB, report a very high acceptance rate on their recommendations. During the period 1967–2007, the NTSB issued more than 12,600 safety recommendations. According to the Board, implementation was more than 82% with regard to the 11,000 safety recommendations issued between 1967 and 1998. It has also ranked the recommendations in a special list, the 'Most Wanted Transportation Safety Improvements'. The Board claims that all the positive actions following its recommendations '…have been the result of the NTSB's independence, professionalism, and thorough accident analysis, which are recognized for their objectivity and credibility'. Beyond doubt, the NTSB has for four decades played a central role as a model of modern accident investigation among public authorities in many countries, not least those of Europe. But the true risk reduction effect of the NTSB's investigations and recommendations may be questioned.

The paradox is that, despite such an admirable record, the number of accidents and lives lost and people injured in transport is still high in USA. And although many of the safety measures also have been adopted in European countries, the accident pattern is not satisfactory, especially not in road safety. The remarkable reduction of road traffic fatalities and injuries in European countries since the 1970s is probably not the direct consequence of implementing safety measures proposed by national or foreign investigation commissions (except perhaps in the case of Finland). Critical questions may therefore be raised about the functions of investigation commissions, the effectiveness of recommendations and the control of implementation.

Responsibility for victims: Victim care and family assistance is becoming an established citizens' right. As early as in the 19th century in the USA, Lorenzo Coffin advocated the interests of victims in the railway sector, followed by Ralph Nader in the automobile industry and Mary Schiavo in aviation in the mid-20th century. Since 1996, the US National Transportation Safety Board is charged with formal responsibility toward victims and families affected by disasters, aviation disasters in particular. The role of the NTSB can generally be described as '..a coordinator to integrate the resources of the Federal Government and other organizations to support the efforts of the local and state government and the airline to meet the needs of aviation disaster victims and their families. The NTSB assists in coordinating Federal resources to local authorities and the airlines..' The following services are especially mentioned: '..Family counselling, victim identification and forensic services, communicating with foreign governments, and translation services…' In Europe, victims of road accidents and maritime disasters have taken up the advocacy role, supported by growing acceptance of the Van Vollenhoven doctrine: '*Independent Investigation is a Citizen's Right and Society's Duty*' (Van Vollenhoven, 2003).

Accidents are not to be dismissed as an undesirable but unforeseeable by-product of the transport industry in terms of 'loss control'. They should be recognized as a national health problem, in which accidents are a special type of 'disease' or even epidemic that causes physical and mental trauma, disability and loss of life expectancy (De Kroes, 1994). Such an epidemic affects not only the transport victims themselves, but also their families and relatives, as well as the rescue and emergency workers, police officers and paramedics involved. Finally, the European Commission, as defined in its passenger rights declaration for air travellers, has recognized the interests of transport victims by incorporating their interests into the spectrum of consumer and passenger rights. Passengers have rights – not only before, but also during and after an accident.

With NTSB as an exception, such an approach seems to be lacking in the mandates for public safety investigation commissions. In consequence, important functions concerning the needs of victims and involved families are not satisfactory fulfilled in the critical phases after an accident. Such a deficiency may contribute to mistrust or lack of support to the investigation process and undermine the conclusions.

Conclusions and Proposals

Today the situation in the investigating community is very fragmented, and there is an urgent need for improvements. The six challenges noted here are examples of areas which must see comprehensive improvements in the coming years.

Some improvements could include:

Independence. The Public Safety Investigation Body should be set up permanently, independent of any public authorities; it should be impartial and objective with high degree of autonomy, and should be structurally, functionally and organizationally independent of public bodies, commercial interests and the interests of victims. The degree of independence should be as high as possible in combination with access to all necessary resources, in order to support accident research and to promote the necessary development of expertise.

Scope. A multi-modal or, even better, a holistic cross-sectorial national or international investigation body will benefit in many ways from a far broader approach than is common in many countries. Since the 1990s, the Nordic countries have some experience from extending the scope of their public safety commissions: two are national and cross-sectorial in scope (Finland, Sweden), one is an investigation commission in the transport field (Norway), and the fourth (Denmark) is bi-modal, covering air and rail accidents. Of course, investigation specialists with a high level of expertise in the relevant field of investigation should participate in the investigation team together with safety system generalists.

Methodology. Systematic use of scientifically based methods will structure the investigation process and enhance the identification of causes, the interpretation of findings and the validity of recommendations. Due to broader application in different modalities and domains, there is a growing need for harmonization of investigation methodology. A systematic, synchronized approach will also facilitate use of cross-sectorial knowledge and measures at the national level, and encourage international comparison.

Safety studies. As a necessary supplement to single case investigations, far more frequent and systematic use of safety studies will reveal system weaknesses and deficiencies and contribute to a greater degree of injury prevention and safety promotion. Necessary resources should be allocated to such studies, and benefits may also be gained from improved cooperation between national commissions.

Implementing recommendations. Despite the high rate of implementation reported by some safety boards, a well-structured system for closer follow-up of recommendations and control of implementation would in general contribute to reduce risk levels. Surveillance of the fate of recommendations should also cover the safety performance of public authorities.

Responsibility for victims. As the innocent part in accidents and disasters, victims deserve special attention, so that their needs, as well as those of victims, their relatives and all bereaved are fulfilled. In addition to the immediate emergency contribution, victim care and family assistance should be well planned, with attention also to mental and social needs and the long-term consequences. Responsibility for victim care and family assistance should not be left to specific support or self-help groups (like Disaster Action in the UK, and the European Federation of Road Traffic Victims), but either be integrated in the mandate of accident investigation bodies or be included in the responsibilities of public authorities.

