Societal risk and safety management
Policy diffusion, management structures and perspectives at the municipal level in Sweden

Anna Johansson
Societal risk and safety management

Policy diffusion, management structures and perspectives at the municipal level in Sweden

Anna Johansson
Societal risk and safety management - Policy diffusion, management structures and perspectives at the municipal level in Sweden

Anna Johansson

DISSERTATION

Karlstad University Studies  |  2013:23

urn:nbn:se:kau:diva-29870

ISSN 1403-8099


©The author

Distribution:
Karlstad University
Faculty of Health, Science and Technology
Department of Health Sciences
SE-651 88 Karlstad, Sweden
+46 54 700 10 00

Print: Universitetstryckeriet, Karlstad 2013
Preface

As a doctoral candidate, I have often been asked to explain my personal and academic background in order to provide a context to my research project. A relevant request since all research is highly dependent and framed by who we are as persons and our life experience. I will therefore share my PhD journey and its character building features in order to present a background to this thesis final outcome and to the extended timeline of this research project.

It all began in the year 2001 when I as a newly graduated double bachelor (B.Sc. in Political Science and B.A in Social and Economic Geography) was offered a position as assistant in a development project at Umeå University under professor Weissglas (Cultural geography). The main task for that project was to determine and suggest feasible content of a new type of ‘Master education in integrated Risk Management’. I guess that my two bachelor-theses (both concerning democracy and actors in the municipal spatial/societal planning process) had demonstrated my ability to manage the work. One of my project assignments was to interview prominent ‘Risk and Safety scholars’ in Sweden and Norway regarding their views on the need for, and direction of, the prospective master education. During this time, I was fortunate to meet with several researchers and public officials; among them my future supervisors, professor Andersson (Public Health, Occupational safety) and professor Svedung (Chemistry, Industrial safety) and several of my forthcoming colleagues at the Swedish Rescue Service Agency (SRSA). Andersson encouraged me to send in an application for a research position that was vacant at Karlstad University (KaU). I followed the advice and my application was accepted. In fall 2002 I started as a doctoral candidate in ‘Risk management’ at the division of Public health. ‘Risk management’ was at the time not a discipline for PhD-graduation. Thus, this thesis and the present report have been colored and influenced by the multi- and interdisciplinary research environment in which it has been performed. I have as a PhD-student participated in several advanced courses and research workshops; several of them with a multi-and interdisciplinary character. One of them (quantitative method and statistical analysis), were held by co-author professor Denk (Political Science, Statistics).

1 The SRSA was between the years 1986-2008 a Swedish national governmental authority under the ministry of defense, which worked with public safety, accident prevention and risk management, etc. From 2009 SRSA is an embedded part of the Swedish Civil Contingencies Agency (MSB): a national authority for societal safety that is responsible for matters concerning emergency prevention, planning, preparedness, response and recovery and civil defense.
My full-time work at the university (2002-2008) included both the design and implementation of the present research project, as well as teaching in the department’s different courses and programs (public health, qualitative methodology). I also participated in the development of the new master program called ‘Societal Risk Management’, where I held specific responsibility for the development of, and education in, a course in ‘Local risk and safety management’ (7,5 ECTS). Moreover, I was between the years 2003-2008 a member of the university’s ‘Committee on Research Ethics’, which included reviewing research applications from different disciplines within KaU.

Research is seldom the work of a lone wolf and this thesis empirical works (Article I-IV) have been performed in collaboration with my co-authors. I came up with the basic idea for the research design applied, performed the data collection and the analysis, and structured and wrote the main parts of the four articles and the present report. The co-authors contributed with theoretical, methodological and analytical ideas, quality assurance and verification of identified findings. They all helped in the analysis and in the writing-process by suggesting interpretations and changes on drafts of the four articles. I am grateful for their contribution. I am also grateful to my fellow doctoral candidates Mattias Strömgren and Stefan Backe for good cooperation in designing the municipal survey and writing the Swedish work-report.

My position as a PhD-student was originally financed by the SRSA financial ‘Environmental support for universities and research institutes’ provided directly to Karlstad University. However, due to the limited nature of most academic employment-contracts and due to the lack of funding for this research project per se, I was forced to seek another employment while writing the present thesis ‘framework report’. Moreover, in 2008, I was offered a position (that I could not refuse) at the SRSA ‘Research and development department’, as a manager for a development project concerning ‘Municipal risk management and safety-work’. Then in 2009 I became full-time employed as a ‘Risk Management Advisor’, at the Greater Stockholm Fire Brigade (GSFB). It is my belief that my positions ‘in the real-world’ (as an official at both SRSA and GSFB) have also given me a deeper contextual understanding and more profound knowledge about risk and safety management at different governmental levels; insights most valuable for writing the present report and bringing this project to a closure. However, my full-time employment outside of the university has naturally delayed the research project’s completion.
During my years as a PhD-student, I have received a lot of mental and practical support from family, friends, peers and co-workers. I will always be grateful for their care, the experiences we have commonly shared during this time and for the valuable professional and personal contacts that I have made throughout the years. I am thankful to you all and I believe that each one of you have contributed to make me a better researcher!

I would like to send thanks to former SRSA for original funding and to GSFB for support to finally completing this thesis and ‘finally get that title’!

I would also like to take the opportunity to give special thanks to some of you, which in different ways have provided me with that ‘little extra’ needed to carrying through and finalize this journey all the way. Thank you;

- Helena, for endless rehashing, constant bad map-reading and good companionship in both deep forests and big cities,
- Misse, for my first coffee with a PhD-student and always joyful lunches,
- Hanna, for endless sparring sessions and never-ending questioning,
- Anders, for confidence and believing in the importance of diversity,
- Anneli, for sisterly sharing wisdom and experiences,
- Magnus, for unending help with broken English and ‘optimization’.

There are, however, more important things in life than education and work and sometimes life doesn’t follow the plans you set up for it; no matter how good planning and manager. My abilities to finalize this thesis have also strongly been affected by the fact that I, in May 2010, after several years of struggling and tough medical treatments, became a proud mother to the loveliest, smartest and most precious girl! However, during the toughest times of this fight ‘to become a mother’, and the first years of my daughter’s life, my research project was on hold and my priorities laid elsewhere.

Finally, I would like to send warm thoughts to all members in my big and modern family and to those in it who sadly are no longer with us. And most importantly; all my love to you Magnus and Liv!

Anna Johansson,
Västerås 130814
Abstract

This compilation thesis investigates risk and safety management at the Swedish local governmental level. It sets special focus on municipal implementation of overall international and national strategies and objectives regarding holistic, cross-sectorial and multi-strategic risk and safety work, and the prevention of accidents and injuries. The overall aim for this thesis have been to empirically map and provide an overview of the administrative structures for, and the prevailing management perspectives applied in the societal risk and safety management in Sweden, as well as to study the diffusion of strategic intentions for this area down to the municipal level.

Three different data sources constitute the thesis empirical bases: two different sets of official governmental planning documents (n=50+40) written by Swedish municipal officials on commission of the local politicians, and survey-data from an investigation with municipal officials (n=1283) representing different administrative departments/functions within different municipalities (n=73). The official documents were investigated using content analysis methodology, while data from the survey were analyzed using various statistical investigations.

Article I aims to presents a descriptive review of what risks, related to health, safety and security issues, that were considered in a set Municipal comprehensive master plans (n=50); due to the Swedish Plan and Building Act. Article II aims to explore the existence of and present a descriptive review of cross-sectorial approaches and the application of a holistic view in the municipal management of risk and safety issues in Municipal action programs (n=40); due to the Swedish Civil Protection Act against accidents. Article III uses survey-data in order to frame the current directions for inner allocations of different risk and safety tasks at the Swedish local governmental level. Article IV uses survey-data in order to analyze the societal risk and safety management administrative structure at the Swedish local governmental level.

Article I showed that considerations of risks are viewed from a rather limited perspective; with an excess focus on disasters with low probabilities and in relation to industry and technology, while more frequently occurring events are more scarcely addressed. The plan documents also contain several ambitions to develop the consideration of risks and different types of multi-sectorial
collaborations. However, practical difficulties to do so are also outlined. Article II identified few indications (in the program documents) of a cross-sectorial and holistic risk and safety management approach in the municipalities. Instead risk and safety work is planned and executed in the administrative line organization and performed in relation to demands stated in different regulations. The documents do, however, contain several ambitions and goals to develop the program in a cross-sectorial, holistic and preventive direction, but indicates at the same time also practical difficulties and lack of routines to do so. There are also an outspoken need for better data, tools and work-processes to identify, analyze and describe the local risks and to evaluate measures and operations. Article III provides an empirically based typology for task-division of risk and safety issues in the municipalities in eight risk-areas. The constitution of the typology demonstrates a national uniformity for institutionalizing risk and safety issues on the local level. Article IV showed that different municipal work-domains are active in the management of a specific risk-area and which is line with what could be anticipated from that type of field-work. Some of the risk-areas seem to be handled to a rather low degree by all domains. The findings also indicate that the management of risk and safety has different types of value characters; a Material/technical, a Social/human and a Cross-sectorial.

In conclusion, this thesis provides through its empirical works (Article I-VI) an outlook on the general characteristics and archetypical features of the Swedish local level’s administrative structures and management perspective on risk and safety management; and proposes a municipal typology and a set of value characters for allocation and institutionalization of risk and safety-tasks. This thesis also suggests a conceptual framework for overviewing risk and safety management’s systemic steering elements in its framework report.

Based on the findings made in this thesis, it seems as if the local level’s compliance to the strategic level’s ambitions for the risk and safety area is hindered by practical implementation difficulties and that much work remains in order to reach stated strategic objectives regarding holistic, inter-sectorial and multi-strategic management approaches, and preventive risk and safety work.
Svensk sammanfattning

Denna sammanläggningsavhandling består av två sammanlänkade delar; föreliggande ramberättelse och fyra bilagda vetenskapliga artiklar (Artikel I-IV). Avhandlingen har en mång- och tvärvetenskaplig karaktär men är orierterad mot den samhällsvetenskapliga forskningstraditionen och den folkhälsovetenskapliga disciplinen.

Avhandlingen undersöker riskhantering och säkerhetsarbete i svensk offentlig förvaltning. Den sätter fokus på den kommunala implementeringen av övergripande internationella och nationella strategier och målsättningar avseende holistiskt, sektorövergripande och multistrategiskt risk- och säkerhetsarbete, samt förebyggande av olyckor och skador.

Det övergripande syftet för denna avhandling är att empiriskt kartlägga och tillhandahålla en översikt av organisationsstrukturen för, och det rådande hanteringsperspektivet i, den samhälleliga riskhanteringen och säkerhetsarbetet i Sverige, samt att studera spridningen av strategiska intentioner för detta område ner till den kommunala nivån.


Föreliggande rapport är traditionellt strukturerad. Det inledande kapitlet, Introduction (se sid. 1 ff.), ger läsarna en bakgrund till avhandlingens omfattning och tillämpad metodik, samt beskriver dess kontext. I kapitlet, Aim and objectives (se sid. 15 ff.), anges avhandlingens övergripande syfte och mål. I kapitlet, Theoretical approach (se sid. 16 ff.), presenteras en översikt av några av ”risk- och säkerhetsområdets” mest centrala begrepp och ett konceptuellt ramverk för det svenska offentliga styrsystemet för riskhantering och säkerhetsarbete introduceras. I kapitlet, Methodological approach (se sid. 28 ff.), beskrivs de metoder och de material som använts för att samla in och analysera avhandlingens empiriska data. I kapitlet, Results (se sid. 38 ff.), ges en översikt
över de empiriska artiklarnas (I-IV) viktigaste resultat. I kapitlet, Discussion (se sid. 44 ff.), presenteras en sammantagen bild av projektets övergripande slutsatser och de lärdomar som förvärvats i de empiriska arbetena (Artikel I-IV). Detta kapitel föreslår också en agenda för framtida forskning och granskar detta forskningsprojektets metodologiska ansats och etiska överväganden. I kapitlet, Conclusion (se sid. 57 ff.), beskrivs de viktigaste slutsatserna som kan dras från denna avhandling som helhet.

