

The Survivability of Swedish Emergency Management Related Research Centers and Academic Programs: *A Preliminary Sociology of Science Analysis*¹

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Despite being a relatively safe nation, Sweden has four different universities supporting four emergency management research centers and an equal and growing number of academic programs. In this paper, I discuss how these centers and programs survive within the current organizational environment. The sociology of science or the sociology of scientific knowledge perspectives should provide a theoretical guide. Yet, scholars of these perspectives have produced no research on these related topics. Thus, the population ecology model and the notion of organizational niche provide my theoretical foundation. My data come from 26 interviews from those four institutions, the gathering of documents, and observations. I found that each institution has found its own niche with little or no competition – with one exception. Three of the universities do have an international focus. Yet, their foci have minimal overlap. Finally, I suggest that key aspects of Swedish culture, including safety, and a need aid to the poor, help explain the extensive funding these centers and programs receive to survive.

Key Words: disaster research centers, disaster academic programs, sociology of science, Sweden

Although a small nation of about slightly over nine million people, Sweden supports four research centers and at least an equal and growing number of academic degree programs related to the broad topic "emergency management." Under this rubric, I

1 I did this project during a nine-week 2012 Spring visit in Sweden. This trip was part of my semester sabbatical from Oklahoma State University. I would like to express my deepest thanks to my hosts and all of those who spent so much time with me during the interviews, and time outside of the interviews providing me with assistance. Unfortunately, due to human subject requirements, I cannot provide specific names – but you know who you are, and your help is deeply appreciated.

include such areas of study including disaster, hazard, crisis, risk, and "katastrof". In this paper, I do a Sociology of Science (SoS) analysis to describe and explain how so many centers and programs can exist. Ironically, since standard SoS approaches provide no guidance for this research question, I draw upon organizational theory to understand how these various centers and programs can survive in such a small organizational environment. Specifically, I use the concepts of population ecology and organizational niche to frame my descriptions and analysis.

Review

When I started this project, I had a simple question: Why does Sweden have so many research centers and academic programs related to "emergency management?" This question becomes more intriguing when considering how relatively safe it is from crisis, disaster, hazard and "katastrof" events. To begin answering this question, I started looking at the SoS and the Sociology of Scientific Knowledge (SSK) literatures. Of the two lines of literature, the SoS perspective, based upon Merton's (e.g., 1957) views of the field, should have provided me proper guidance. What I thought would be a simple search turned into a complex mess.

Although scholars can trace the roots of SoS to Manheim, Merton first really promoted studying the social dimensions of science (e.g., Merton 1957). Merton advocated that this line of research focus upon citation analysis, laboratory organizations and other topics on how people and organizations do science (also see Ben-David & Sullivan 1975). Yet, most of this research focused on the natural or hard sciences. Little research appeared on the social sciences and even sociology. Merton and others also used this perspective to promote a rigid positivist perspective of sociology.

By the early 1970's, a backlash to Merton's view of SoS emerged. While Merton drew upon Manheim's work to initial this line of thought, Manheim's actual perspective reflected the SSK view. The SSK view countered the SoS (and Merton's) ahistorical and atheoretical sociological perspectives with a more processual, multidiscipline, qualitative approach to these research issues (Kuklick 1983). Coser's (1975) presidential address to the American Sociological Association anticipated the growing chasm between the SoS and SSK perspectives. In short these differing views also grew to reflect the larger debate in sociology regarding approaches regarding how to do science (Collins 1983). In fact, the different camps have had rather contentious debates regarding which perspective provides the better insight to these sociological issues (e.g., Pickering 1993). In reading these literatures, I suggest that perhaps scholars have spent too much energy trying to destroy the other's views on science, and not enough effort trying to understand science from within their own perspective.

For my research question, the SoS literature should have provided the theoretical insights into issues related to the maintenance and survivability of research centers and academic programs. Yet, I could find no evidence of such studies. Furthermore, I found no SSK studies which dealt with these related topics. In short, these two competing literatures generally ignore how research centers and new academic programs

emerge, sustain, and survive. Ironically, to answer why scholars from either perspective have yet to make such an analysis would make an interesting study from either the SoS or SSK perspective.

Since neither the SoS nor SSK perspectives offered any theoretical or empirical guidance for this project, I searched for an alternative theoretical perspective to describe and perhaps explain how Swedish disaster-related research centers and academic programs exist in a small, safe country. I found that the concepts of organizational environment, population ecology, and organization niche provided a strong theoretical basis for my analysis. Almost 40 years ago, various scholars demonstrated the key role of organizational environments, how these environments impact organizations, and how the organizations attempt to manipulate the environment (e.g., Starbuck 1975; Aldrich & Pfeffer 1976). As part of this new way of describing organizations and explaining their activities, Hannan and Freeman (1977) suggested how organizations may form and survive based upon niches in those environments. This theoretical line of thought, known as the population ecology of organizations, has spurred an enormous amount of research. These types of questions and issues fit my more specific question on the maintenance or survivability of disaster related research centers and academic programs in Sweden.