Managing panic-stricken crowds: The need in quantitative models for social dynamics

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Panics typically occur during disaster or social crisis. Panics in crowds in public sites such as airports, hospitals, supermarkets, office buildings, air- or sea-liners, trains, stadiums, downtown areas, and the like often cause stampedes leading to injuries or deaths. Collective flight behavior in public sites reflects a collective perception of threat and the subsequent efforts to jointly escape from that threat. Collective flight behavior typically occurs in conjunction with disaster events, including those caused by intentional acts of violence (terrorist acts, football hooliganism, etc.) and disasters precipitated by natural or unintentional causes (e.g. earthquakes, major fires), as well as technological disasters (e.g. nuclear plant breakdowns, etc.). Since the terror events of September 11, those living in the Western world have demonstrated an increased level of anxiety as regards the risks, real or perceived, of catastrophic situations associated with collective flight, often referred to as "panic". The terrorist attacks on the Madrid commuter trains, as well as the attacks directed at London public transportation, are but some examples of such recent events that have rendered these risks more tangible in the public eye. While terrorist attacks represent perhaps the most dramatic and complex case from the point of view of crowd behavior in crisis situations, comparable situations arise more commonly in conjunction with, for example, major fires and also hooliganism around mass sports events. Here in Sweden, the discotheque fire in Göteborg 1998 resulted in the deaths of 63 young people and countless injured. As a result of these and other disaster events, the science of panic management has found important practical applications in the emergency services around the world (in Sweden, SEMA – the Swedish Emergency Management Agency).

Early approaches to panic and collective flight remained relatively vague in their ability to define the phenomena. Most of the formulations viewed panic as "collective flight based on a hysterical belief" (e.g., Smelser 1963, p. 131). Both of these phenomena – panic and collective flight--are presumably common and widespread in crisis situations. While it is still common for social science textbooks discussing panic and collective flight to characterize these phenomena as irrational, more recent empirical studies on mass behavior in disaster situations emphasize its rational aspect, also discussed in theoretical studies (e.g., Piotrowska et al., 2007). Such reactions, it is argued, represent an appropriate response to an experience of fear in a crisis situation, with fleeing from a disaster or a violent outbreak being often the most rational course of action (Quarantelli 1999; Scanlon 1992). Nevertheless, collective flight can result in serious injuries to, and deaths of, both participants and bystanders, often caused by suffocation and trampling. Many empirical observations point to collective flights distinguished with complete disregard for others – what is in the literature known as stampedes.

Researchers have isolated several conditions that must be simultaneously present for a panic situation to be triggered:

- The victim(s) perceives an immediate threat of entrapment in a confined space;

- Escape routes appear to be rapidly closing;

- Flight seems to be the only way to survive;

- No one is available to help (Auf der Heide 2004; Quarantelli 1989).

When designing and planning public sites or large events, one should make precautions to accommodate the eventuality of panic and mass flight, for instance, by determining the best way to lead people to a safe exit and prevent congestion (stampedes).

Given the fact that flight behavior in crowds can, and has, resulted in injuries and deaths, experimental approaches are not applicable. Theoretical approaches may be intuitive or non-intuitive. The specific feature of intuitive problem-solving approaches is that they do not presume reliable and coherent knowledge and skills in the multi-aspect field of the problem. Moreover, effective solutions are often non-intuitive. For instance, a tall column, approximately one foot in diameter, placed in front of the door exit at a precisely calculated distance, may speed up the evacuation of a large room by up to 30 %, as the obstacle divides the congestion well ahead of the choke point. Thus, we argue that there is a need to concentrate on non-intuitive, model-based approaches.

Prospective models, however, can differ greatly. A feasible model should allow for the following two aspects in its framework. First, evaluation of one or another model-based solution involves a number of quantifiable characteristics, such as the time required for an evacuation from the public site, the size of the site, the chance (or probability) for individuals to get injured,

and many other similar factors. Accordingly, any workable model must be able to take into account quantitative aspects of the crisis situation. Second, crowd behavior develops gradually and continuously in both space and time. For this reason, any workable model must not only be quantitative but also continuous in space and time. A wide set of quantitative space-time continuous models are available in mathematical physics. As is well known in the natural sciences, these models, if properly validated and calibrated, have pronounced predictive capabilities. This provides an extremely valuable advantage for developing predictive models.

The attractive features of mathematical-physics models explain attempts to use them in the analysis of living-system problems, including predictions related to panic stricken crowds (e.g., Helbing et al., 2000; Helbing 1995). These attempts have suggested many directions and specific instances of application of the models to living matter. However, the models discussed in them offer tools developed for nonliving matter as studied by physics and chemistry. Unsurprisingly, they do not take into account the well-known distinguishing features of living systems (see, e.g., Cannon 1932; Waddington 1957 and 1968; O'Neill et al., 1986; Margulis 1998; Hartwell et al., 1999). This shortcoming is inherent in all applications of mathematical physics models to living systems to date, in particular, in those described by Helbing et al. (2000; also Helbing 1995) that follow from a fundamentally mechanical analysis, i.e. statistical mechanics (e.g., Balescu 1997;). Simply translating the terms used in these models from physical to sociological language (as in "social force" used in Helbing, et al 2000) leaves unaffected the nonliving nature of the living system problems analyzed.