Avhandlingens empiriska grund utgörs av tre olika datakällor: två olika uppsättningar av officiella offentliga planeringsdokument (n=50+40) skrivna av svenska kommunala tjänstemän på uppdrag av de lokala politiker, samt enkätdata från en undersökning med kommunala tjänstemän (n=1283) som representerar olika administrativa avdelningar/funktioner inom olika kommuner (n=73). De officiella dokumenten undersöktes med hjälp av innehållsanalys medan enkätdata analyserades statistiskt.

Artikel I redogör för en deskriptiv granskning av vilka risker, relaterade till hälso-, säkerhets- och trygghetsfrågor, som beaktas i en uppsättning kommunala översiktsplaner (n=50) framtagna i enlighet med den svenska plan- och bygglagen. Artikel II presenterar en deskriptiv granskning av sektorsövergripande tillvägagångssätt och tillämpning av en helhetssyn i den kommunala hanteringen av risk- och säkerhetsfrågor i kommunala handlingsprogram (n = 40) framtagna i enlighet med den svenska lagen om skydd mot olyckor. Artikel III använder enkätdata i syfte att rekonstruera den svenska offentliga nivåns rådande inre fördelning av olika risk och säkerhetsarbetsuppgifter. Artikel IV använder enkätdata för att analysera den svenska lokal offentliga nivåns administrativa struktur för riskhantering och säkerhetsarbete.

Artikel I visar att riskövervägandet görs utifrån ett ganska begränsat perspektiv; med tydlig tonvikt på katastrofer med låga sannolikheter och relation till industri och teknik, medan mer frekvent förekommande händelser beaktas mer knapphändigt. Plandokumenten innehåller även flera ambitioner att utveckla bedömningen av risker och olika typer av multisektoriella samarbeten. Dock anges även praktiska svårigheter att göra detta.

Artikel II återfinner få indikationer på en sektorsövergripande risk- och säkerhetshantering och ett holistiskt synsätt i kommunerna. I stället planeras
och genomförs risk- och säkerhetsarbetet i den administrativa linjeorganisationen och utförs i förhållande till krav som anges i olika lagar. Dokumenten innehåller emellertid flera ambitioner och mål för att utveckla programmet i en sektorsövergripande, holistisk och förebyggande inriktning, men de anger samtidigt också praktiska svårigheter och brist på rutiner för att genomföra detta. Det finns också ett uttalat behov av bättre data, verktyg och arbetsprocesser för att identifiera, analysera och beskriva de lokala riskerna och utvärdera genomförda åtgärder och insatser.

Artikel III tillhandahåller en empiriskt baserad typologi, för fördelning av risk- och säkerhetsarbetsuppgifter i kommunerna, med åtta ”riskområden”. Konstitutionen av typologin visar på en nationell enhetlighet för att institutionalisera risk- och säkerhetsfrågor på lokal nivå.

Artikel IV visar att olika kommunala ”arbetsområden” är aktiva i förvaltningen av något eller några specifika ”riskområden” och då i linje med vad som kan förväntas från den typen av fältarbete. Några riskområden verkar hanteras i ganska låg omfattning av alla domäner. Resultaten visar också att förvaltningen av risk och säkerhet har olika typer av ”värdekaraktär”; en Materiel/teknisk, en Social/human och en Sektorsövergripande.

Sammanfattningsvis ger denna avhandling genom sina empiriska arbeten (Artikel I-VI) en överblick av den generella inriktningen för, och de arketyptiska egenskaperna hos, den svenska offentliga lokala förvaltningens organisatoriska struktur för, och perspektiv på, riskhantering och säkerhetsarbete. Vidare ger den ett förslag på kommunal typologi och en uppsättning värdekaraktärer för fördelning och institutionalisering av risk- och säkerhetsarbetsuppgifter.

Denna avhandling föreslår även ett konceptuellt ramverk för att överblicka styrelementen i det samhälleliga systemet för riskhantering och säkerhetsarbete. (Se sid 24 ff.)

Utifrån resultaten i denna avhandlings empiriska arbeten (Artikel I-VI), förefaller det som om den lokala nivåns efterlevnad av den strategiska nivåns ambitioner för risk- och säkerhetsområdet hindras av praktiska svårigheter i genomförandet och att mycket arbete återstår för att nå strategiska målsättningarna kring holistisk, sektorövergripande och multi-strategisk förvaltning samt förebyggande risk – och säkerhetsarbete.
List of appended publications

This compilation thesis is based on the findings presented in four empirical scientific articles. The articles will henceforth, in this report, be referred to by the following roman numerals (Article I-IV):


The published articles are, with permission from the respective copyright holder, reproduced in full-length in the appendices of this report.
# Table of content

Preface .................................................................................................................. I
Abstract .................................................................................................................. V
Svensk sammanfattning ....................................................................................... VII
List of appended publications .............................................................................. XI

## Introduction

- Background ........................................................................................................ 2
- Risk and safety research .................................................................................. 2
- Research context ............................................................................................... 7

## Scope of discussion

- Sources of inspiration to this research project ................................................. 11
- Framing the present research project ............................................................... 12

## Aim and objectives

- The specific aims of Articles I-IV .................................................................... 15

## Theoretical approach

- Central concepts in the risk and safety area ..................................................... 16
  - The concept of risk, safety, security, accident, injury and health .................. 17
  - The concept of ‘Societal Risk and Safety Management’ ................................. 21
  - A multi- and interdisciplinary concept ......................................................... 21
  - A conceptual and systemic ‘Onion-framework’ ............................................. 24

## Methodological approach

- The overall study design ................................................................................... 28
- Data collection and data sources ....................................................................... 30
  - Order of succession of the thesis empirical works ........................................ 31
  - Selection of the investigated municipalities ................................................. 31
  - The official planning documents ................................................................... 32
  - The municipal survey .................................................................................... 33
- Analysis procedures and measures ................................................................... 34
  - Content analysis methodology ..................................................................... 34
  - Statistical investigations ............................................................................... 37

## Results

- Summary of main findings from the official documents ................................. 38
  - Article I ........................................................................................................ 38
  - Article II ....................................................................................................... 39
- Summary of main findings from the municipal survey ...................................... 41
  - Article III ..................................................................................................... 41
  - Article IV ..................................................................................................... 41
- Summary of the thesis empirical works ............................................................ 43

## Discussion

- Reflection on the overall findings ................................................................. 44
- Reflection on further research needs ............................................................... 49
- Methodological considerations and potential limitations ............................... 51
  - Scrutiny of the research project as a whole ............................................... 52
  - Scrutiny of the document analyses ............................................................. 54
  - Scrutiny of the municipal survey analyses ................................................. 55

## Conclusion

- References ......................................................................................................... 58
List of figures

Figure 1 Schematic illustration of risk-factors vs. safety determinants ......................... 4
Figure 2 The ‘Bow tie-model’ and focus in the different time stages......................... 23
Figure 3 The Onion-framework’s five layers .................................................................. 26
Figure 4 Illustration over two contrasted ‘ideal-typical’ academic standpoints .......... 29
Figure 5 Overview of the thesis study design .......................................................... 29

List of tables

Table 1 Overview of the thesis study design .................................................................. 30
Table 2 Summary of the main findings in thesis empirical works.............................. 43
Introduction

This compilation thesis has a multi-and interdisciplinary focus and consists of two interconnected parts; the present framework report and four scientific articles (I-IV) in Appendices.

The thesis investigates risk and safety management at the Swedish local governmental level and sets special focus on implementation of overall international and national strategies and objectives regarding holistic, cross-sectorial and multi-strategic ‘risk and safety work’, and prevention of accidents and injuries.

This thesis is directed to the ‘Social Science’ research tradition and the ‘Public Health Science’ (PHS) discipline. However, since this research project has been funded by a state agency (SRSA-2), its officials are, together with other governmental officials and politicians, also judged to be the primary interest groups for this thesis’ findings (see Preface, p I). The present report covers the research project as a whole and provides the reader with a background to the empirical investigations undertaken in Article I-IV and a comprehensive view of the overall findings made in these works.

The present report is traditionally structured. The present Introduction provides readers with a background to the thesis scope and the methodological approach applied, and describes its contextual features. Aim and objectives (see p. 15 ff.) states the overall purpose for this thesis. Theoretical approach (see p. 16 ff.) presents an outline of some of the most central concepts in the ‘risk and safety area’ and introduces a conceptual framework for over-viewing the Swedish steering-system for societal risk and safety management and the underlying logical structure. Methodological approach (see p. 28 ff.) outlines the methods and materials used to collect and analyze the thesis empirical data. Results (see p. 38 ff.) presents an overview of the main results from the empirical articles (I-IV). Discussion (see p. 44 ff.) presents a comprehensive reflection of the overall findings made in this project and the lessons learned in the empirical works (Article I-IV). This chapter also proposes an agenda for future research and scrutinizes the methodological approaches applied and the ethical considerations made for this research project. Conclusion (see p. 57 ff.), outlines the major conclusions that can be drawn from this thesis as a whole.

2 The Swedish Rescue Service Agency became in 2009 the Civil Contingencies Agency (MSB).
Background

The accounts made in this background section aim to rationalize the relevance of and give incentives for the empirical works undertaken in the thesis articles (I-IV) and to provide a context for the present reports ending discussion (see p. 44 ff.). Hence, this section presents in two different parts a background to the scope of this research project and the direction of the empirical investigations undertaken. The first part, Risk and safety research (below), presents a general outlook on the academic starting points for this research project, with emphasis on the PHS-approach to ‘risk and safety research’. The second part, Research context (see p. 7 ff.), presents an overview over the thesis contextual features by providing basic information about the Swedish governmental system and policy trends in areas connected to risk and safety.

Risk and safety research

Research about risk and safety has been performed in different disciplines since the 1950’s (natural sciences, engineering social sciences, behavioral sciences, humanities and law, etc.). Thus, the scientific contributions relevant for this research project come from many disparate scientific fields. However, different scientific fields have over the years contributed with different disparate and disciplinary rationalities, orientations, underlying philosophies and reference frames, and thereby advanced the research area with different ontological, epistemological and methodological approaches (Sime, 1991; Renn, 1992; Green, 1997; Krimsky, 1992; Lupton, 1999; Tulloch & Lupton, 2003; Adams, 1995; Taylor-Gooby & Zinn, 2006). Thus, scientific knowledge about risk and safety management can be reviewed from many different perspectives, according to multiple scales of dimensions and perspectives.

Nevertheless, research in different disciplines have under the ‘risk and safety research banner’ continuously increased both our ‘technical understanding’ of the nature of risks and safety problems, and created an amplified awareness about their social, emotional and cultural character (Taylor-Gooby, 2002; Green, 1997; Renn, 1992). During the last decades, risk and safety researchers have become increasingly aware about the need to combine a variety of approaches in order to confront different ‘problems’ and the research performed has gradually become more multi- and interdisciplinary, and the scope broader and more ‘all-inclusive’ (Hale & Hovden, 1998; Taylor-Gooby, 2002 Rasmussen, 2003; McCarthy, 1996).
Hale and Hovden (1998) describes this transition as the 'three ages of safety'. According to them, safety management (both as a practice and research field) has moved from a rather strict ‘technical view’, to successively include also more 'human factors'. In the last and third (and present) era, organizational issues and the application of a ‘system approach’ becomes the center of attention. Renn (1998) does a similar observation while describing what he calls the 'three decades of risk research'.