As with any (mid-range) sociological theories, different or competing perspectives develop. Such is the case with the idea of organizational niche. As Hannan, Carroll and Polos (2003) summarize, two perspectives exist in regards to the organizational niche: the fundamental niche (e.g., Hannan & Freeman 1977) and the realized niche (e.g., Carrol 1985; McPherson 1983). The fundamental niche applies to situations where competition does not exist among organizations. The realized niche pertains to situations where competition does exist within the niche. Our analysis will in part focus on whether or not such competition exists within the general notion of disasters.

Conceptualizing the Emergency Management Niche

To conceptualize the academic niches in Sweden (or any nation) related to the broad term of emergency management, I use three categories: unit of analysis, disaster phases, and theoretical perspective (or theory). By combining these three categories, I can represent the general niche of emergency management research and academic programs. As a result, the efforts of research centers and the academic focus of their degree programs can be identified and placed within the appropriate niches. Thus, we can determine the specific niches that these centers and programs reside in.

For over 40 years disaster and hazard scholars have used the unit of analysis (along with disaster phases – see below) as a way to organize data regarding the study of hazards and disasters (e.g., Drabek, Mileti & Haas 1975; Drabek 1986). Typically, the units of analysis may include such levels as the individual, group, family, neighborhood, organization, community, region, state, national and international units. To keep matters simple for this initial project, I will collapse these units into three categories: small group (including individuals, small groups, and families), organizations

(including organizations, community) and nation (including large regions of a nation, or large regions consisting of various countries). I recognize that such categories are not perfect. However, for this initial study, they provide a simple way to focus on the unit of analysis.

Disaster scholars have used some form of disaster phases for decades (see Neal 1997). Researchers have suggested a wide array of disaster phases (or a "life cycle" of disaster) as a way to codify findings and study the disaster process. The National Governor's Association (NGA 1979) suggested the terms preparedness, response, recovery and mitigation as a way to deal with disasters. Since this time, both emergency management professionals and disaster researchers have generally settled upon these four phases as a means to order and classify data. Yet, as I (Neal 1997) observed a while back, this heuristic device come with key problems. The categories are not mutually exclusive, some phases have sub phases (e.g., recovery), or different groups or people may go through the (sub) phases in different times, In short, one must use these categories with caution for analytical purposes (Neal 1997). For this initial analysis, I will use a similar but more simple version of disaster phases: pre-impact, impact, and post-impact (Dynes 1970).

Scholars have already used forms of these two categories to codify what we know about the sociological research on disasters. For example, the efforts by Drabek, Mileti and Haas (1975:13) show that the individual was the most studied unit of analysis, and the initial response the most studied disaster phase. In addition, by combining the categories, research focused on individual response behavior more than any other category. Drabek's (1986) codification effort a decade later showed that organizations and to a slightly lesser extent individuals became the key units of analysis. Disaster scholars continued to favor response (including evacuation) behavior. These cells also show different emergency management topics that researchers could study. For example, both codification efforts show that recovery or post-impact analyses continue to be a neglected area of study.

In addition to the unit of analysis and disaster phase, the "theoretical orientation" also helps define a specific niche that research centers and academic programs can fill. Certainly, trying to define specifically these different orientations will not be solved in this paper. Many debates exist already on what is it that we study (e.g, Quarantelli 1998, Perry and Quarantelli 2005). As a starting point, however, I draw upon terms that many in the field have used to recognize different emergent management perspectives. Although those in the field have recognized these perspectives for years informally, recently Phillips, Neal and Webb (2012) formally described these emergency management related "traditions" used in the United States. They include "disaster" (which generally looks at preparedness and especially response issues), hazard (which generally focuses upon mitigation and preparedness issues) and risk or risk perception work (which has more of a social psychological component looking at primarily mitigation and preparedness issues).

During my data gathering in Sweden, I wanted to obtain a Swedish view of this topic, so I explicitly asked my respondents which perspective they took in their research.

Answers included crisis, risk, and disaster. Certainly, some overlap exists with the United States perspective. Some of the risk literature also pertains to issues related to pre-impact (or preparedness and mitigation efforts). Some in fact noted that the Swedish notion of risk research at times included some aspects of the American "hazard research" perspective. In addition, some responders noted (at times emphatically) that the word "disaster" does not fit for use in Sweden. Research or academic programs focusing on events outside of Sweden, or dealing with international humanitarian relief, explicitly had the English word "disaster" in its title. Nobody I interviewed used the idea of "katastrof" (which in Swedish refers to a large, major event, similar to the recent Japanese earthquake, tsunami and nuclear occasion). Since this paper focuses upon Sweden, I will use the Swedish perspectives to define the substantive niches.