Regarding collective flight behavior and the risk of resulting stampedes, one can note the following practical problems:

- How can we better organize large public events at existing public sites in order to prevent injuries or deaths in the case of panic? In particular, how can we detect early precursors of panic when a public site is monitored by real-time equipment?

- How can we design new public sites that minimize the risk of injuries and death in a disaster scenario involving large public events at these sites? How can the preconditions for more or less orderly evacuations be "built into" public sites?

- What kind of methods or tools can be employed towards these purposes?

Existing research features a profound discrepancy between the capacity of predictive mathematical models and the realities of human behavior. Indeed, the only practical way of addressing these issues, we argue, is to apply common mathematical-physics models, which are quantitative, space-time continuous, and predictive. However, these models do not allow for utilization of living-system features as inputs, and without these no meaningful prediction of crowd behavior is possible. Consequently, the main research questions to be answered must focus on the following:

- How do individuals behave collectively in the event of life-threatening danger?

- Can one endow mathematical-physics models with social system relevant variables in such a way as to render them capable of predicting collective behavior in disaster situations?

- Do the resulting models admit a distinct and unambiguous socio-environmental interpretation of every term or parameter employed in them?

- Can these models be implemented in computer simulation software useful for engineers and scientists who are not specialists in sociology, environmental science, or mathematics?

As already noted, experiments on crowds in disaster situations are not possible. Thus, the validation of the models and software can only be based on evaluations by a number of independent experts. We must emphasize that the use of mathematical models in quantitative sociology is still in its infancy (cf. Bäckman and Edling 1999). In spite of that, there is a certain progress in specialized mathematical models which can combine advanced mathematical-physics treatments with the corresponding representations for the features distinguishing living from nonliving systems. The details can be found in such works as Bellomo and Lo Schiavo (1997); Lo shiavo (2002); Bellomo (et al., 2003); Willander (et al., 2004); Mamontov, (et al., 2006); Bellomo and Forni (2006), Mamontov (2007a). Very recent examples of quantitative approaches to living systems include Venuti (et al., 2007); Bellomo (2007); Mamontov (2007b); Piotrowska (et al., 2007).

Quantitative modelling and simulation for panic-stricken crowds is the only way to predict their behavior and to better organize public events or design public sites. This field needs much more attention from both the research and policy-maker communities. The overall benefit to public safety will be determined by the extent to what the related "pure" fields or sciences are able to provide a truly multidisciplinary and productive flow of efforts and results.

Natural Disaster and "Survival Community"

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The sociology of disasters has historically studied the ways individuals, groups and social structures react in case of disaster. Yet in 1961 Charles Fritz developed the concept of "therapeutic community". This concept refers to the new forms of organization and social roles that disaster situations can generate, and to the emergence of a new social order which, according to Fritz, arises to meet the new demands and needs created by the disaster. Following Fritz, Allen Barton, in his 1970s well known book *Communities in Disaster* defends and develops the emergence of this type of social reaction to disaster situations.

In this paper, I would like to debate this concept, of therapeutic community, and I will suggest, based on my study of the 1999's flood disaster in Venezuela (Revet, 2006), that the community that forms in the very first moment of the disaster – what I called *survival community* – may be analyzed in the terms of an emergent therapeutic community, but that doesn't transform the existing social order and that doesn't last after the end of the first moment of survival. I then suggest the necessity to introduce a factor of temporality in the study of the emergency stage.

The Vargas' flood and the ethnographic fieldwork

In the night of December 15th, 1999, powerful landslides beat down onto the Venezuela coast, destroying a large part of the State of Vargas' infrastructure and killing numerous people. Vargas State is an urban littoral area situated about 20km from the capital of Caracas. It is a socially mixed region where informal working class areas – made of shanty towns and *invasiones* – share the space with holiday resorts and middle and high class buildings. I conducted ethnographic fieldwork in various areas of the town of Macuto, between 2002 and 2005. I realized more than 50 interviews and collected most of the qualitative data used in the analysis of this disaster through living and "participant observation" in a popular district seriously hit by the 1999 flood, La Veguita.

In the stories produced after the event by the victims, the disaster appears to comprise three stages. The first stage is the **survival stage**. It is a quite short time (a few hours, a night, a maximum of a few days) and shows how individuals and groups face the natural event and organize themselves to survive. The second stage is the **rescue** one, when external actors such as firemen, army and Civil Protection intervene. This moment lasts, in the case of Vargas, a few days, it is a short stage too, whose central activity is the evacuation of people from the area. Finally, the third stage is a longer one, characterized by **assistance** provided by the government, military and the whole of the humanitarian sector, to survivors in the refuge centres. The analysis of the aftermath of the disaster deserves to be reconsidered in the context of these three stages. In this paper I will concentrate on the analysis of the survival phase.

The survival community

In Vargas, what we see in the first stage, the survival one, is the predominance of the family as the principal unit within which decisions are made. The most generalized reaction when the river begins to overflow is flight. Not a panic flight but an organized flight (Quarantelli, 1954), decided by a family leader -in the Venezuelan case this is marked by what Hurtado (1998) has called "matrifocality", i.e. the decision is made either by the mother or grand mother or one of her sons. The inhabitants of La Veguita went to the mountain or on the tops of the roofs. The moment of the flight becomes an occasion to enlarge the family group to a group of neighbors; at this moment we are generally still in the context of a primary group as defined by Fritz (face-to-face relations are predominant).