The Public Health Science approach to risk and safety

This research project has (as pointed out earlier) mainly been performed within the scientific field of PHS. As a discipline, PHS has a multi- and interdisciplinary nature, and incorporates views, assumptions and standpoints from many scientific fields (Duhl & Sanchez, 1999). The forthcoming pages will therefore be devoted to outline some of the most fundamental standpoints and the overall rationality behind a ‘traditional’ PHS risk and safety research approach. The descriptions made (below) aim foremost to provide readers with a general understanding of the direction taken in this research project.

The epidemiological research tradition

Risk and safety research within the PHS-discipline has its origins and focus foremost within an epidemiological research tradition\(^3\) and on issues that might influence and threat human health and safety on a societal or group level (Haddon, 1968; Svanström & Haglund, 2000; Andersson, 2005). Accordingly, most research set focus on the proper measures to identify and map risks’ (principally injuries) etiological nature (i.e. their causes and progression).

Consequently, since different risks are in general thought of as statistically calculable facts, they are also considered to be predictable realities. Thus, a common PHS-notion is that all ‘risks’ can be prevented and that an accident/injury reduction could be reached through efforts that starts with recognizing which underlying factors that relate to a specific ‘problem’. Accordingly, the rationality behind most prevention efforts is based on the idea of success through increased administrative control and implementation of evidence-based preventive solutions (WHO, 1998; WHO Europe, 1998; Maurice et al., 2001; Tones & Green, 2004; Razzak et al., 2005; McClure et al., 2004; Petersen 1996; Petersen & Lupton, 1996; Petersen & Bunton, 1997).

\(^3\) However, it must be acknowledge that the application of more qualitative research approaches is increasing within PHS (Hallberg, 2002).
**Risk-factors and safety-determinants**

As Petersen & Lupton (1996, p. xii.) point out; “Epidemiological knowledge has played a key role in the construction of ‘truth’ about diseases, risk factors, and categories of ‘at risk’ subjects”. Thus, the general underlying PHS conception, of accidents and injuries, is to regard them as ‘events’ associated with an explicit set of ‘markers’. Thus, most research are epidemiological analysis based on surveillance information regarding *who, when, where and how* an accident or an injury has occurred (Green, 1999; Curtis et al., 2002; Carlsson-Gielen et al., 2006; Tones & Green, 2004; Alengrante et al., 2006; Andersson, 1999; Pless, 2008; Petersen & Lupton, 1996).

Consequently, most PHS-research set out to identify and develop knowledge about underlying so called risk-factors or safety-determinants, which can bring about a change - for the better or worse - on the public’s health and safety status (as schematically illustrated in **Figure 1**, below). In other words, investigate what acts as a protector/promoter of human health and safety and/or as an indirect or direct cause of diseases or injuries (Carlsson-Gielen & Sleet, 2006, Keleher & Murphy, 2004; Andersson, et al., 2006; WHO 1998; Galea et al., 2005; Ågren, 2002; Karlberg et al., 2002).

![Figure 1 Schematic illustration of risk-factors vs. safety determinants](image)

A specific condition (e.g. a health or safety problem) in the individual’s close surrounding/own body is considered as ‘internal/biological/psychological’ factor or determinant; while something that is established more peripheral, like for example legislation or societal structures, are instead considered as ‘external/environmental/social’ ones. A risk factor or safety determinant can also normally be regarded as 'influenceable' (e.g. lifestyle) or 'uninfluenceable' (e.g. age) (Carlsson-Gielen & Sleet, 2006; Krantz, 2002; Keleher & Murphy, 2004; Andersson, et al., 2006; WHO, 1998; WHO Europe, 1998).
**Socio-Ecological models**

Different kinds of ‘Socio-Ecological models’ (see for instance Hanson et al., 2005; Cohen et al., 2003; IOM, 2001) are commonly used in PHS-literature to illustrate how human health and safety is or can be affected at interrelated levels. These models tend to be ‘problem-oriented’ and move, in search of ‘issues’ that may affect a certain risk and suitable preventive (safety) measures for it at different levels; from a more medical (bodily) approach towards an inclusion of more external factors/determinants (Duhl & Sanchez, 1999; Galea et al., 2005; Tones & Green, 2004; WHO, 1998; Ekman et al., 1999).

Thus, these socio-ecological models usually depart from the human being and its immediate surroundings and/or a specific health or safety problem (Level 1); and move in an outward direction towards ‘societal environments’ (Level 5) Hanson et al., 2005; Cohen et al., 2003; IOM, 2001). These models often contain the following levels (1-5):

1. Individual (*personal knowledge, attitudes, skills, behavior, values*),
2. Intra/interpersonal (*family, social networks, workgroups, peers*),
3. Organizational (*organizational culture and structures, management styles*),
4. Community (*municipal structure, local coalitions, political leadership*) and
5. Societal (*population, state, policy, legislation*).

**Towards a broader approach**

The World Health Organization (WHO) has since the end of the last century pointed out the need to better understand and consider different structural factors and the effects of setting-oriented environments on health and safety. It also underscores that it is a societal responsibility for a nation to provide the public with ‘supportive environments’ and to consider the impact societal structures and processes have on its population’s health and safety (WHO, 1986; WHO, 1998; WHO Europe, 1998; Ågren, 2002). Accordingly, health and safety is regarded as something that is “defined at the policy level” (Duhl & Sanchez, 1999, p. 7) and as a ‘result’ of the way societies are organized and ran (McCarthy, 1996). Hence, it seems as an important mission to expand the traditional (epidemiological and problem-oriented) research approach and in a higher degree consider a ‘system approach’ and investigate the impact of strategic policies and legislative processes (as prevention measures) and the societal conditions for implementation of these acts and objectives (Andersson, 1999; Petersen, 1996; Duhl & Sanchez, 1999; Taylor et al., 2000).
Holistic, inter-sectorial and multi-strategic

WHO and different PHS-scholars (WHO, 1998; Svanström & Haglund, 2000; Pedersen & Bunton, 1997; Cohen et al., 2003), point out that preventive initiatives should, in order to be successful, be based on principals that (among other things);

- take a comprehensive approach to health and safety (be holistic),
- involve cooperation between groups and sectors (be inter-sectorial), and
- be based on a combination of management approaches (be multi-strategic).

The notion of the need of a holistic, inter-sectorial and multi-strategic risk and safety management is based on the belief that work-processes (and their outcomes) would improve if different actors (their competences, resources and perspectives) are systematically brought together to jointly identify and describe ‘the problem’, its origins/ causes and later work out integrated solutions and develop suitable management strategies (Sime, 1991; Andersson, 1999; Cohen et al., 2003; Dooris, 2004; WHO, 1998; WHO Europe, 1998; Petersen, 1997).

Nilsen (2006, p. 31), among others, highlights that the use of inter-sectorial collaborations for injury prevention has been rationalized by a general belief that “[…] a great deal of that which has a direct impact on health and safety is outside the realm of the health sector”.

Moreover, WHO stakes out that a management approach based on a single perspective might create measures that could worsen another problem, while improving the first. Thus, it is argued necessary to consider “[…] all aspects of safety rather than only one problem at a time” (WHO, 1998, p. 4). Hence, many ‘risk and safety scholars’ argues like Seiler (1996, p. 416); “[…] safety issues cannot be considered by taking into account only isolated elements; a coherent view of safety questions must be developed”.

However, Petersen (1996, p. 163) argues that there is also a need for critical “[…] analysis of the ways in which power operates by making some courses of action seem more ‘natural’ or logical than others”, because as Lupton (1999, p. 30) points out, actors in different contexts might have different perspectives and “thus bring competing logics to bear upon risk.”
Research context

This section (below) intends to provide the reader with a brief background to the present research project’s overall contextual features. Since the thesis empirical works (Article I-IV) are limited to considering risk and safety management at the Swedish local governmental; emphasis is primarily put on describing the municipal setting and present an overview of the Swedish public policy trends in the risk and safety area.

The Swedish governmental system

The Swedish governmental system is politically and administratively organized on three levels: national, regional and local. It is characterized by far-reaching decentralization of public responsibilities, from the central to the local level. The tradition of strong local governments is a cornerstone in the Swedish democracy (SALAR, 2013; SOU 2007:11; Ds 2004:31).

The state level is run by a prime minister, his/her cabinet and one legislative house (349 members in one chamber) and by different state boards and agencies (like for instance the Swedish Civil Contingencies Agency). This level is strategic and develops national policies and laws, etc. An important mission for this level is to direct and control the regional and local level through legislation, prescriptive regulations, subsidies and supervision, and to facilitate and support a local development in line with the overall national political objectives. The regional level has a more operational focus on execution of tasks common within the regions (n=21). This level is divided into two separate authorities: the ‘County councils/regions’ and ‘County boards’. The County councils/regions are responsible for providing the region with for instance health and medical care, while the County boards represents the national level in the region and acts like the states supervisory authority of the overall local development. The local level is run by self-governing Municipalities (n=290). A municipality is a territorially defined area and one legal entity, which is run by a group of popularly elected politicians through a set of locally adjusted political boards and different administrative and executive departments/functions

4 The population size of a Swedish municipality varies from about 2 500 citizens to about 900 000. The median municipal population is about 15 000 persons and the average is about 30 000 persons. The area size of a municipality also differs and the largest ones usually hold the lowest number of inhabitants (See www.scb.se for the latest statistics).
The self-governing municipalities

According to the ‘Local Government Act’ (Ds 2004:31) a municipality has a considerable degree of autonomy, several executive powers and to some extent they also act as a statutory authority. The major reason for decentralization of responsibilities has been the following principles;

- the local administration could best meet local needs,
- public decision shall be made in close relation to those concerned, and
- with consideration to present local conditions.

In agreement with this tradition, over time more and more of the execution of governmental tasks and implementation of strategic assignments have been transformed to the local level. The Swedish municipalities have a great deal of freedom to organize their activities and distribute their resources as they see fit. Thus, a municipality is free to decide about its own organizational and administrative structure, as long as national objectives are met (SALAR, 2013; SOU 2007:11; Ds 2004:31).

A Swedish municipality answers for a broad spectrum of public services that impacts on the inhabitants’ daily life and the municipal responsibility area is both wide-ranging and multifaceted. A municipality has many different roles in the government system; an employer, a service provider, a regulatory and supervising authority, and a director of the local development. A municipality is, for instance, primarily responsible for issues concerning the provision of child day care, schools, social services, environmental health protection, fresh water, sewage and waste management, spatial planning, emergency aid and crisis preparedness.

Thus, a municipality is directly and/or indirectly responsible for a significant proportion and a broad range of risk and safety issues (SALAR, 2013; Strömgren & Andersson, 2010; Petersen & Tehler, 2010; Andersson, 1995; Nimèus, 2003; Galea et al., 2005; SOU 2007:11). Some municipal services, tasks and activities are mandatory and performed in accordance with different kind of demands in national laws and regulations. Others are performed on voluntary basis according to decisions made by the local politicians (SALAR, 2013; SOU 2007:11; Ds 2004:31).
Swedish national policies and laws for public health and safety

Sweden is internationally known for its welfare system and its relatively well-being population. The Swedish public health and safety status is, from an international perspective, considered as overall good. However, as in all comparable countries, accidents and injuries constitutes as a major public health problem also in Sweden (Proposition 2007/08:110; Ågren, 2002; MSB, 2012).

The Swedish public management of different kinds of risks is a progressive policy area, whose governance strategy has shifted in the last decades; from several narrow policies strictly directed to a specific area, towards a more comprehensive approach and a wide-ranging consideration of different kind of ‘safety problems’. In line with this change the Swedish Parliament has adopted several political policies and laws related to public health and safety. The general ambition is that they (the new laws/policies) should act like guidelines for, and be incorporated into, all public decision-making and be an intrinsic part of all public authorities’ activities. Accordingly, the municipalities shall transform national strategies and objectives - considering the local circumstances - into locally adjusted plans for how these demands will be met (set local goals, suggest and implement locally adapted interventions, etc.).