For the sake of simplicity, I will attempt to minimize the number of possibilities to describe the overall emergency management niche. For example, I could use a maximum number of units of analysis to those all noted above. Rather, for simplicity I will collapse the categories generally to group, organization, and nation(s). For disaster phases, I draw upon the idea of pre-impact, impact and post-impact (Dynes 1970) while recognizing that these categories have the same conceptual difficulties as the "four phases" do. Furthermore, I use the categories of risk (including risk perception), crisis (which captures a broad range of events) and disaster (which focuses upon events outside of Sweden). Although possible, since no organization really focuses upon the notion of "katastrof" at this time, I will not include it as part of the analysis. However, such events are certainly part of a type of event that could be studied and part of a broader niche. Finally, the origins and use of these terms for Swedish research and academic programs are certainly worth further examination from a SoS perspective.

In short, by combining the ideas of unit of analysis (i.e., small group, organization, nation), time of the event (pre-impact, impact, post-impact) and theoretical approach (i.e., crisis, risk, disaster), an initial number of 27 general niches exist (i.e., $3*3*3$). As I discuss below (and indicated in the title), concepts of risk, crisis, and disaster all have different meanings and also reflect the research (and academic or degree program) perspective. Yet, when these terminologies are brought together, they do reflect some type of "event" that takes place.

Methodology

I obtained my data through interviews, the gathering of documents, and observations. I interviewed a total of 26 respondents and informants from four different institutions with disaster related research centers and academic degree programs. I drew upon the notion of snowball sampling and theoretical sampling for my interviews (Glaser & Strauss 1967). I interviewed at least two individuals associated with each program. Except for one case, I interviewed different members of the research centers and academic programs, including faculty members, graduate students and the staff. I used an open ended protocol focusing upon the origins and history of these centers and programs, their development, and their organizational characteristics (e.g., num-

ber of staff and faculty, types and number of projects or degrees granted, number of students) (Lofland et al. 2006). In addition, I also asked about their definition and use of their key term(s) for their centers and programs (i.e., risk, crisis, disaster, katastrof). I conducted all the interviews in English. All of those interviewed spoke English quite well. In addition, for a couple of those that I interviewed, English was their first language.

In addition to the interviews, I also gathered various documents related to the research centers and academic programs (Webb et al. 2000). Some of these documents I obtained onsite, whereas other types of documents I obtained via the internet (including their formal web site). In fact, all of the centers and related academic programs had relevant information about the origins of their activities, who is involved, and the foci of their research and academic programs. In addition to Swedish versions of the web sites, each institution had English versions that generally mirrored the information in Swedish. Of course, formal documents and websites provide a more "front stage" version of the organization. Face to face interviews and observations of those at these institutions provided further depth and details on the "backstage behavior", providing a more comprehensive look at the centers and programs. In addition, I obtained another insight into a research center's and even academic program's perspectives by looking at a faculty member's research projects and/or publications (basically all easily available on the internet) through the institution's web site.

Observations provide another form of data collection (Spradley 1980). I visited the location of three of the four centers/programs, and it was at these locations where I conducted almost all of my interviews. Thus, in addition to my interviews and documents, I took photographs and made notes of the layouts of the offices, locations of individuals' offices, and made note of various signs and symbols used to identify the center or academic program. Thus, I used a triangulated approach to collect data for this study (Denzin 1988; Jick 1983).

After each interview, I transcribed my written notes. I also made summaries of key points from the interviews. During my stay at the different locations, I also crafted other memos of observations and patterns. To assist my analysis, I drew upon the "C-Model," which is a standard approach to organize qualitative data (Phillips 2002). By using the C-Model, I wrote in depth case studies focusing upon the career (i.e., history), characteristics, conditions and consequences of each institution's research center and academic programs. These case studies and other documents allowed me to identify core analytical concepts (e.g., Lincoln & Guba 1985; Strauss 1987). From this process, I could identify how the different research and academic program niches emerged and formed the foundation of this paper.

Case Studies

Below, I provide a systemic set of information regarding specific disaster oriented research centers and academic degree programs at Lund University (LU), The Swedish National Defense College (SNDC), Mid Sweden University (MSU), and Uppsala

University (UU). I present the institutions in order of the having established first either a research center or academic degree program. This information then provides the basis for my analysis and discussion regarding organizational maintenance and survival. These case studies provide a general overview of the origins of these centers and programs, staffing, and of course their research and teaching foci. Let me add, that other individuals at other Swedish universities (e.g., Karlstad University, Umea University) engage in research and teach courses on these related topics. However, these activities are not part of a formal research center and academic degree programs which have a social/behavioral component. Individuals from these institutions do collaborate with the institutions noted above. Although these activities are important in supporting other efforts, and also show the commitment Sweden has to this general topic, their role at this point is beyond the scope of this paper.