The leadership in those groups is quite rapidly taken by persons who find their legitimacy either in their knowledge of the environment, in their social function before the disaster, or in an authority or a charisma that reveals itself with the situation. Their capacity to take things in hand is reinforced by the behavior of those who are around and trust them. These leaders use "competencies" they had before the disaster – i.e. the capacity to mobilize background knowledge to respond to the actual situation.

After the flight, when the groups got to organize themselves to survive in the place where they arrived (either the mountain or a building roof...), we can also observe that pre-existent social roles are used. For example, many women report that they organized the way to feed the children. The gender roles are then strongly used as tools to restore normality.

What is striking in the stories of this first stage is that it seems the decisions are not discussed. There is no "dispute" about what shall be done. The disaster provokes at the same time both a physical chaos and a strong need of organization. The habitual leaders play fully their role of decision making, of organization, and action. Moreover, the family or the neighbors group, because they usually organize the closed arena are the

units that allow this fast organization. Thus, there are no "new forms" of organization that emerge in this precise moment like Fritz and Barton suggest, but the activation of usual forms of social organization.

However, a community forms in this first stage. It's what I called the "survival community". What happens in this very first moment is close to what has been observed in societies under extreme environmental conditions, which place survival questions at the centre of the relations between their members. These situations produce "a stronger moral consensus and a more integrated social system" (Nisbet, 1961 : 5).

This happens in the very first moment of the disaster, a moment when interdependency between the different members of the group prevails, giving rise to a form of internal relationship that we can call mutual aid to underline the internal character of this form of aid. It is a form of aid that isn't motivated by duty, nor morals or values like the others and later forms of aid like assistance, solidarity or charity. It arises from a vital necessity and relies on social and cultural rules in force within the group. At this moment, a form of ephemeral symbiosis exists : the survival of each one depends on the cohesion of the group. Each one needs the group to survive and the group needs each one in his role. The leaders manage, the women cook, the most vulnerable follow etc... There is a "whole" composed by the community forming in this moment of urgent necessity. I call this "survival community", since the situation that gives birth to this community is a situation when life is threatened, producing the moment when the reciprocity between the "whole" and the "self" is possible.

The situational and ephemeral aspects of the survival community

I would then suggest that it is the situational and ephemeral aspects of the survival community that mark the real difference with Fritz' "therapeutic community" concept. Actually, as soon as the rescue actors appear on the disaster scene, we can see the return of practices that underline the social differences between the victims. Once rescued, the members of the group that have taken refuge together start using their different social capitals again.

Some of them will be able to find a car that will bring them to the airport – used as refuge- while others will have to walk kilometers to get out of the disaster area. In the airport, some have access to the VIP salon because of their social network when the majority of the people have to remain in the crowded national airport saturated by refugees. These differences between the victims will of course appear also in the way some families will be able to find in few days -sometimes few hours- alternative accommodation, while others will have to spend months in the refuges organized by the government.

What is important to underline, is that as soon as the second stage -the rescue stage- begins, the social differences that characterized the victims before the event reappear, producing practices fixed in the ordinary organization of the Venezuelan society. The survival community does not remain in this context.

Conclusion

What I have called "survival community", to describe the form of organization and social relationships that take place during the first stage of the disaster, is therefore close to what Fritz and Barton refer as the "therapeutic community". However, it differs from it in the sense that I argue that there is no "new form" of organization, but activation of pre-existent social roles. Furthermore, by adding a temporality perspective in the analysis of the disaster, we see that this "therapeutic effect" does not last after the intervention of the rescue actors, pointing to the situational and ephemeral character of this community.

Does Gender Matter in the Recovery Process after a Big Disaster?

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Introduction

How could gender roles be changed in the societies that were exposed to a severe catastrophe? How would the new circumstances influence gender roles that determine the direction of the social relations? Which forms would adopt the gender hierarchy between men and women who had all been shaken by the disaster and suffered its consequences? These are the questions that will make the main lines of the paper.

Gender comes up rarely into the picture of the literature concerning the aftermath of the earthquakes in Turkey. There exist really few researches that treat the gender as an essential factor, if it is not completely neglected as a unit of analysis. This lack led us to Duzce, the province that has undergone two terrible successive experiences of earthquake, to try to discover roles related mostly

with the gender and gender hierarchy. Inhabitants of Duzce lived five or six years after the disaster just like an experience to create a new life. We will try to discuss how this process that deeply changed all of the aspects of the life, has been reflected onto the relations between the two sexes, the new dynamics linked to gender, and the forms concerning daily life.

Research method

The research was carried out in 2004 and 2005, springs and summers and we used quantitative and qualitative methods. The qualitative part consists of hundred and forty interviews,all made face to face of which thirty offered data on the gender roles and gender hierarchy. The data generation tool for the qualitative data was the depth interview, managed through a semi-structured guide form. Questions were determined before, but new ones were added according to the individual and situational characteristics. The topics in the form were grouped as follows: Earthquake experience and losses, new circumstances after the earthquake (new residence, new job, new neighbors etc.), relations in the family, position in the family, adaptation of the members to the new environment, what the interviewee did to reform his/her life, new roles, efforts, solutions, current problems categorized as essential, future expectations, hopes. The interviews included also the socialization process, especially as to education and marriage.

Duzce was chosen for multiple reasons: It was one of the provinces stricken by the earthquakes (August 17th, November 12th,1999) of Marmara. However, the 1999 Marmara Earthquake has been primarily identified with other cities like Gölcük and Yalova, rather than Duzce. So the latter would be the first one to be forgotten, where the repair works and rehabilitation remained weak and comparatively delayed; even after five or six years, the city still faces immense problems. Moreover Duzce is the unique western province of the country; put under the Investment Encouragement Act, with a notably high unemployment rate, resulting from the economical problems, and heavy losses of the disaster.