National policy for public health

One example of this ‘policy change’ (described in the section above) is the development of Sweden’s first comprehensive National policy for public health (Proposition 2007/2008:110). This policy was brought on in order to create national conditions that would ensure ‘good health for all’ and as a measure to ‘reduce inequalities’ between different groups. Instead of adopting a traditional focus on ‘risk-factors’ (see p. 4 ff.), this policy mainly addresses different kind of health and safety determinants (Hogstedt et al., 2008).

The public health policy considers a range of determinants; from societal conditions to lifestyles (one of them is the creation of: Healthy and safe environments and products). The overall mission for this policy is to:

- strengthen the governmental preventive initiatives and
- make consideration of health and safety consequences an important part in all public decision-making.
Civil protection act against accidents

The Swedish Parliament has also adopted a law in favor of public safety and preventive measures, called the Civil Protection Act against accidents (CPA) (SFS 2003:778). One of the overall objectives with the CPA is to create an equivalent protection against accidents.

Like many other modern regulations, the CPA focuses on the creation of incentives for enabling the good life and the law accounts for the overall effects desired (national goals), which all Swedish authorities are obliged to transform into executive measures locally. The political ambition with CPA (Proposition 2002/03:119) was clearly stated; the number of accidents shall decrease, less people should be killed or injured, and less property and environments should be destroyed.

The CPA replaced the ‘Rescue and Fire Service law’ (SFS 1986:1102). However, the adoption of CPA (SFS 2003:778) and its legislative history (Proposition. 2002/03:119) implies an increased weight towards;

- consideration of local conditions,
- preventive work (also against other accidents than fires), and
- local management by national objectives.

The adoption of CPA also emphasizes a broader consideration of ‘risks and safety issues’ and the application of a cross-sectorial work approach as an overall mean to decrease the occurrence of accidents and the injuries/damages they cause (GOOS, 2013; Proposition 2002/03:119; SFS 2003:778; Johansson-Hidén, 2004; Johansson-Hidén & Wreder, 2008; Rosenberg, 1998; Rosenberg, 2004).

Plan and Building Act

Yet another (rather early) example of a national law in this ‘policy change’ direction (outlined above) is the adoption of the Plan and Building Act (SFS 1987:10), which states that the municipalities are obliged to provide a general plan document for all physical environments (built and natural) in the municipality, in which the municipality is obliged to take various risks that could endanger citizens’ health and safety under consideration. A new version of the act (SFS 2010:900) was launched in 2010. The claim for consideration of risks still stands.
Scope of discussion

The section below attempts to account for previous research which have been central for the direction of this research project, as well as to highlight identified knowledge gaps and to stress the need to investigate Swedish municipal risk and safety management from a ‘governance system approach’ further. The section ends with the four research questions that have been investigated in Article I-IV.

Sources of inspiration to this research project

Most prior research about risk and safety management tends to originate from a single risk (normally safety problems in high hazard processes) in a corporate/industrial risk management context (Covello & Mumpower, 1985; Hale & Hovden, 1998; Rasmussen, 1997; Rasmussen & Svedung, 2000). Hence, the lessons learned in these contexts are seldom directly transferable to the multifaceted practices that constitute municipal risk and safety management (Harrami et al., 2009; Räddningsverket, 2008). Thus, the main challenges for this research project have been the lack of prior research both with a more ‘system-oriented approach’ and within a public management context (as a local all-inclusive and multi-dimensional societal practice), and to determine what lessons to include from the mass of research contributions about risk and safety that proceed from a more ‘problem-oriented approach’ (see p. 3 ff.)5.

Nevertheless, the empirical work about risk and safety management in the municipal context made by Nilsen (2007) focusing on local governmental risk management and the usage of different tools; and by Bergström (2006) focusing on actors’ interests, roles and influences in local planning processes, have both inspired the direction and design of this research project. This research project has also gained a lot of theoretical inspiration by the work made by for instance; Hale and Hovden (1998) focusing on the safety management evolution over time; Rasmussen (1997), outlines about a socio-technical system approach; Olsen et al. (2007) attempting to define the ‘societal safety concept’ and by van Asselt and Renn (2011) outlines of the necessity of a risk governance approach.

See more about previous risk and safety research in the outlines made in the Theoretical approach chapter at p. 16 ff.

---

5 It must be acknowledge that the WHO ‘Safe Community-concept’ is rather well explored, but these investigations tend to proceed from a ‘problem-oriented approach’ i.e. a specific health issue, ‘injury domain’ and/or the subsequent eventual decline in injury rates, etc.
Framing the present research project

As previously illustrated (see p. 1 ff.), the Swedish municipalities have increasingly faced the challenge to integrate the national government’s increasing demands and ambitions in the ‘risk and safety-area’ within their delivery of public services. However, since few frameworks are adapted to ‘the Swedish governance model’ (Uhnoo, 2012) and as research about societal risk and safety management is an area in its infancy; there seems to be a general lack of information about how these policies and strategies are implemented and what impact they have in the ‘governance system’ (Van Asselt & Renn, 2011).

It seems, however, reasonable to assume that the local implementation of strategies, regarding holistic, inter-sectorial and multi-strategic work-processes and preventive approaches, will have some kind of (and probably diverse) impact on the way risk and safety issues are handled in the self-governing municipalities (Bergström, 2006). However, as Kleven (1996, p. 131) points out “[…] the crucial matter is not the formal attributes of the planning system, but how the system is actually used, i.e. the relationship between theory and practice. It is not necessarily so that the norms of planning are well reflected in the planning practice”.

Nevertheless, prior research about local policy implementation of national objectives indicates a general “gap between planning norms and realities” (Kleven, 1996). Kleven (1996) also states that the contents in municipal plans and intentions in national laws (regarding comprehensiveness, integration and coordination, etc.) seldom corresponds with the actual local practice and he points out that ideals of an amplified cross-sectorial practice often seem to fail in reality; “Such endeavors often meet with the forceful barriers of organizational structures, division of responsibilities and the interests and dominance of professions and sectors” (Kleven 1998, p. 135).

Furthermore, Nilsen (2007) illustrates in her thesis that the Norwegian municipal welfare structure, with its clear bureaucratic division of tasks and separate budgets, might work as a suppressing factor on ‘new’ management initiatives and ideas. Moreover, Nilsen and Olsen (2005) illustrate (to their surprise) that the ‘practical risk management’ (in Norwegian municipalities) tends to be very similar, regardless of the fact that they (the investigated municipalities) had chosen different strategic management approaches. Moreover, they also found that ‘professionalism among street-level bureaucrats is seemingly a more important guideline than organizational strategies” (Nilsen & Olsen, 2005, p. 37).
Given the Swedish municipalities' broad responsibilities for risk and safety management issues and the magnitude of the ‘problems’ that they are expected to handle, there is a surprising lack of scientific investigations devoted to examine the risk and safety governance-systems general characteristics (as an overall and ‘all problem-oriented’ practice). Thus, there is a huge lack of scientific information regarding the municipal organizational formation for and framing of risk and safety issues (which types of municipal departments/functions handles a certain types of ‘problems’?); and even less regarding the impact that national policies, laws and management strategies (in the risk and safety area) actually have on the local levels handling.

This might, however, not be an easy task to investigate since, as Van Asselt and Renn (2011, p. 435.) state: ‘Decisions about risks are taken in complex webs of actors, rules, conventions, processes, mechanisms, institutional arrangements, and political cultures’. Also Hovden (2004, p 634) argues in the same way (about the Norwegian case, which has many similarities to the Swedish context): ‘The total risk and vulnerability management system is very complex, is difficult to grasp: it has functional gaps and overlaps, and reveals inconsistencies in principles, logic and practice’. 6

Nevertheless, Boholm et al. (2012, p. 3) point out why it is important to examine what structures and perspectives that are actually applied in the system: “To understand the dynamics of risk governance, one must trace back risk definitions to the variety of administrative and political settings in which risk is ‘in practice’ characterized and managed. One must also account for inter-organizational interactions among actors and how power, control and responsibility are distributed among them”. Thus, an important research mission would, as Klinke and Renn (2010) point out, be to perform systematic reviews and empirical analyses of the governance systems 'major actor' (in the Swedish case the self-governing municipalities) and determine focus of their ‘risk-framing’; and thereby develop empirically founded knowledge about what characterizes societal risk and safety management. Moreover, if the normative standpoint is that (local) risk and safety work should be holistic, inter-sectorial and multi-strategic (see p. 5 ff.); it seems crucial, as Van Asselt and Renn (2011) point out, to examine the institutional division of what issues and actors that are included and integrated (and which is not) and to investigate ‘policy-diffusion’ through the ‘governance-system’ i.e. the conformity between stated policy and actions.

6 It must, however, be acknowledged that Harms-Ringdahl (2007) made a theoretically attempt to schematically illustrate the dimensionality and complexity of the total Swedish governmental safety and risk management area. Focus is, however, not set on the municipal sphere.
The research questions investigated

Since the scientific knowledge about risk and safety management at the public local (municipal) level is limited; an explorative aim (see p. 15.) and a descriptive research approach (see 28 ff.) was considered suitable for the present thesis overall design.

Thus, this research project has been framed by four different, but closely related overall research questions;

I. How are questions about risk issues treated in Swedish societal planning today?

II. Is a broad and multi-faceted approach applied in the public management of risk and safety?

III. What constitutes societal risk and safety management on the local level?

IV. How is the management of risks institutionalized in a modern welfare society at the local government level?

The roman number (in the list above) is equal to the Article I-IV in which each question has been individually addressed and answered (see p. V in this report).

The four investigated research questions are addressed in this report’s Results chapter (see p. 38 ff.) and by Table 2 (see p. 43).
**Aim and objectives**

The overall aim for this thesis is to empirically map and provide an overview of the administrative structures for, and the prevailing management perspectives applied in the societal risk and safety management in Sweden, and to study the diffusion of strategic intentions for this area down to the municipal level.

The overall objectives of this research project have been to:

- contribute to the scientific understanding of local societal risk and safety management’s general characteristics and steering elements,
- provide an empirical foundation for a discussion about the local governments’ ability to implement overall strategies regarding holistic, inter-sectorial and multi-strategic work, and prevention of accidents and injuries, and
- propose an agenda for forthcoming research.

**The specific aims of Articles I-IV**

The specific aims of the thesis empirical works are outlined below as they are stated within each article (I-IV):

1. To present a descriptive review of what risks regarding health, safety and security that are considered in a set of municipal comprehensive master plan documents.
2. To explore the existence of and present a descriptive review of cross-sectorial approaches and the application of a holistic view in the municipal management of risk and safety issues, in action programmes documents prepared in accordance with the Swedish 'Civil Protection Act against Accidents'.
3. To frame the current directions for internal allocations of different risk and safety tasks at the Swedish local governmental level.
4. To analyze the societal risk and safety management administrative structure at the Swedish local governmental level.
Theoretical approach

This chapter attempts to provide a theoretical perspective for the thesis scope of discussion. The present chapter is divided into two sections. The first section (below) outlines central concepts like risk, safety, security, accident, injury and health. The second section presents and defines the - for this thesis vital - concept of ‘Societal Risk and Safety Management’ (SRSM) (see p. 21 ff.) and introduces a conceptual framework for overviewing the Swedish SRSM 'steering-system'.

Central concepts in the risk and safety area

It is in general very difficult to make proper definitions of central expressions in risk and safety research area. Most key-words like; risk, safety, security, accident, injury and health tend to have a considerable variation in the ways that they are defined and used; depending on the context in which they are applied and understood. Moreover, they seem to be constantly debated and redefined in scientific literature and there seem to be several conceptual and pragmatically links as well as competing logics between them.