Lund University – The formation of the Department of Fire Safety Engineering and Systems Safety (or "Fire Safety") Department circa 1987 provides the roots of a research center and new disaster programs. During the last 10–15 years, their own research started to show that fire and emergency response issues could not be solved through engineering solutions alone. Rather, they found that the human dimension, including behavior, decision making, and policy, also had a strong influence on fire safety. As a result, some of their research, publications, and dissertations integrated disaster research into their analyses. Key social/behavioral topics of these dissertations include organizational preparedness, networks and overall disaster response. Thus, their research agenda started to incorporate a "transdisciplinary" approach (i.e., in this case integrating sociology and social science perspectives from organizational and disaster studies) toward fire, emergency response and disaster issues.

The development of the Lund University Center for Risk Assessment and Management (LUCRAM) during the early 1990's served as a vehicle for those in fire engineering to draw upon the expertise of other researchers, including social scientists, for their research projects. First, although engineering issues are important in fire and safety, so are human and organizational factors. It took them a while to understand this dimension. As one faculty member noted during the interview, they discovered that there is "a social influence we don't understand." As a result, they are "(p)utting people inside engineering systems." Second, as a reflection of the recognition of these social issues, researchers started exploring social behavioral issues related to risk, crisis and specifically disasters (or emergency management issues). In regard to the focus of this study, today LUCRAM has research clusters, including one that focuses upon International Disaster Studies, and another on Emergency Response Research. Both of these research clusters also fit with the key academic programs emergency response in fire, and international disasters.

Within this context, the department requested that one of the graduates from their bachelor's and master's program design a new master's program explicitly on Disaster Management. The department in part invited this person to design the program due to his expertise in international disaster relief, which would be the focal point of this program. Originally, the University of Copenhagen was a partner on this project.

However, bureaucratic issues across borders have inhibited full Danish participation.

Technically, LUCRAM has no formal physical space at the university. As one faculty member described, "LUCRAM is a network of faculty from a broad spectrum of disciplines – these activities are coordinated from here." Yet, in another way, many of LUCRAM's members reside in Fire Safety department. In addition, although the Fire Safety program and its activities were clearly designated in the building, by comparison I saw no evidence or signs for LUCRAM. Yet, it is through this mechanism that major research projects and grants are coordinated.

In short, Lund University has LUCRAM as the hub of its emergency management research center. In addition, they have undergraduate, master's and a Ph.D. in fire safety engineering. Recently, they have added a new master's program on international disasters, and another master's program on risk management. They may also consider other related specialized master's programs.

Swedish National Defense College – The main purpose of the Swedish National Defense College (SNDC) is to prepare civilians and military members on a wide range of topics related to safety and security through both training and education. Its current configuration has existed since 1997. However, earlier forms of the college date back to the 19th Century. For decades, the military managed earlier versions of the institution. However, in 2008 authority over the SNDC moved from the Ministry of Defense to the Ministry of Education. As a result, SNDC can now offer college degrees to members of the military and civilians. Before this time, since SNDC was part of the military ministry, it did not have the authority to offer higher education academic degrees.

One branch of SNDC, Crismart, focuses specifically on a wide range of events called crises. The end of the Cold War and the changing political landscape helped lay the foundation for Crismart. The first iteration of Crismart formed in 1995. Its initial purpose, as one respondent described, was to focus on "how can we integrate Baltic countries, get them started with environmental issues, hazards, (and) democratization – to enhance democracy." Later, their focus turned to a wide variety of crises throughout Europe. Around the year 2000, they introduced the name Crismart to reflect the broadening arena of topics and geographical areas studied.

With a strong focus on political decision-making, Crismart primarily consists of political scientists, especially those with an International Relations perspective. In addition, many trained at Uppsala University (where strong ties exist today between the two institutions). Today, Crismart has about 25 researchers and staff members. Where it originally started out as primarily political scientists, today it integrates social scientists from other fields (e.g., anthropologists, sociologists). In addition to the more traditional Crismart methodology of developing case studies with a focus on decision-making, researchers today study crisis using different methodologies and without always drawing upon the decision making paradigm. Since 2000, Crismart has broadened its scope and perspective, while still maintaining its tradition of the case study, decision-making process as a key means of analysis. Crismart members have produced a prolific number of monographs and academic articles on a wide range of topics related to risks.