Sampling was taken of the city center and quarters of "permanent houses" and villages by using Purposive sampling technique. There are twenty quarters in the city center, of which we choose three; the most suffered ones (Azmimilli, Cami-i Kebir and Cay). Information collected from the heads of the neighborhoods was not consistent, so we determined household as the sampling unit. The Permanent Houses sample was chosen in four neighborhoods (Bahcelievler, Camlıevler, Demet Evler,Yesiltepe) by using geographical position as the criterion. As to the villages's sample (Aksu, Cay and Hacısuleymanbey), was selected from 51 collectively built houses.

Gender roles and Gender hierarchy during and after the earthquake

In the region, the normalization efforts and the social treatment do not create any positive results in the short run. It is necessary to consider that the envisaged solutions could be attained only in the long term, and that the projects need more time to be realized. A result is the necessity to take into account different dynamics like ecological, economical, political or related with the cultural background, all together. Besides, a migration pressure goes up after the disaster, as do also the needs and demands for new houses. It should be considered the cultural structure and the ethnic composition of the population concerned.

Traditional female functions, such as nursing, were observed to gain importance after the disaster. Women of Duzce became more active to earn money and to take initiative for making use of the social contributions; one would even say that these were women who undertook the subsistence responsibility of the family. Let us provide you two narrations one from a man, other from a woman:

We often saw that women were very oppressed, these days of disaster. Women took the burden. Why? Because the man was always outside the house. Then this was the duty of the woman to go one day to line up for assistance, the next day to look for a job or to await to give a petition, also to take care of the children, to regulate the life in the tent, to get hot meal etc. These were women who were very scared. These were girls and women who had psychological problems. (Man, Duzce, 46 years, administrator)

Now the girls, veiled or not, work outside of home… They go to textile factories… The families in which the dad or husband are unemployed, send the girls to the work. Because the construction sector is finished. There were brought workers from other places than Duzce to work in these 'permanent houses'. Men lost their jobs, my husband too. So we have been obliged to let daughter and daughter-in-law to work. (Woman, Duzce, 55 years, housewife)

The women work hard to regulate the life of their children, as to their education, health, adaptation to the new milieu and friends on the one hand, and to find solutions to their own problems. Poverty and other related problems were the most urgent ones under these worst economic conditions. Money needs were increased as the destroyed houses should be repaired, but revenues dropped off dramatically. Living standards reduced, consumer habits differentiated, sanitary problems appeared, women felt themselves hopeless in front of this new life with new burdens as transport or heating expenditures.

The obligatory struggle of women, after the earthquake, to look for solutions to the problems, led them to outside of their homes, to the public domain in order to join new activities. An interviewee had described this change as follows: "Walls collapsed, women went out." Women,

who used to wait the house before, were now working together with men, which meant the appearance of a new role division between the two sexes. We could easily observe and note that women were not at all less active than men, for example during a meeting of a civil organization, demonstrations and campaigns. They also worked actively in national or international civil organizations, participated in the charity activities of the municipalities, created informal groups of solidarity and tried to put pressure on the government policies concerning the recovery works after the earthquake. Here is a witness, a woman from Duzce:

We said, let us do something, we had to do something. We found a lawyer. One heard that there was an association too. We, all women, have met once a month, after the work. I did get up women. Once, one even organized a sitting demonstration. (54 years, small trader working at home)

The feminine traditional roles were transformed during these six years after the earthquake and women began forming collective organizations, as to get prepared for the month of Ramadan, to organize funerals, prayers for those who died, Hıdrellez festivities (celebration to greet spring), to help poor couples in their marriage, to rebuild ruined fountains, to submit petitions to the city hall, to collect money for the poor neighbors, to look for solutions to the common problems. The objective was to come together and spent time, sharing the problems and to look for solutions in an organized way. Hence, women adopted an active role that they never could before individually, and had a chance to make social resources accessible. They really existed in civil organizations, local administrations, and meetings outside their homes. Even women of Duzce, who had never before participated to such an activity, organized demonstrations.

The earthquake aggravated the problem of unemployment and poverty. Men, i.e. fathers, husbands or sons loosing their jobs or dying, led women to discover ways to earn money. A change in the value judgment concerning working women was also observed, as a man from Duzce commented:

Formerly I did not leave my daughter go out of the house. I thought, 'I never will have need of the money she would bring'. All changed. Since, we say: 'Oh, my daughter, look for work, a job.' The families that did not leave the girls beforehand began encouraging them to work. Other concerns are ended... a worker earns in textile 200, sometimes 180 or 200 million per month. They stand or sit on a chair all day long, until ten in the evening. (man, Duzce, 45 years, self-employed).

Women who did not work outside, looked for work at home. Some women participated in professional courses. Many civil organizations or women activists organized money-earning activities, workshops and courses that attracted women and helped them to get a minimum level of revenue.

Men also changed their role considerably. Not only the classical positions of husband and father, as person in charge of the household economy changed, but also men's social status in the house transformed. They experienced difficulties concerning bank credits, heavy debts, closing of the offices etc, after the sudden economic loss. A survivor talked us how was the obligation to begin from zero.