As Wildavsky (1988, p. 4) pointed out, most concepts in the risk and safety vocabulary appear to be “intertwined in the same acts and objects”, but at the same time framed by several and opposed scientific rationalities. Moreover, some concepts in the ‘risk and safety area’ tend to have a generally understood undertone and ‘taken-for-granted meaning’ in the everyday language, which seldom is as precise as some of the rather stiff scientific definitions (Hansson, 1991; Renn & Rohrmann, 2000; Slovic, 1999; Garland, 2002).7

The lack of generally accepted and demarcated descriptions of central concepts and the often somewhat divergent standpoints makes writing of this section (below) a bit problematic. However, it is not really vital for this thesis, to take a stand for a specific interpretation; instead it is important to highlight the need for a comprehensive understanding of the conceptual and practical complexity of ‘vocabulary’ that exists in relation to the SRSM-area. Thus, the outline below aims to illustrate the plural meanings of, and the interconnections that exist between some of the most central and commonly used concepts.

The concept of risk, safety, security, accident, injury and health

The concept of Risk is multifaceted and its connotation tends to have diverse meanings in everyday life and in the research literature (Hansson, 1991; Althaus, 2005; Renn & Rohrmann, 2000; Slovic, 1999; Garland, 2002; Jaeger et al., 2001), as well as between different disciplines (Taylor-Gooby, 2002; Lupton, 1999; Fredriksson, 2007; Renn 1992). The meaning and usage of the term has also changed a lot through history (Green, 1997; Kemshall, 2002).

A risk can be regarded as a mental construction i.e. as phenomena that derives from human perception and understanding of the state of things (Klinke & Renn, 2010). Thus, risk can be interpreted both as something positive (like a chance or opportunity) or something negative (like a potential hazard, danger or loss) (Enander & Johansson, 1999; Lupton, 1999; Andersson, 2005; Kemshall, 2003; Althaus, 2005; Renn & Rohrmann, 2000); even though the risk-adverse approach tends to dominate the academic discourse (Garland, 2002). Risk could in an every-day context also be regarded as something desired (like nerve thrilling sports-activity) (Renn & Rohrmann, 2000; Jaeger et al., 2001).

As Garland (2002, p. 1) points out, risk is a term that seems to be applicable to almost every area of human life: “Risk is a calculation. Risk is a commodity. Risk is a capital. Risk is a technique of government. Risk is objective and scientifically knowable. Risk is subjective and socially constructed. Risk is a problem, a threat, a source of insecurity. Risk is a pleasure, a thrill, a source of profit and freedom. Risk is the means whereby we colonize and control the future.”

A common scientific interpretation, in fields like engineering and epidemiology (Lupton, 1999), is to view ‘risk’ as something that could be given a numeric value (Petersen & Lupton, 1996) and be presented as a function (the degree) of probability and consequence (judged based on severity or magnitude) of an (unwanted) outcome (Hollnagel, 2008; Garland, 2002; Renn & Rohrmann, 2000). From a PHS-perspective, the concept of risk is strongly associated with statistical probability for humans to suffer from ill-health, injuries or premature death (Beaglehole & Bonita, 2004; Andersson, 2005; Althaus, 2005, Andersson, 2003) and the academic debate usually revolves around issues concerning the accuracy of measures applied to calculate the dignity of the specific risks (Lupton, 1999). (See 3 ff.).
The concept of Safety is often described as “[...] the other side of risk” (Wildavsky, 1988, p. 14) and as a dynamic ‘state/situation/condition’ characterized by the freedom from, or control of, different risks and their potential injuries/damages on either humans, the environment or someone’s property (Svanström & Haglund, 2000; Nilsen et al., 2004; Hollnagel, 2008; McClure et al., 2004; Razzak et al., 2005). Safety is often theoretically considered as the result of a complex process where humans interact with different components in a given setting/environment and the dynamic equilibrium that follows of that interface (WHO, 1998).

Safety is generally understood with reference to accidents and injuries, but could also be related to issues like: violence and crime, pollution, disasters and environmentally induced ill-health (Strömgren & Andersson, 2010). Moreover, safety could also be regarded as a fundamental right or a need for human beings (WHO, 1998; Svanström & Haglund, 2000) or as a goal for individuals, organizations or societies (Enander & Johansson, 1999). From a PHS-perspective safety is commonly interpreted and outlined in relation to a specific ‘injury domain’ and considered as equal to the preventive measures applied for ‘risk control’ and the supposed subsequent decline in accidental/injury statistics (Nilsen et al, 2004; WHO, 1998). (See p. 4 ff.).

The WHO’s definition of ‘safety’, states that it is a concept with two dimensions, which mutually influence each other, either positively or negatively. One side of the concept has more ‘objective’ features, based on for instance present injury statistics (the predominant perspective in PHS). The other side has more ‘subjective’ qualities, based on for instance evaluations of people’s feelings and opinions. Accordingly, it is from this perspective important to regard safety not just merely as something physical (free from injuries and/or material damages), since it (safety) also assists the perception of being protected from danger or harm (WHO, 1998; Nilsen et al., 2004; Svanström & Haglund, 2000; Maurice et al., 2001; Rosenberg & Andersson, 2004; Hale & Hovden, 1998). However, this ‘Janus-headed’ quality of the word safety (both as something bodily and as a perception) makes it a concept closely related to the word Security. Besides that, the two terms are often used together and synonymously and the academic demarcation between them is not clear (WHO, 1998; Maurice et al., 2001).8

8 In many languages, the words ‘safety’ and ‘security’ are translated by the same word e.g. the Swedish word ‘safety’ translates into at least four different English words; safety, security, certainty and assurance (Enander & Johansson, 1999; Maurice et al., 2001).
Two other central and mutually interrelated terms are Accident and Injury. These two words do not necessarily have the same connotation and theoretical underpinning in the research literature, but they are often used synonymously in practice; even if the public seem to refer to the accident as ‘the overall event’ and to injury in relation to the damage and or the hurt in which it results (Andersson, 1999; Cohen et al., 2003; Loimer & Guarnieri, 1996).

As a term, Accident is - in spite of that it is widely used around the world - hard to academically demarcate and define (Svanström & Haglund, 2000; Andersson, 1991; Andersson, 2005). It is often described as an unexpected multi-causal chain of events, which lacks obvious cause and results in something unintended; usually by a sudden release of an external force or impact - caused by natural phenomena, human act or neglect – which manifests itself as an injury on someone or something (an injury on a human being or some kind of damage to the environment or someone’s property) (Andersson, 1991; Harrami et al., 2009).

Bergström (2006, p. 22) highlights the connection between the term accident with both risk and safety stating; “Safety in this sense means to take control over events that may or may not cause accident or over the negative effects of the accident. In other words take control over ‘risk’. It is important to notice that it is not the accident itself that is the problem, but rather the damage that the accident causes.”

The term accident is often criticized for being too wide and imprecise, which complicates its academic usefulness, as illustrated by Green (1997, p. 1) below: “Indeed, the word ‘accident’ covers a seemingly infinite range of possible misfortunes that, as we say, will happen and have to be expected from time to time. Such misfortunes are perhaps universal to human society, but ways of classifying, understanding and managing them clearly are not.”

The academic usage of the term accident has been heavily criticized within PHS, since it can be accused for implying the idea that accidents are unavoidable and randomly occurring events, which from a preventive perspective seems both inaccurate and obstructive; since the injuries/damages that the accidents cause ought to be considered as something that is (theoretically) avoidable. (See 3 ff.). Thus, the term accident is often ‘abandoned’ in the PHS-literature in favor of the term injury (Svanström & Haglund, 2000; Taylor-Gooby, 2002; Andersson, 2005; Thacker & MacKenzie, 2003; Green, 1999; Loimer & Guarnieri, 1996).
Injury is a concept with a well-defined scientific connotation (at least in PHS-literature). The descriptions (and most ‘injury-analysis’) commonly set focus on interactions between humans at risk, the potential threat and the means for ‘transferring it’ to the body. Sometimes also the environment (physical and/or social) in which the incident has occurred is also taken into consideration. Thus, an injury is often described in terms of cause, intent and outcome (Green, 1999; Langley & Brenner, 2004; Razzak et al., 2005; McClure et al., 2004). Moreover, in order to increase and precise the understanding of the term (injury), the incidents are often classified as, and labeled with, the prefix ‘unintentional’ (accidental) or ‘intentional’ (interpersonal, self-directed or self-inflicted) (Cohen et al., 2003; Andersson, 1999; Andersson, 2003). Thus, the concept of injury is commonly scientifically defined as: “An injury is the physical damage that results when a human body is suddenly or briefly subjected to intolerable levels of energy. It can be a bodily lesion resulting from acute exposure to energy in amounts that exceed the threshold of physiological tolerance, or it can be an impairment of function resulting from a lack of one or more vital elements (i.e. air, water, warmth), as in drowning, strangulation or freezing” (Holder et al., 2001, p. 5).

The concept of injury opens up for another type of academic understanding of ‘the problem’ in comparison to the term accidents, as argued by Green (1999, p. 25): “A dramatic change has occurred in how we talk about and understand the accidental, with wide ranging implications about the questions it is possible to ask about accidents, about how ‘the problem’ of accidental injury is framed, and about how responsibilities for prevention and amelioration are apportioned.”

Another term central for this thesis is Health. There seems to be little consensus around what it actually is, how it can be achieved and maintained (Keleher & Murphy, 2004; McCarthy, 1996; Karlberg et al., 2002). Nevertheless, health is often outlined as a multidimensional concept with interconnections between many factors: biological, psychological, environmental, social, cultural, economic, political, etc. (Keleher & Murphy, 2004; McCarthy, 1996). Apparently, health seems to be a ‘relative concept’, which needs to be understood in context (McCarthy, 1996) and in relation to its opposite ‘ill-health’ (or any of its other synonyms illness, sickness, and disease, etc.). Apparently, health is often negatively defined or defined as something ‘knowable’ only in its absence (Strandmark, 2002; IOM, 2001; Osborne, 1997). However, WHO defined health as a positive condition: “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” (WHO, 1946, p. 948) and in a more modern outlines as ‘resource’ for everyday life (WHO, 1986).
The concept of ‘Societal Risk and Safety Management’

This thesis uses ‘Societal Risk and Safety Management’ (SRSM) as a collective term when referring to interplaying and interfacing concepts like public risk management, risk governance, safety management and safety work; as both conceptual and normative practices/processes on the Swedish local governmental level.

There are several reasons for taking a collective approach around these concepts. However, the main reasons for doing so in this research have been that they (the concepts referred to above) all tend to lack clear theoretical definitions and valid ‘program theories’, which make it hard to demarcate and provide distinctions between them; and they all seem to have – especially from a municipal management point of view - several practical similarities (Harrami et al., 2009; Räddningsverket, 2008). Furthermore, a collective approach seemed to be, in relation to the Swedish national strategic intentions for this area (see p. 9 ff.), most desired in order to be able to problematize and investigate this research project’s Aim and objectives (see p. 15).

A multi- and interdisciplinary concept

SRSM is in this thesis considered as a multi- and interdisciplinary concept; closely related to public management of issues concerning sustainable development, medical health care, crime prevention, crisis management, etc. (Sime, 1991; Olsen et al., 2007; Rosenberg & Andersson, 2004). Thus, SRSM is understood in the broadest sense as an ‘umbrella term’ for all sorts of activities, practice, process and means that the public society systematically provides in order to: identify, assess, monitor, analyze, treat and in other ways manage and prevent different kind of risks, threats, or dangers that could cause accidents or injuries to people, property or the environment; and measures to generate, maintain and support the public’s safety or health status. SRSM is, however, in relation to this research project considered as part of the local level’s ‘normal operations’ and ‘ordinary’ public management practice and seen as a part of the municipalities every-day responsibilities and activities.\(^9\)

\(^9\) Hence, issues that formally are considered as matters of the police or issues connected to the County Council health care are not seen as the part of the ‘municipal risk and safety management system’. Moreover, the boundaries between SRSM and the more ‘temporary’ management of crisis and ‘extraordinary events’ is sometimes unclear; a specific event can very well escalate or decline into the other. However, since the three ‘golden principals’ (regarding responsibility, equality and proximity) for crisis management applies, the SRSM-system is in large applicable also for management extraordinary events and crisis.
Since almost all types of risk and safety issues are supposed to be handled locally in Sweden; the Swedish municipalities have a huge responsibility for SRSM (see 8 ff.). Thus, SRSM is considered to theoretically include ‘the full range’ of potential threatening incidents i.e. all types of risk and safety issues (Proposition 2007/08: 92; Petersen & Tehler, 2009; Räddningsverket, 2008); regardless of their frequency of occurrence and potential consequences (in terms of number of interlinked and affected people, extent of damages and collective costs, etc.).