SNDC has its own large building in Stockholm. At the time of my interviews, Crismart was located along with two other centers on the fifth floor. It will soon be moving to the third floor of the building, in a more visible location. Yet, I found only two designations of Crismart's location (unlike other centers and offices in the building) throughout the whole building.

As noted above, until recently SNDC could not provide college degrees. Now, SNDC can offer a wide range of academic degrees, including those related to political science and crisis. Members of Crismart are involved with teaching many of these courses.

Mid Sweden University – The Risk and Crisis Research Center (RCR) and undergraduate degree program in risk reside both in the Division of Sociology (which in turn is part of the Department of Social Sciences). The roots of RCR developed in the early 2000s when two colleagues who had both recently completed their PhD obtained a major research grant related to risk. Funded through this research grant, the first RCR graduate research assistant later obtained a Ph.D. in sociology. Another faculty member joined the division around 2009 with a background in organizational analysis. This new member was a student colleague from undergraduate through graduate school with one of the founding members of RCR. The establishment of an earlier center with a focus on risk, and later the current RCR helped provide the foundation for Mid Sweden's degree undergraduate program in Risk. Initiated in 2009, this program just graduated its first set of about 30 students, many of whom have employment opportunities with local government.

The Mid Sweden research and academic program primarily focuses upon the day-to-day issues of risk (perception) and how organizations manage with every day crises. Put another way, much of their research looks at the day-to-day activities of risk and crisis rather than "disaster." As one RCR member notes, "There are a lot of everyday events to study. Accidents, fires, breaking legs, people disappear in the mountains. Then, someday (we will be ready to study) a bigger crisis." Thus, RCR takes advantage of Sweden's relatively disaster free environment to focus on everyday risk and emergency response.

Physically, RCR is located within the Department of Social Sciences – and more specifically among those in sociology who are active in risk and crisis research. A sign outside of the building where RCR is located, and another sign inside the building identifies RCR. Part of one hallway and most of another wing in the Social Science Department has generally a combination of most of the offices of sociology and RCR members generally (but not entirely) located together. In addition, at the end of the one wing of the building is a meeting room dedicated for RCR.

Today, about half (or six) of the faculty in sociology, five doctoral students from sociology, and about and 10 other faculty from other departments (although this latter number does change) belong to RCR. In addition, the first undergraduate student cohort of those specializing in risk management (n=30) just graduated. A strong interest continues in the undergraduate program.

In summary, the roots of RCR and the academic degree program grew out of pre

existing research interests on risk among some faculty (and later new graduate students) in sociology. Near the end of the last decade, an earlier center morphed in RCR (as the research interests broadened and the number of members grew), and the undergraduate degree focus admitted its first students. Today, RCR has a number of funded research projects. Their research and educational programs focus upon risk and crisis, especially during day-to-day types of events.

Uppsala University – In 2008, two related activities merged that led to the creation of the Center for Natural Disaster Science (CNDS). First, the Earth Sciences Department at Uppsala University and Central American universities initiated a collaboration project on disaster mitigation. Later in the year, the Swedish Government published a request for proposals for a combination of a research center and a graduate academic program under the category of "Security and Emergency management." Members of Uppsala University (e.g., Earth Sciences, Engineering, Social Sciences), along with members of Karlstad University and SNDC submitted a proposal. This group won this major award to fund twenty graduate students (primarily from Central America) over three years along with related activities and supplies. The Riksdag formally commissioned CNDS in November 2009.

However, soon after these events, a change in the Swedish government through elections resulted in an altered focus. The new Swedish government at the time decided to move away from political and foreign aid issues involving Central America. As a result, CNDS had to change its geographical focus, including the process of what would be studied and who would be admitted as graduate students. Just in the last year has CNDS formally started its academic program, and the research projects related to it. Now, instead of funded graduate students from one geographical area, students come primarily from Sweden. However, about 20 students have started their graduate studies. Although the formal number of faculty directly involved is unclear, members of Political Science, Engineering, and Earth Sciences appear to play key academic advising and research roles. The geographical area of interest appears to be Sweden or Europe (with a few exceptions). While mitigation continues as a key focus, research topics related to warning, and response have emerged. As a result of political changes, the nature of CNDS has changed dramatically from its original intent.

My respondents suggest that a key core to this program is through the political science department. This actually makes a lot of sense, because the academic program and partial thrust of the research agenda initially focused upon providing hazard and disaster assistance. Also, some respondents suggested that issues of "who is in charge" within CNDS have developed. Certainly, the dramatic change in focus due to the government's new priorities, coupled with the large amount of funding for this project would create some instability in forming and sustaining such a new program.