Household income lessened, solidarity nets not working at all as the losses were dramatic, men found themselves tired and hopeless. Most of them talked about the old hazelnut gardens. Some families, who did not loose any member, had a chance to reestablish a solidarity that facilitated the recovery, as to housing, finding jobs etc. The boys were involved actively in the responsibilities; in many cases the son was the only source of revenue to the family.

Women and men asserted the description above. Several men describe their position "as psychologically messed up". They expressed that they used to swallow sleeping pills or followed a psychiatric treatment since a long time, while replying to our question about professional support.

Men residing in Permanent Houses expressed their wish to go frequently to the city center and to see their friends. They feel bored and could not stay long time at home. As a whole, men described themselves in a psychological state of serious tension, which also influenced their families and resulted in increasing divorces or the case of wives left, or women bearing domestic violence. Psychological effects of the earthquake went on longtime, even still persist today, and data proves that men are the ones who mention them more.

The fall and economic stagnation in Duzce touched first the men:

Rich men were reduced to nothing in forty-five seconds. They used to go to Istanbul or Izmir for shopping. They were privileged. Then suddenly, this is the social collapse. We did not feel it the first years, thanks to the assistance coming from outside. But as help stopped coming... there was nothing to do, not a single job to work. So we lived the deprivation. Earlier all knew each other in İnönü Park, now I know absolutely no one. The economy must be improved. Support should be given to the region, to open factories. Because we feel the desire to live dissipating. (Man, Duzce, 50 years, engineer)

The tendency to rise of the domestic violence, the number of the children leaving their homes are some indirect results of the earthquakes, very linked to the change of the male social role.

Most people referred to the divorce boom:

After the earthquake divorces became frequent not only in Duzce, but also in other stricken places like Gölyaka or Kaynaslı, etc. Moreover these figures are the officially recorded ones. There is also widespread domestic violence. The best things a child deserves, are confidence and affection. They are fragmented here. (Man, Duzce, 45 years, general director)

Economic anguish damaged social relations in the family, and the fear and the worry undermined the closest relations of the individuals.

The State Statistical Institute (SSI – DİE) verifies our observations in Duzce for the years 2000, 2001 and 2002, the numbers of the divorced couples are 48, 264 and 371in the province for three years mentioned (DİE, 2000: 21; DİE, 2001: 21; DİE, 2002: 24).

The losses could be eliminated in a long process, during which some men could make use of the public credits, while others who were already in debt could not. The latter had to find their own solutions. People did not want to work in sites built by the government as they were situated quite far from the centers they used to work. This further increased material losses of men. In the villages men actively joined projects to cover up the damages, especially worked voluntarily and collectively in the construction of "Imece Evleri"(Collectively built houses) in villages of Aksu, Cay and Hacısuleymanbey. This is an example proper to the region, with a man from each family participating in work whether or not he knew anything about building a house. Construction of 51 houses was started by an international support, NGO's consultation and peasant participation. The project structured on building houses on the private plots of land belonging to the survivors. Emphasis should be given to the importance of such a participatory model in a country like Turkey, destined to earthquakes.

Such catastrophes change the whole social structure and necessitate a reconstruction, including new relations, neighbors, groups and persons. The interviewees used to mention by reflex "previous Duzce", "earlier Duzce" to underline the change. When the social environment that surrounding the household changes, how will the relationships inside the house be affected? Which will be the effects on men and women? Is it possible to keep the old models in daily life? There are changes in the lives of both men and women in the context of gender relations too, after a disaster. Firstly, men share more the housework:

This is me that do housework, but my husband gives me the support, he cleans the table, washes dishes. This is not like that before. Life is in common now. We work both of us. So we have to share also. (Woman, Duzce, 34 years, worker)

The cost of an earthquake is measurable. What are impossible to calculate and are really invisible, are disintegrating family ties, losing previous solidarity nets, isolation, loneliness, fears, in short the way individuals perceived the losses. The relations between the individuals who look to cope with such problems also change.

Secondly, victims complaining about their continuing discomforts and health disorders and the tensions in their closest relations. During the interviews, we witnessed some of them have been using drugs, whereas some others suffer from different illnesses, their relations were affected due to ongoing fears, tensions and worries .

Thirdly, loosing jobs and unemployment, adaptation to new jobs, limited accessibility to resources, families experience a transformation in their social status,changing way of life and standards and adaptation to new neighbors. This led to the transformation of the relations within household i.e., more authoritarian or freer relations according to the earthquake experience,or new lodging.

Conclusion

This article has an objective to discuss what are the effects on gender roles, the observed changes in the social and cultural structure, following a natural disaster.

How people care about the sensitivity or awareness regarding gender roles, after having been struck by a disaster? What would be the outcome if those who are rather used to evaluate anything from a standpoint symbolized by concepts such as "major problems", "solutions on a large scale", "serious approaches" etc., come to argue about gender issues? We think on the basis of the related literature and data we have collected, that such an approach will contribute to set the right objectives for the improvement programs, help to get the services to right people, with reasonable ways, contribute to state different needs, to save next generations from the problems following the earthquake, to control the social problems. Such a gender sensitive approach will also provide men and women services valuable in rebuilding their lives. The social and economic policies needed after a disaster will therefore be much more egalitarian. As a result, a gender sensitive approach will help to increase and develop alternative solutions that the whole society already needs.

Inter-organizational collaboration in response to crises

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Introduction

In this paper, the point of departure for the study of crisis management is organization studies. Often the participants in the management of crises are referred to as *actors*. Organizations are, however, a very special kind of actor. Organizations are deliberately designed social structures, created in order to perform certain tasks, and to attain certain goals. Work within organizations is built on roles, rules, routines and standard operating procedures. Therefore, to a certain extent organizations function as instruments or tools.