Thus, both commonly occurring events, which each per se have rather ‘limited’ societal impact, but which altogether measure up to a lot of health and safety problems, injuries, pre-mature deaths and/or property losses, and; statistically rare events, which each have a rather ‘extended’ societal impact and kill or hurt many people at the same time and/or cause severe societal effects, are included in the concept.10

Simplified SRSM could be described to include two different perspectives regarding how to manage unwanted incidents and to create safety (Strömgren & Andersson, 2010; Hollnagel, 2008):

1. either prevent something from happening by creating measures that aim to hinder the unwanted incident from occurring and/or strengthen potential victims and/or environments resilience or
2. produce protection against consequences and ensure a public readiness to respond to different impending situations and thereby stop and minimize their destructive effects.

On a general level, different management strategies can be conceptualized in a classic ‘bow-tie-model’, as illustrated (below) in Figure 2 (see p. 23). This model sets the incident in relation to a timeframe for the development of the unwanted event and potential public measures in the three stages ’prior’, ’during’ and ’post’ (Stevenson et al., 2004; Tones & Green, 2004).

---

10 This dimensionality of different potential ‘harmful events’ is commonly illustrated in the literature by different schematic graphs/matrices, which theoretically categorize different events according to their statistical probability and the potential severity of their consequences. In a sense these kinds of illustrations also highlight the theoretical underpinnings and basic methodological features that frame and are (supposedly) required for developing management strategies in each category. For instance, the more frequent and small-scale incidents (e.g. personal injuries) are often defined and verified through statistical analysis of empirical data and later handled by both preventive and more reactive actions; while the more infrequent and large-scale incidents tends to require logical and predictive analytical models, based on post-incidental case-study evaluations, scenario estimations and implementation of prescriptive design measures, different kind of barriers and reactive actions (Rasmussen, 1997; Rasmussen & Svedung, 2000; Lundin, 2005; Hollnagel, 2008).
The prior-strategy focuses on measures and efforts to hinder a specific ‘problem’ from happening and thereby avoid potential harm before it has occurred (upstream). This approach is based on the notion that an accident/injury reduction could be reached through the implementation of different kind of preventions, based on a recognition of which underling ‘risk-factors’ or ‘safety-determinants’ that are related to a specific problem (see p. 4 ff.). The preventive measures and means could either be efforts to provide the public with information to encourage attitude and behavioral changes towards a healthier or safer way and/or to take responsibility for their own health/safety; or to create protection through environmental change/modifications through technical and physical built-in constructions (Svanström & Haglund, 2000; Carlsson-Gielen & Sleet, 2006; Tones & Green, 2004 Stevenson et al., 2004; Bunton et al., 2000; Razzak et al., 2005; Maurice et al., 2001; IOM, 2001).

The during-strategy focuses on the development of means to stop a ‘condition’ from getting worse/more serious and reach an ’optimal level of safety’ at a critical time. Focus is often set on supplying the public with information about how to act in order to avoid and reduce different risks (Svanström & Haglund, 2000; Andersson, 2005; Nilsen, 2006; Carlsson-Gielen & Sleet, 2006; Stevenson et al., 2004; Tones & Green, 2004). Special attention is often given to strengthen ‘vulnerable groups’ considered to be at high risk (Sime, 1991).

The post-strategy focuses on the provision of rescue operations/emergency responses aiming to provide adequate assistance for ‘recovery’ actions in different critical situations (downstream); assist victims, reduce the adverse consequences by providing emergency aid, restoration and rehabilitation (Bunton et al., 2000; Nilsen, 2006; Carlsson-Gielen & Sleet, 2006; Stevenson et al., 2004; Tones & Green, 2004).
**A conceptual and systemic ‘Onion-framework’**

The application of a multi- and interdisciplinary research focus per se, and studies of SRSM in specific, requires a systemic understanding of the problem under study. However, few frameworks are adapted to illustrate ‘the Swedish governance model’; its general systemic structure and the logic that frames it (Uhnoo, 2012) and the academic studies of the risk and safety from a ‘governance system approach’ are relatively recent (Renn 1992; IRGC, 2006; Van Asselt & Renn, 2011; Hale & Hovden, 1998; Rasmussen, 1997; Rasmussen & Svedung, 2000).

Nevertheless, the emerging concept of ‘risk governance’ is getting increasing academic attention; both as a conceptual and normative basis for investigating the vertical and horizontal procedural and structural aspects of the ‘steering-system’ as a whole. Important issues at stake within a governance approach are for instance; features of the societal context, impact of policy development and regulatory processes, the organizing and executive structures, and the roles and diversity of actors and their dynamic interplay within the system through both formalized and more indistinct processes (IRGC, 2006; Klinke and Renn, 2010; Van Asselt & Renn, 2011).

Thus, a conceptual ‘Onion-framework’ for SRSM steering-system is proposed in **Figure 3** (see p. 26.). The framework has been created by the thesis author in cooperation with Professor Svedung, and has not previously been published anywhere. By introducing a meta-theoretical reference frame for SRSM we hope to provide an idealistic view and simplified illustration of the overall ‘elements’, which (informally and formally) frames risk and safety management activities on different levels (Lupton, 1999; Marlow, 2002; Rothstein, 2006; Jaeger et al., 2001; Petersen & Bunton, 1997; Khakee, 2000; Van Asselt & Renn, 2011). The proposed framework is later also used to illustrate the methodological direction taken in **Article I-IV** (p. 28 ff.) and to amplify the analytical reasoning in the **Discussion** (p. 44 ff.). The suggested framework, **Figure 3** (see p. 26.) is grounded in our understanding of public health, risk management, societal planning and governance and in lessons learned from various scientific disciplines and research fields. Thus, the suggested framework has not only been influenced and inspired by different public health and socio-ecological models (see p. 5 ff.), but also by our understanding of like for instance; Brown and Damery (2002) institutional framework for flood...
management, Khakee and Eckerberg (1993) model for evaluation of the societal planning, Loorbach (2010) framework for governance of a sustain development, Mitroff and Pauchant (1992) model for crisis management, Nilsen et al. (2006) goal hierarchy model of prevention programs, Rasmussen (1997) socio-technical system approach to risk management, Van Asselt and Renn (2011) theoretical outlines about risk governance and Wiberg (1999) review of main theoretical approaches in planning research. By synthesizing these kinds of influences (models, frameworks, approaches, theories, etc.) we aim to (in a very skeletal form) illustrate the SRSM-system’s; different levels, their core elements and the relative role different actors are supposed to have within and across the system’s interlocking parts.

The construction of the framework

The general idea of using a onion-metaphor (in Figure 3, p. 26.) is based on the fact that an onion has a clearly defined step-by-step layered systemic structure; were each layer is coupled and interdependent with surrounding layer(-s). The construction of the framework might be deceptively simple-looking, but it could both be viewed as a blueprint of the research project’s contextual elements and the structural order of the Swedish governmental system (see p. 7 ff.); and as a an overall account of the underlying logical structure, which has framed and underpinned this research project’s; scope of discussion (see p. 11 ff.), applied research design (see p. 28 ff.) and the necessary demarcations made for it (and also the need for 'peeling the onion' layer by layer). The analogy can also be used for describing the rational progression of policy implementation as a hierarchic and dynamic bureaucracy exercise at three interconnected stages; from general strategic policies - to tactical plans - to internal operational execution (MacKian et al., 2003; Alexander & Faludi, 1989; Weissglas et al., 1997).

The suggested model and its different layers have been deliberately held flexible and adaptive to ‘real-world’ dynamics and contextual features within and across each layer. Figure 3 could in a sense be used in both a descriptive and a normative sense; as an analytical framework and as a theoretical model for action (Van Asselt & Renn, 2011). Accordingly, it could be interpreted vertically as an illustration of a rational approach to, and dimensionality between, utopic and normative overall ideals and intentions (what should be achieved) and the local the case-specific empiric reality (what is done) in five different layers (1-5) (Alexander & Faludi, 1989; Weissglas et al., 1997; Wiberg, 1999).
The forthcoming pages (the section below) will illustrate Figure 3 five layers and describe the relation to the thesis contextual features and setting characteristics, and to the methodological direction applied in the empirical works. The framework will also be discussed in relation to the thesis findings in the Discussion (see p. 44 ff.).

The different layers of the ‘Onion-framework’

The framework ‘starts’ with the onion’s skin and a broad abstraction of visions/objectives in public policies and societal reaction to a problem as an indirect mean to handle different types of risk and safety issues (Layer 1); and moves towards the onions core and situational planning and concrete operational responses/actions at the local level (Layer 5).

![Image of the Onion-framework's five layers](image-url)
Layer 1 - the onion’s skin - represents the public policy processes and ‘World-community’ policy calls for actions and the potential impact that they have on the model’s inner layers. For instance different kinds of ambitions and demands launched by the WHO (or supranational bodies like the EU). Of special interest for this thesis are calls for an increased focus on prevention, and holistic, inter-sectorial and multi-strategic management approaches. (see, p. 5 ff.).

Layer 2 represents the governmental system’s national level (the Swedish state), their regulatory, supervising, consultative and supporting agencies, their responsibility for the development of legislation, overseeing the provision of public services and to monitor and control the local development. This layer also symbolizes different national strategic and normative goals and other political demands which to a large extent steer and influence the local actions. The local implementation of ‘modern’ policies and legislations connected to risk, health and safety, (see, p. 9 ff.) is of special interest for this thesis.

Layer 3 represents the Swedish municipalities, their strong local self-government and the municipal administrative structures, which are responsible for planning the handling of all types of risk and safety issues (see p. 8 ff.). This layer also symbolizes the local implementation of the strategic and normative strategies and objectives stated in the outer layers and the institutional adoption of, and potential steering effect of, these kinds of issues in local executive structure and processes and on operational direction of activities. Of special interest for the thesis empirical works (Article I-IV) are prevailing municipal management perspectives and the imprints that laws and national objectives leave in local (and politically adopted) planning documents (see p. 32 ff.).

Layer 4 & 5 represents the operational context and culture, and the psychosocial and logical processes that supposedly frame and determine a specific work-group's daily execution tasks in different municipal departments i.e. the executive rationalization system and ‘traditional way of doing’, which theoretically steer the perception and understanding of what ‘risk-factors’ and ‘safety-determinants’ to consider and suitable counter-measures. The onion’s core sets focus on the municipal official’s and his/hers individual outlook (values and beliefs) and experience (education, skill and knowledge), which indirectly guides his/her actions (Kouabenan, 1998; Fromm, 2006; Pidgeon, 1991; Jaeger et al., 2001; Garland, 2002; IOM, 2001; Van Asselt & Renn, 2011).
Methodological approach

This chapter gives a presentation of the methodological procedures that have been applied in this research project to gather and analyze empirical information in the four articles (I-IV). The present chapter is divided in two sections. The first section (below) presents an overview of the data sources used in this thesis and describes how data has been gathered. The second section summarizes how collected data has been analyzed and processed into findings (see p. 34 ff.). The quality of the performed research, the potential implications of the study design applied and the ethical considerations made in this project will be elaborated in the Discussion chapter (see p. 51 ff.).