In short, due to various changes in Swedish foreign policy, both the academic and research foci have had to change during the center's brief existence. It still has an international disaster dimension, but not Latin America. In addition, it is now accepting both foreign and Swedish graduate students into their program. At the time of the interviews, both the academic program and research center were relatively new.

One could argue that at this time, these components were in a period of transition for "origins" to "maintenance." In short, as one respondent noted, the program is under a great deal of uncertainty, with a program review scheduled for 2014.

Discussion and Analysis

For the most part, as I show below, the research centers and academic programs have focused upon specific substantive areas, disaster phases and units of analysis in the research and academic environments. These different substantive foci and units of analysis represent the different research and academic niches these institutions fill. Below is a brief description of the different emergency management niches each institution focuses upon. As with the case studies, I present each institution in the order that the first emergency management related center or program formed.

Lund University – Through a combination of LUCRAM and the Fire Engineering academic undergraduate and graduate program(s), LU captures a wide range of emergency management substantive issues. The fire oriented research looks at topics related to engineering (outside the scope of this analysis) and organizational response related to fire, and the multiorganizational emergency response and organizational coordination efforts during a major event (i.e., disaster). The focus of these analyses is Sweden.

Academically they have various master's programs in risk (management) and fire engineering that have a local disaster management component to them. In addition, they have initiated a program on Disaster Management, which teaches issues like humanitarian and related disaster efforts in international settings, especially for developing nations. The internationally focused disaster program does have some similarity to SNDC and the Uppsala program. However, the Lund Program has a strong humanitarian (or response) component, unlike the other two academic programs

Swedish National Defense College – Through Crismart, research has focused upon a broad range of the notion of "crisis." Originally, the crises studied had a political bent, focusing upon political assassinations to political revolution and social upheaval following the demise of the Soviet Union. Although their initial analysis focused upon the Balkans, over the years they have expanded the type of countries under analysis. In addition, they have broadened their notion of crisis beyond politics, to issues related to ships sinking or nuclear events and what we would also normally call disasters or emergency management at the national level. Much of this research occurs with a strong International Relations intent. Although having an international component, unlike the two other institutions with an international focus, SNDC primarily looks at the political and social ramifications following the event.

Mid Sweden University – Primarily through the Sociology Division, RCR focuses upon two different emergency management themes – risk and crisis. The risk research focuses upon pre disaster activities, and generally, the individual or small group is the unit of analysis. The crisis component focuses upon pre event and emergency response organizational activities. Due to focus and opportunity, the crisis dimension of their

research looks at every day emergency activities rather than "disasters." Generally, their research and courses have a focus on Sweden. In short their research and academic courses have no overlap with other institutions' activities.

Uppsala University – CNDS has initiated a wide range of research projects for their graduate students covering a wide range of topics. Although mitigation is still a primary focus, issues related to warning and response regarding other natural hazards warrant research. A few of these projects (e.g., volcanoes, natural disasters leading to civil conflict) have broader international foci. Certainly, some overlap exists with SNDC, especially due to some aspects of collaboration. Although their organizational environment has changed dramatically the last four years, CNDS may have found its most appropriate niche for now.

Currently, Swedish research centers and academic programs have all found their own niche to survive. The universities' research centers and academic programs have focused upon a wide range of topics that fit under the broad rubric of "Emergency Management." These topics include risk, emergency, crisis, and international disaster(s). Furthermore, these centers and academic programs focus on different units of analysis and disaster phases. Thus, with many different substantive topics and units of analysis, the centers and academic programs have a wide range of possible niches to fill. As my descriptions above of the different institutions illustrate, this is exactly what has occurred. In fact, in the most general of terms, each university has developed its own "view" of the topic, which drives in many cases research agendas and the academic programs' perspective.

As already noted above, one substantive area and unit of analysis has overlap, that being international disaster topics. SNDC, Uppsala University and Lund University all have academic programs and research foci on this topic. Even in this case, their geographical areas specific substantive foci appear different. However, the international niche may have become a bit more crowded over the last year due to national politics, the Uppsala initiative had to change its geographical foci (no longer a primary focus on Latin America). And, as noted, Crismart and SNDC have strong overlapping connections. A large number of the SNDC members have their degrees from Uppsala. A couple of members who are part of Crismart serve on the board of SNDC. Some Uppsala faculty members teach at SNDC. This collaboration could serve to assist these programs, especially at Uppsala University as CNDS establishes itself.

The RCR and academic program at Mid Sweden University seem to have the most distinct niche. No other program appears to have the same or even similar foci.

In addition, based upon the wide "Emergency Management niche" that I defined for this analysis, additional substantive opportunities still exist for these or even other centers or programs to focus on. For example, no center or academic program appears to have as a key focus on post impact or recovery activities. Although CNDS originally had an international mitigation and sustainability perspective, their focus has changed. Thus, these niches appear open. In addition, other than some of the pure risk type studies done at Mid Sweden University, no other unit focuses on the individual or small group (including household or family level issues).