However, the tool-like and rational aspect of organizations should not be exaggerated. (But it should not be completely neglected, either.) Often, formal organizational goals are formulated in order to gain legitimacy rather than to guide action, and what is actually done is not what is written in policy documents; rules may be bent, and action may be guided by informal culture rather than formal standard operating procedures. Therefore, today, organizations are often viewed as non-rational entities by scholars, and, partly as a result of this non-rational view, structural aspects of organization are downplayed.

An alternative to this more structural view on organizations that has gained popularity in recent years is Karl Weick's *sensemaking* approach (Weick 1995): Sensemaking has to do with intersubjective creation of meaning, on the basis of organizational identity. It is a process-oriented approach; processes are just a flow of events, until organization members explain in retrospect what has happened, thereby rationalizing past and present actions. That is, a "label" is afterwards attached to a flow of events, thereby creating a "situation" which is, as it were, "talked into existence".

For Weick, then, sensemaking is a very important organizing principle, and it tends to occur when the current state of the world is perceived to be different from the expected. In other words, sensemaking becomes crucial when something extraordinary has happened. That is why sensemaking has become a popular concept in the analysis of crises. To the persons involved, a "crisis" is not a clear-cut and delimited entity while it occurs; at that time it is a rather chaotic flow of events, and sensemaking goes on all the time among the crisis management organizations.

However, sensemaking theory has little to say about the background factors that shape sensemaking (Mullen et al. 2006). Weick talks, somewhat vaguely, about *frameworks* from which "reasons" are pulled (Weick et al. 2005), but the content of these frameworks is expressed only in very general terms (e.g., institutional constraints, organizational premises, and traditions) and it is not theorized at all.

Here, I think, organizations ought to be put in the centre of the analysis, and a somewhat more structural view is needed. In this paper, some preliminary theoretical ideas are expressed regarding the background factors of inter-organizational interaction in response to crises. A general analytical framework, consisting in a typology of crisis management organization, is presented.

The analytical framework will probably work best in the analysis of crises of a type where sensemaking is highly problematic, i.e., in unusual situations, of which the local crisis managers have no previous experience.

Key concepts: manifest, latent and intermittent organizations

Organizational sensemaking is bounded by organizational affiliation. Therefore, inter-subjective sensemaking is intra-organizational; people in the same organization tend to make similar interpretations regarding "what is going on" in the outside world. However, effective responses to a disaster or a crisis can usually only be accomplished through a multi-organizational effort. Thus, the *absence of inter-organizational sensemaking* may be a major problem. Different organizations often have different interpretations of "what is going on". (This is a special instance of a more general phenomenon: interaction within organizations is more orderly and well-structured than interaction between organizations.)

However, different interpretations do not occur randomly. The aforementioned background factors may explain, at least partly, why different organizations make different interpretations of "the same situation" (e.g., a crisis or a disaster). The question is: how do we theorise these background factors?

The point of departure here is that all organizations have a *technical core*, a set of activities and technologies that is characteristic of the organization in question; the technical core is "the reason why the organization exists". For example, the technical core of universities consists of the provision of research and higher education; the technical core of Volvo is the production of cars. To a large extent the technical core influences

the identity of the organization, thereby also influencing its sensemaking activities.

A great variety of organizations may be involved in the management of a particular crisis. Among other things these organizations may differ between themselves regarding how "close" their respective technical cores are to crisis management. Here, I make a distinction between manifest, latent and intermittent crisis management organizations.

A *manifest* crisis management organization is created specifically in order to deal with crises. Its technical core, with its roles, rules, resources, standard operating procedures etc. has been designed to deal with crises. This means that to a manifest crisis management organization, a crisis is not necessarily an extraordinary event. Crisis management is part of the everyday life of the organization. The manifest organization deals with what others define as crises more or less routinely, and when there are no crises available to deal with, the manifest crisis management organization is busy practising and exercising in order to maintain or increase its capacity to deal with future crises. Examples of this kind of organization are the police, the fire brigade, emergency medical care, and the military, but also NGO's like Doctors without Borders/Médecins sans Frontières.

Intermittent crisis management organizations are dormant between crises, but are activated whenever a crisis occurs. This kind of organization may play a crucial role as leaders and coordinators of the crisis management efforts. In the western world such organizations often consists of elected politicians or high-ranking civil servants. For example, it is prescribed by Swedish law that each municipality in the country must have such a crisis management organization, consisting of politicians and civil servants, prepared to take over if a crisis occurs.

Intermittent crisis management organizations often rest on political legitimacy. If such an organization is absent it is sometimes difficult to replace it by the manifest crisis management organizations, because the latter cannot legitimately take over the political functions. For example, in the absence of a well-functioning civil government during an ice storm in Canada, the Canadian Military, instead of filling the void by taking charge itself, was very careful to visibly assist –and only assist – the civilian authorities, and not take over the disaster relief work (Scanlon 1998).

Latent crisis management organizations are not designed to deal with crises at all. They have other tasks than crisis management, and their respective technical cores are designed to perform those tasks. A latent crisis management organization may, however, be involved in crisis management when its specific capacities or skills are needed to deal with a particular crisis, e.g, to help old or disabled people, or to evacuate children.

Examples of latent crisis management organizations are schools, old-age care organizations, and psychiatric care organizations, but also construction companies.