The overall study design

The thesis had an explorative and descriptive approach and is based on, and constructed through, data collected from different types of information sources, which later have been analyzed using different measures. The overall goal for the approach applied was to facilitate a creative advance and provide the thesis with a richer understanding of municipal SRSM; in a way which would not have been possible using a single research strategy or one data-set (Patton, 2002; Bryman; 2002).

However, different research traditions often have separate views on appropriate reference frames and methodologies, the view selected depends utterly on the researcher’s understanding of concepts like ontology and epistemology (as indicated earlier at p. 10 ff.) (Patton, 2002; Bryman, 2002; Rolfe, 2006; Allwood, 2004; Yin, 2003; Bergström & Börés, 2005; Renn, 1992; Uhnoo, 2012). Nevertheless, primary for all research is to produce and present a truthful ‘picture of reality’, to do so in an ethically acceptable way and with the overall intention to enable transfer of the gained knowledge to other populations and other contexts (Patton, 2002; Bryman, 2002; Allwood, 2004; Yin, 2003).

Largely simplified, two contrasted ‘ideal-typical’ academic standpoints can be theoretically distinguished as a pair of opposed extreme endpoints of a continuum. The authors understanding of these ideals have been pragmatically summarized below in the footnote (no. 11) and schematically illustrated in Figure 4 below (see p. 29).
However, in practice the two outlined standpoints (see Figure 4 and footnote no. 11 below) are seldom as mutually exclusive as might indicate (Patton, 2002; Bryman, 2002; Rolfe, 2006; Svensson & Starrin, 1996; Allwood, 2004; Yin, 2003; Bergström & Boréus, 2005). As this thesis design stands, both standpoints have been applied.  

<table>
<thead>
<tr>
<th>One objective reality</th>
<th>Reality is complex and multiple</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deductive reasoning</td>
<td>Inductive reasoning</td>
</tr>
<tr>
<td>Quantitative measurements</td>
<td>Qualitative measurements</td>
</tr>
<tr>
<td>Statistical data</td>
<td>Human experiences or artifacts</td>
</tr>
<tr>
<td>Statistical generalization</td>
<td>Analytical generalization</td>
</tr>
</tbody>
</table>

**Figure 4** Illustration over two contrasted ‘ideal-typical’ academic standpoints

A schematic overview of the thesis overall study design is illustrated in Figure 5 (and later also in Table 1, see p. 30). All materials and methods employed are presented more in detail in forthcoming pages of this chapter.

**Framework report**

- **Official planning documents**
  - Content analysis
- **Municipal survey investigation**
  - Statistical investigations

- **Article I**
- **Article II**
- **Article III**
- **Article IV**

**Figure 5** Overview of the thesis study design

---

11 One standpoint assumes that there is only one objective reality, which exists independently of human observations; true research therefore ought to be possible to replicate. Knowledge is usually derived by applying a deductive reasoning and using quantitative measurements to statistical data. This approach usually sets focus on describing the statistical evidence of existence and distribution of a certain phenomenon in a population. The results are often expressed numerically. Evaluation of a research finding’s application to a larger context is usually made through statistical generalization. The other standpoint assumes that reality is complex, has multiple meanings and is dependent on its context (since many realities are assumed to be possible at the same time). Knowledge is usually derived from human experiences or artifacts by using qualitative investigations and an inductive reasoning. This approach usually sets focus on describing a phenomenon and its characteristics on an abstract level. The results are acknowledged as dependent on the setting from which they are deduced and findings are often expressed in words and illustrated by quotes or examples. Evaluation of a research finding’s application to a larger context is usually made through analytical generalization (Patton, 2002; Bryman, 2002; Rolfe, 2006; Svensson & Starrin, 1996; Allwood, 2004; Yin, 2003; Bergström & Boréus, 2005).
Data collection and data sources

The empirical basis for Article I & II was the content in two different sets of official planning documents, written by municipal officials on commission by the municipal politicians. The results presented in Article I are based on a systematic descriptive review of the content of a set of Municipal comprehensive master plan documents (n=50), which have been developed by the municipalities in accordance with demands in the Swedish ‘Plan and Building Act’ (SFS 1987:10). The documents investigated were prepared and adopted by the municipalities between the years 2000-2002. The results presented in Article II are based on a systematic descriptive review of the content in the first generation of Municipal action program documents (n=40), which have been developed by the municipalities in accordance with demands in the Swedish ‘Civil Protection Act against accidents’ (SFS 2003:778). The documents investigated were prepared and adopted by the municipalities between the years 2004-2005.

Article III & IV are based on empirical information from a Municipal survey investigation encompassing different kind of officials on the Swedish local governmental level. The survey was distributed in 2005 to officials (n=1283) with responsibility for different administrative departments within different municipalities. The respondents were asked to answer questions regarding risk and safety management within their sector or function (Johansson et al., 2006).

<table>
<thead>
<tr>
<th>Article</th>
<th>Data sources</th>
<th>Analysis procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Municipal planning documents 2000-2002</td>
<td>Content analysis</td>
</tr>
<tr>
<td>II</td>
<td>Municipal planning documents 2004-2005</td>
<td>Content analysis</td>
</tr>
<tr>
<td>III</td>
<td>Survey with municipal officials 2005</td>
<td>Statistical analyses</td>
</tr>
<tr>
<td>IV</td>
<td>Survey with municipal officials 2005</td>
<td>Statistical analyses</td>
</tr>
</tbody>
</table>

Table 1 Overview of the thesis study design

Due to the research projects methodological demarcations, this thesis is solidly based on investigations of artifacts (imprints in official documents) and survey-statements (from officials about the daily municipal management practice). Accordingly, no deep-interviews or on-site observations in the municipalities have been performed. The need for such investigations is, however, discussed in relation to future research needs in the Discussion chapter (see p. 49 ff.).
**Order of succession of the thesis empirical works**

The final order of succession of the thesis empirical works (Article I-IV) was as follows: the content analysis study of the comprehensive master plans started in the fall in 2003. The overall findings were summarized in a Swedish work-report in 2004 (Johansson, 2004) and the writing of Article I started in 2005. The content analysis study of the action programs started in spring 2006. The overall findings were summarized in a Swedish work-report (Johansson & Svedung, 2006). The additional analysis of the programs was made in fall 2007 and Article II was written in 2008 and prepared for submission in fall 2012. The municipal survey investigation started in fall 2004 with design of the survey questionnaire and the collection of the data was made in spring 2005. The overall and descriptive result from the survey was in 2006 summarized in a Swedish work-report (Johansson et al., 2006). The statistical analyses made in and writing of Article III started in 2006. The statistical analyses and writing of Article IV started in 2007 as a consequence of the findings made in Article III. The present framework report was mostly written during the fall of 2008. It was later ‘revisited’ in fall of 2012 and in spring of 2013 (See Preface p. I ff.).

**Selection of the investigated municipalities**

The selection of the municipalities (more precise their official documents and responding officials) investigated in Article I-IV was built up step-wise and encompassed a strategic sample of Swedish municipalities (Patton 2002). It started with Article I, which included all municipalities that had adopted a comprehensive master plan document between the years 2000-2002 (Johansson et al., 2006). As a result, 50 individual documents (and corresponding municipalities) form the base for analysis. This set of municipalities was later used as the starting point for the subsequent investigations (Article II-IV).

Thus, Article II took its departure from the municipalities investigated in Article I. However, out of those original 50, 6 municipalities did not have an adopted action program by the time the investigation started (spring 2006). Accordingly, 44 municipalities remained for investigation. Out of those, 12 belonged to any of 8 different municipal ’Rescue service alliances’\(^{12}\), which means that an investigated program could be valid for more than one municipality. As a result, 40 individual programs form the base for the analysis. However, if counting all

---

\(^{12}\) More and more of the Swedish municipalities tend to collaborate with other municipalities regarding provision of rescue service issues, i.e. in a formalized ’Rescue service alliance’.
municipalities that a single program was valid for, 73 municipalities are included in the sample (due to their membership the alliance). For the survey investigations (Article III & IV) a complementary set of municipalities was added to the original 50, which included all municipalities that, at the time of the investigation, were engaged (committed to or certified as) in one or both of the two WHO-networks: ’A Healthy City’ and ’A Safe Community’. As a result, the survey also included 73 different municipalities.

**The official planning documents**

According to the Swedish ‘Plan and Building Act’ (SFS 1987:10), the municipalities are obliged to provide a comprehensive master plan documents and to update it every mandate term (every fourth year). The document can be described as the general plan and policy document for all built and natural environments within the municipal geographical boarders. In these plans the municipalities are, according to national regulations, obliged to consider various risk factors in the municipality’s physical environments that could endanger citizen’s health, safety and security (See p. 10).

The analysis in Article I aimed to present a descriptive review of what risks related to health, safety and security that were considered in the documents. The documents investigated (n=50) were prepared and adopted between the years 2000-2002.

According to the Swedish ‘Civil Protection Act against accidents’ (SFS 2003:778) the municipalities are obliged to develop action program documents for civil protection that considers issues regarding threats towards life/health, environment and property from a local conditions point of view. The programs should include statements regarding planed emergency responses, account for the municipalities’ organizations of subsequent responses and planned preventive measures. They also should present goals for the municipality’s safety work and take various risk factors, which could endanger citizens’ health and safety into consideration. The action programs content should serve as an overall policy and an every-day guideline for administrative decisions.

The analysis in Article II focused on indications of cross-sectorial management approaches and the application of a holistic risk and safety views in the programs content. The documents investigated (n=40) were prepared and adopted between the years 2004-2005.
The municipal survey

Article III & IV were based on empirical information from a survey investigation. The main purpose of the survey was to collect information and to assess basic knowledge regarding risk and safety management work at the Swedish local governmental level. The responding officials (n=1283) were responsible for different municipal administrative departments/functions and activities (Johansson et al., 2006). The selection and identification of respondents was carried out in dialogue with participating municipalities (due to the potential variety in administrative structure, see p. 7 ff.).

The survey consisted of a total of 80 questions in an interactive Internet-based questionnaire, which was sent out to the respondents by e-mail. The questionnaire was basically designed to examine: what kind of risk and safety issues the respondents handled, to what extent they co-operated with other actors within and outside the municipal administration and which tools and measures they used in their risk and safety work, etc. (Johansson et al., 2006). In order to keep the survey as ‘sectors-neutral’ as possible, the survey questions and the predefined answering alternatives were overall asked in a general phrasing and explanations regarding suitable interpretation of a question and applicable context were sparsely used (see p. 16 ff. for outlines about variation in connotation in commonly used keywords in ‘the risk and safety area’).

The responses to two specific survey questions have been investigated with statistical analyses in Article III & IV. Article III has analyzed a selection of tasks related to daily risk and safety management in the municipality. The respondents were asked to determine to what extent they handled an assortment of 45 ‘risk-tasks’ within their sector or function. They were asked to choose between the following responses: to a high degree, to some degree, not at all,’ and don’t know. Article IV analyzed the same data-set as Article III, but the analysis was extended with additional data from another question in the survey. The additional data considered what kind of overall ‘assignments’ that the respondent’s sector or function usually handles (besides risk and safety related tasks and issues). The respondents were in this question asked to choose assignments according to a predefined list of 25 variables/values. They were asked to mark the appropriate assignments with an X (meaning Yes) and leave those considered as inappropriate/irrelevant for their work ‘blank’.
The respondents were asked to choose between the following ‘risk-tasks’ (n=45) (i.e. a mixture of issues in relation to ‘risky’ events, activities, objects, hazards, accidents, health and safety problems): Air pollution, Allergies, Dangerous materials, Disruption in waste disposal, District heating and gas supply, Drinking-water, Drowning, Drug abuse, Electricity supply, Falls indoors, Falls outdoors, Fires (other), Fires in businesses, Fires in private houses, Fires in public buildings, Flooding, Food poisoning, Home accidents, Incorrect medication, Intentional damages, Landslide and avalanches, Leisure accidents, Nature environment (other), Noise, Nuclear facilities, Playgrounds, Radon in housing, Robbery and assaults, Sabotage and terrorism, School ways, Sewage systems, Suicides, Suicides (train), Telephone and computer networks, Theft, Traffic (bicycle), Traffic (cars), Traffic (moped), Traffic (pedestrians), Train, Transport of dangerous goods, Valuable nature environment, Violence and physical attacks, Water catchments and Water supply.