Although this study's focus is primarily descriptive, let me add that these centers and programs (or new ones) could fill these various niches. These opportunities may exist in part based upon funding opportunities and commitments by their respective institutions (e.g., supplementing grants, approving and helping to fund academic degree programs), by various components of the Swedish Government (probably the key factor), and other outside organizations (e.g., European Union).

Let me make a few final comments – comments that are not necessarily connected, but reflect some additional points from this initial study. First, the key respondents recognized the competitive nature of obtaining research funding and the importance of this funding for the survival of their research centers. Yet, no one discussed the different perspectives each university has and the little overlap among them. Furthermore, members of each university appear to have a high degree of respect for the others' work. Perhaps as these niches become more competitive (e.g., a higher degree for resources), and/or if government research or educational funding declines, I would hypothesize that collaborative research proposals and projects may occur among the research centers. Population ecology and organizational niche theory would suggest this type of behavior as one option for organizational maintenance and survival if resources diminish. Of course, we see a degree of this already with the link between Crismart and CNDS.

Second, I believe that geography plays some role of research foci. For example, RCR focuses on day-to-day emergencies. This makes sense because much of central and northern Sweden has few disasters. Rather day to day emergencies in low populated areas is a concern. Crismart's location in the nation's capital, and with some of its personnel moving back and forth between Crismart and the national government, gives the center a political and broader international focus. Lund's attempted collaboration with Copenhagen University and location so close to Denmark also punctuates an international disaster interest. This line of thought is worthy of additional research.

The ideas of organizational environment and niche do help explain how these different research centers and academic programs exist. Although beyond the scope of this paper for detailed analysis, the next logical question pertains to why the Swedish government and other related organizations provide such extensive funding that allows these centers and academic programs to co-exist. Let me provide some initial suggestions to lay the foundation for future exploration. Drawing upon my interviews and experiences, I believe that two components of Swedish culture may influence the funding to allow these centers and programs to exist. First, embedded within Swedish culture is a strong notion of safety – or the idea of lowering risk, whether at the national level (e.g., Rowe, Frewer, & Sjöberg 2000) or organizational (Ek et al. 2007) level. By studying risk, crisis and disaster, Sweden can maintain or even improve upon its relatively "disaster free" existence. Second, Swedish culture encourages a strong willingness to help those who are poor, not only in Sweden, but in international settings of conflict and humanitarian needs. Thus, the government and other sources provide enough funding that allow three of the four universities to focus on the internatio-

nal notion of crisis and humanitarian needs. When one looks at the different foci of these centers and programs, they do focus on a general sense of safety, and helping the poor, especially internationally through humanitarian relief efforts. At this point, these cultural factors are at best suggestive. Further research will focus on these cultural components and the role they play in funding the different research centers and academic programs.

Finally, I believe this project shows that population ecology and organizational niche provide insight into this sociology of knowledge issue. Such a perspective can help provide further guidance regarding the development and maintenance of a wide range of research centers among the social and natural sciences.

Summary and conclusion

Despite having a relatively small population of around 9.3 million residents and few disasters, Sweden has an active, thriving emergency management research community along with relatively new, emerging academic programs related to disasters. Thus, a key sociology of knowledge question pertains to why and how such a relatively small country with few disasters can support or sustain such a large number of research centers and academic programs.

Since the SoK literature provided no real guidance for my research question, I primarily drew upon organizational theory to describe and explain my research question. The emergency management niche is quite large, allowing the new research centers and academic programs to fill these many niches with little or no competition. Only along the lines of an international focus does some overlap exist. Yet, each institution appears to have a different international focus (e.g., international relations, humanitarian efforts, preparedness and response).

In addition to finding organizational niches within the organizational environment, two components of Swedish culture help sustain these academic centers. First, Sweden has a strong sense of safety – it permeates its culture. Thus, that the government and other entities within Sweden will fund a broad range of research related to safety should be of no surprise. Another component of Swedish culture, relates to Sweden's role in international relations and humanitarian assistance. Here both the Swedish Government and concerns outside of Sweden (e.g., European Union, United Nations) may have a stake in supporting these research and academic efforts. Three of the four institutions provide a college degree related to international disasters and have research related to this topic (e.g., LU, SNDC, UU). However, these activities by no means account for a majority of all of the Swedish institutions' work on disaster related topics. Yet, this is the area where potential competition could first arise if resources become scarce.