Manifest, latent and intermittent crisis management organizations may be expected to vary systematically in their sensemaking of a crisis, because their respective technical cores vary regarding their "closeness" to crisis management.

This is the basic idea that is my point of departure for the analysis of inter-organizational collaboration in response to crises.

News & Resources

Louisiana State University (LSU) launches Stephenson Disaster Management Institute
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In the fall of 2007, the Stephenson Disaster Management Institute (SDMI) opened its doors at Louisiana State University (Baton Rouge, USA). In the wake of Hurricane Katrina, LSU sought to initiate a new research center exclusively focused on issues of disaster and crisis management. On February 23, 2007 LSU alumni Emmet and Toni Stephenson announced a $25 million gift to LSU as part of the "Forever LSU" campaign. The Stephensons committed approximately $11 million to the E. J. Ourso College of Business to create a world class organization in which engaged academic researchers, experienced disaster managers, and experts from the private sector collaborate to study disaster management problems, develop effective solutions to long-standing problems, and disseminate smart practices through executive education and outreach programs.

The SDMI will bring together a multidisciplinary group of academics who will engage in research that directly helps to improve the effectiveness of national and international disaster response operations. In the face of severe threats to the functioning of critical infrastructures and life-sustaining systems, the public counts on government officials (local, state and federal) to cooperate and work with the private and non-profit sectors to save lives and protect goods. This is no easy task. Disaster responders are faced with hard challenges, as they have to act under conditions of deep uncertainty and extreme urgency. Recent disasters such as Hurricanes Katrina and Rita, and the 9/11 attacks, have tested the management capacity of first response networks.

The mission of the Stephenson Disaster Management Institute is to help save the lives of people and animals by continuously improving disaster response management through research and education.

Despite the nation's long experience with disaster

events, our ability to meet the challenges of large, complex events remains tenuous. The nation has invested enormous resources in organizational reforms and new technologies to build a more effective disaster response. Yet responders continue to struggle with key management problems: how to implement coherent command and control procedures, how to coordinate and deploy resources, how to make life-or-death decisions, how to communicate with government agencies, private companies, NGOs and with the public. They struggle in part because disaster response is inherently a very hard problem, but also because some of the most persistent management challenges have not received sufficient attention from researchers.

The SDMI's mission becomes all the more urgent as the disasters of the future will create new and unforeseen challenges. The increased complexity of tightly coupled systems will lead to more cascading crises. The development of new technologies, the continuing threat of modern terrorism, and the changing climate will likely bring disasters of an entire new category. The SDMI will help develop insights and strategies that will enhance resilience and improvisation during such disasters.

The SDMI thus aims to help the nation to respond to future catastrophes. It will do this by:

- Producing high quality, applied research that draws from multiple disciplines.

- Explicitly adopting an all hazards orientation which is applicable to all disasters, whether accidental or willful, natural or man-made, foreseen or unexpected.

- Focusing on activities that affect the immediate safety of people, their companion animals, their livelihoods, and their property.

- Producing high-quality applied research that tackles hard, persistent problems with an eye on developing solutions that work in practice.

- Building partnerships between scholars, emergency preparedness and response practitioners, and corporations.

- Disseminating lessons through executive education programs and publications for business and government managers.

- Applying, enhancing, and coordinating the unique capabilities and experience of Louisiana State University. Examples of related capacity at LSU include hurricane research, disaster science, computation and technology, and counter-terrorism training.

The SDMI, located on the first floor of Patrick F. Taylor Hall, will be home to academics and practitioners with experience in public administration, crisis and disaster management and executive education. Dr. Arjen Boin is the Director of SDMI. Dr. Boin comes to LSU from Leiden University's Department of Public Administration in the Netherlands, where he was an Associate Professor and the director of the Leiden University Crisis Research Center and co-founder of the European Crisis Management Academy. He publishes on crisis management, institutional design and leadership. Dr. Boin regularly consults with public and private organizations on topics of crisis management and institutional design. Dr. Warren Eller is the Associate Director of SDMI. Dr. Eller was previously with the Bush School of Government and Public Service at Texas A&M University where he taught research methodology and currently serves as Managing Editor of the Policy Studies Journal.

For more information about the Stephenson Disaster Management Institute, please visit

www.bus.lsu.edu/sdmi

The D&SCRN Electronic Newsletter

This is the quarterly electronic newsletter of the Disaster & Social Crisis Research Network. The purpose of the D&SCRN is to promote the study, research and analysis of "natural", "technological" and "social" disasters with a view to contributing to the development of disaster resilient European communities, and preventing or mitigating the human, economic, social, cultural and psychological effects of crises and disasters.

The D&SCRN Electronic Newsletter is published four times a year (March, June, September and December). The previously published newsletters are downloadable at the network's new webpage

 www.erc.gr/english/d&scrn.

Announcements of conferences, book, film, and CD-ROM reviews, reportage on conferences, disaster diaries, brief articles on best or worst practices in disaster prevention and recovery, commentaries on disasters and crises, human interest stories relevant to disasters, etc. should be sent electronically to the editor, Eduardo Runte (dscrn.news@gmail.com) no later than the first of the month of publication. Contributions to the newsletter should preferably be written in a concise format (½-1 page long maximum) in order to make reading comprehensive albeit focused.

Relevant contributions from the field of disaster and crisis research, as well as from applied disaster and crisis management practice, are most welcome!

All "signed" texts express the opinions of the authors and not necessarily those of the editor or those of the D&SCRN.

Susann Ullberg, D&SCRN Coordinator

Eduardo Runte, E-Newsletter Editor