Finally, this is just the first step of addressing issues related to the emergence and maintenance of disaster related research centers and academic programs in Sweden. Further analyses will include conditions leading to the origins and development of these programs, how the emergence process impacts the maintenance and survivabili-

ty of these programs, how these programs may try to influence the organizational environment, the role of language in defining the research foci. Additional data gathering and research needs to be pursued to understand the role of external funding for emergence, maintenance, and survivability. After all, per population ecology theory, without resources, the research centers and academic programs probably could not exist for long.

References

- Aldrich, H. E. & J. Pfeffer (1976) "Environments of Organizations", *Annual Review of Sociology* 2:79–105.
- Ben-David, J. & T. A. Sullivan (1975) "Sociology of Science", *Annual Review of Sociology* 1:203–222.
- Carroll, G. R. (1985) "Concentration and specialization: Dynamics of niche width in populations of organizations", *American Journal of Sociology* 90:1262–83.
- Collins, H. M. (1983) "The sociology of scientific knowledge: Studies of contemporary science". *American Review of Sociology* 9:265–285.
- Coser, L. A. (1975) "Presidential address: Two methods in search of a substance", *American Sociological Review* 40:691–700.
- Drabek, T. E. (1986) *Human System Responses to Disaster: An Inventory of Sociological Findings*. New York: Springer Verlag.
- Dynes, R. F. (1970) *Organized Behavior in Disaster*. Lexington MA: Heath.
- Ek, Å., R. Akselsson, M. Arvidsson, & C. R. Johansson (2007) "Safety culture in Swedish air traffic control", *Safety Science* 45:791–811.
- Glaser, B. G. and A. L. Strauss (1967) *The Discovery of Grounded Theory*. Chicago: Aldine.
- Hannan, M. T. & J. Freeman (1977) "The population ecology of organizations", *American Journal of Sociology* 82:929–64.
- Hannan, M. T., G. R. Carroll, & L. Polos (2003) "The organizational niche", *Sociological Theory* 21:309–40.
- Jick, T. A. (1983) "Mixing qualitative and quantitative methods: Triangulation in action", in *Qualitative Methodology*, ed. J. Van Maanen, 135–148. Beverly Hills: Sage.
- Kuklick, H. (1983) "The sociology of knowledge: Retrospect and Prospect", *American Review of Sociology* 9:287–310.
- Lincoln, Y. S. & E. G. Guba (1985) *Naturalistic Inquiry*. Newbury Park, CA: Sage.
- Lofland, J., D. Snow, L. Anderson, & L. H. Lofland (2006) *Analyzing Social Settings*. Belmont, CA: Wadsworth.
- McPherson, J. M. (1983) "An ecology of affiliation", *American Sociology Review* 48:519–35.
- Merton, R. K. (1957) "Priorities in scientific discovery: A Chapter in the Sociology of Science", *American Sociological Review* 22:635–659.
- Mileti, D. S., T. E. Drabek, & J. E. Haas (1975) *Human Systems in Extreme*

- Environments: A Sociological Perspective*. Boulder: Institute of Behavioral Science – The University of Colorado.
- National Governors' Association (1979) *1978 Emergency Preparedness Project – Final Report*. Washington, D.C.: National Governors' Association.
- Neal, D.M. (1997). "Reconsidering the phases of disaster," *International Journal of Mass Emergencies and Disasters* 15:239–264.
- Perry, R. W. & E. L. Quarantelli (2005) *What is a Disaster? New Answers to Old Questions*. Xlibris.
- Phillips, B. D. (1997) "Qualitative disaster research", *International Journal of Mass Emergencies and Disasters* 15:179–195.
- Phillips, B. D., D. M. Neal, & G. Webb (2011). *Introduction to Emergency Management*. Boca Rotan: CRC Press.
- Pickering, A. (1993) "The mangle of practice: Agency and emergence in the sociology of science". *American Journal of Sociology* 99:559–589.
- Quarantelli, E. L., (ed.) (1998) *What is a Disaster? Perspectives on the Question*. New York:Routledge.
- Rowe, G., L. Frewer & L. Sjöberg (2000) "Newspaper reporting of hazards in the UK and Sweden." *Public Understanding of Science* 9:59–78.
- Spradley, J. P. (1980) *Participant observation*. Ft. Worth, TX: Harcourt, Brace, Jovanovich.
- Starbuck, W. H. (1976) "Organizations and their environments", in *Handbook of Industrial and Organizational Psychology*, ed. M. D. DunnetteJ. Van Maanen, 1069–1123. Chicago: Rand McNally.
- Strauss, A. L. (1987) *Qualitative Analysis for Social Scientists*. Cambridge: Cambridge University Press.
- Webb, E. J., D. T. Campbell, R. D. Schwartz, & L. Sechrest. (2000). *Unobtrusive Measures*. Revised ed. Thousand Oakes, CA: Sage Publications.