The following ‘assignments’ (n=25) were used in the survey (based on the research teams’ general conception of traditional municipal departments, functions and overall activities): Agenda 21, Building permits, Child care, Comprehensive master planning, Crime Prevention, Culture, Detail land use planning, Emergency planning, Environmental protection, Estate management, Health and eldercare, Health protection, Land use and exploitation, Other, Park management, Personal and family care, Public health planning, Recreational/leisure, Rescue service (operational), Rescue service (preventive), Safety coordination, Schools, Street and traffic, Waste management, and Water and sewer.

The survey response rate was relatively high (about 60%, n=766). All of the respondents answered the question about assignments and almost everyone (96% of the respondents) answered the question about risk-tasks.

**Analysis procedures and measures**

The forthcoming section will briefly account for the procedures and measures applied in this thesis empirical works (Article I-IV) to collect and analyze data.

**Content analysis methodology**

The investigation strategy in Article I & II were content analysis investigations of a set of official local governmental documents. Accordingly, they are based on studies of natural phenomenon and artifacts - that exist regardless if research is performed on them or not. Thus, they are not investigations of data constructed for research purposes (Börjesson, 2003; Patton, 2002).
Content analysis can generally be described as a method for analyzing (foremost) documents and texts in a systematic way. These kinds of investigations usually aim to identify themes or patterns in the investigated materials' content and character, and to present a comprehensive picture of their overall substance and structure (Krippendorff, 2004; Hsieh & Shannon, 2005).

The investigation process can generally be described as an inventory-procedure where the analyst starts by organizing the investigated material by pulling together all the data which indicates the same kind of attributes. These are later sorted and subdivided into different (emerging) categories. This process could generally be described as a reductive and sense-making process where the researcher moves back and forth; between the investigated data (*the document*) and the classifications made of the document (*the abstraction*) to verify the meaningfulness and accuracy of the coding (Patton, 1997; Patton, 2002; Hsieh & Shannon, 2005; Bergström & Boréus, 2005; Krippendorff, 2004).

The data analysis process in *Articles I & II* can be summarized to have encompassed the following general steps and features. Both analyses started with a read-through, by the first author (Johansson), of all included documents in their original paper format. This was done in order to get a sense of the whole and obtain an overview of the documents' essential content and character. In the next step the relevant characteristics (emerging keywords and themes) were collected from the content of each plan or program (Patton, 1997; Patton, 2002; Bryman, 2002; Hsieh & Shannon, 2005).

The overall study design of *Article I* had a deductive approach and analyzed the documents according to a pre-designed audit instrument (Bryman, 2002; Patton, 2002; Hsieh & Shannon, 2005; Bergström & Boréus, 2005). The study design and the development of an audit instrument, was inspired from an investigation of the 'first generation' official plan documents due to the Swedish 'Plan and Building Act' (SFS 1987:10) (Svensson, 1993). The audit instrument was developed in a pre-study of plan documents adopted before 2000, and was used during the read-through process as a mean to treat a heterogeneous material in a structured and systematic manner (Johansson, 2004).

The analysis in *Article I* ended when all the questions raised in the checklist were answered and exemplified through each investigated plan document (Bryman, 2002; Patton, 2002; Hsieh & Shannon, 2005; Bergström & Boréus, 2005).
The overall study design of Article II had an inductive research approach, which seeks to continuous derive (identify and categorize) the findings directly from the investigated documents content in a so called 'In Vivo' coding process. The analysis in Article II was ended when the sources of information were considered exhausted and the analysis was more or less saturated (Bryman, 2002; Patton, 2002; Hsieh & Shannon, 2005; Bergström & Boréus, 2005).

The following themes were addressed in the investigation process (according to the checklist/audit instrument) used in Article I: General contents and structure of the plans, Aims and goals stated for the plan, Risk perspectives and foci applied in the plan, Integration and management of risk considerations, Actors/sectors participating in the planning process, and Internal impact evaluation and external comments on the plan (Johansson, 2004). The investigation process in Article II ended up in the following characterizing main themes: General structure and composition of the program, Description of the municipal risks in the program, Aims and goals for the safety-work organization, Description of the safety-work organization, Resources and abilities for safety-work, Cooperation and interaction and Other (Johansson & Svedung, 2006).

In order to facilitate the analysis processes, the investigated data and the emerging findings were stored and managed electronically for examination with help of two different soft wares. Microsoft Office Excel 2003 was used in Article I as a database to store and sort information from the investigated documents. Each of the raised questions in the checklist was marked according to their existence in the document: an issues presents in a plan was marked with the number one (=1); and an issues absents was marked with a zero (=0). In Article II N6 Software (previous called NUD*IST, Non Numerical Unstructured Data Indexing Searching and Theorising) was used to store and later used to code and organize data derived from each program.

In order to get a richer understanding of the investigated materials overall content, and to ensure good quality, scientific rigor and establish empirical legitimacy of the findings in both analyses; illustrative quotations and descriptive statistics (of the frequency of recurrent keywords, phrases and other characteristics, etc. within and across the documents investigated) were collected continuously (Patton, 2002; Bryman; 2002; Hsieh & Shannon, 2005; Bergström & Boréus, 2005). The emerging findings were also presented and reviewed during the investigation in several forms of peer-debriefings with university scholars and governmental officials (Patton, 2002; Bryman, 2002).
Statistical investigations

The results in Articles III & IV were based on statistical analyses of the municipal survey investigation. In Article III factor analysis is used to provide an empirically based typology for risk and safety task division. In Article IV various statistical investigations, including factor analysis, were performed in order to further investigate the pattern found in Article III. Thus, Article IV analyzed the same data as in Article III, but put it in relation to additional data from another question in the survey. This additional survey question focused on the direction and subject of assignments for the municipality administrative functions. The analyses in Article III & IV were mainly performed in Statistical Package for Social Science for Windows (version 13 and 15) and Microsoft Office Excel 2003.

The analyses procedures can be summarized in the following subsequent steps. Firstly, a ‘Principal component factor analysis’ was applied as a structure detection technique to identify patterns in the two response-sets. The ‘Varimax’ method was used to facilitate a rotated solution. The factors were identified with the standard criteria of ‘Kaiser’s Normalization’ (‘Eigenvalue’ higher or equal to 1) (Child, 1970; Kim & Mueller, 1986; Kim & Mueller, 1987). Descriptive statistics (including standard deviation and means) were also collected for the two responses sets. Secondly, in Article IV a set of simple indexes, with average mean values, were constructed based on the two previous factor analyses in order to assess the relationship between them. Additive indexes were calculated for each identified group of identified factors in both factor analyses (i.e. risk-tasks and assignments). To facilitate comparisons, the indexes were standardized to take the number of questions (variables) included in each group into account.

Finally, the indexes were used in Article IV to analyze which different risk-tasks that are performed in different ‘work-domains’, and to compare their engagement in different ‘risk-areas’. The values, ranging between 0 and 1, indicate the degree by which each work-domain handles a specific risk-area. A value near 1 indicates that a domain is active in that risk area (i.e. handles them in high-degree); while values near 0 indicate that the domain is passive in that risk area (i.e. handles in no-degree).
Results

This chapter presents an overview of the results made in this research project. First the main findings made in each of the four articles (I-IV) are individually summarized. This is later followed by a summary of the thesis collective result (Table 2, p. 43). Each of the four articles is found in full-length in appendices and they all contain, in comparison to the outlines in this chapter, a more in-depth description of the findings. The accounts made in this section (below) are made in line with this thesis specific Aim and objectives (see p. 15). The overall findings and their potential implications will be jointly discussed in the Discussion (see p. 44 ff.).

Summary of main findings from the official documents

The section below summarizes the findings made in the two content analyses of official municipal planning documents and presented in Article I & II.

Article I

The content analysis of the municipal comprehensive plan documents shows that they altogether address a broad range of ‘risks and safety issues’. However, the consideration of issues appears to be viewed from a rather narrow perspective, focusing on natural or man-made disasters and/or large accidents with low probabilities and large consequences. The risks and safety issues mentioned are often related to industries or transport of hazardous goods, etc. Approaches with a more 'public health-oriented perspective' i.e. a focus set on more commonly threats/risks in everyday surroundings (for instance injuries in domestic and public environments or in relation to human behavior and lifestyles) are more scarcely found. The municipalities express, however, an ambition to develop their consideration of risks and safety issues. This is often done with reference to forthcoming planning processes, but few plans specify how this should be done and by which participants. The documents also indicate practical difficulties, and sometimes even the lack of routines, to conduct planning processes that takes aspects of health and safety into account.

Another common feature in the plans is to point out the 'Rescue services' as the most advantageous actor for integration of risks in the planning process. Few plans indicate the importance of for example the 'Social services’ or 'Public health officials’ to participate. They do, however, state ambitions to develop
different types of multi-sectorial collaborations (so called ‘risk-groups); both within and outside the own municipal organization, as illustrated by this quote: “We shall increase the cooperation between the municipal departments, the National Road Administration, the police, interest organizations and the citizens in order to create safe solutions.” Some plan documents also articulate the importance of consulting the public/citizens and states the need to take special consideration to certain types of groups in order to create a safe and secure society for all, as illustrated by this quote: “The needs of the disabled should be given special attention in the planning process. Safety and security for women, children and the elderly should be given special attention. The planned actions should contribute to gender equality and see to the best interest of the children.”

Another compelling finding in this investigation is that terms like 'health', 'safety', 'risk' or 'security' are seldom used in relation to the impact/consequence analyses of the planned actions. Furthermore, it is important to notice that the municipalities often receives negative critique, regarding the way 'health and safety issues' have been treated in the plan documents, from the county administrative board (in their mandatory review-report of the content in the plan documents, which often has been added in plan documents appendix).

**Article II**

The content analysis of the municipal action programs shows that the overall aim for the local management of risk and safety is normally formulated in the same all-encompassing and grand manner (based on a compilation of similar statements): “To create a safe and secure society /environment/ municipality for those who live in, work in, or are visiting the municipality, so that everyone shall feel safe and secure. Risks shall be identified and eliminated. Accidents and fires shall be prevented / not occur / be continuously reduced in number and no individual shall come to harm and the environment shall be undamaged”

The programs’ descriptions of the municipal safety work organization are in general made rather indistinct. It is often referred to as something that is planned and executed in the administrative line organization and performed in relation to demands stated in different regulations. In other words, ‘risk and safety work’ is a built-in feature in each sectors’ regular and operative processes, as illustrated by this quotes: 'The Social Welfare Service is responsible for the registration and follow-up of slip and fall accidents' and 'The Technical Office is responsible for measures to increase traffic safety in the municipal road network'.

39
However, an often-stated ambition for future risk and safety management, or the next version of action program (usually for the development of the document) is that it should include ‘all municipal departments’ or that the work should ‘be carried out across sectors’. However, few programs mention any specific risk and safety issues that they intend to cooperate on. Some programs indicate practical difficulties (lack of processes and measures) in involving all the different municipal departments and to conduct cross-sectorial work-processes.

The responsibility for achieving local co-operation and coordination in this area is usually left unarticulated. Still, several programs describe some form of, either existing or planned, coordinating administrative organ (with participants from all or several different municipal departments), usually referred to as the ‘Risk group’. Few programs, however, describe in any detail how this function is, or should be, implemented in the regular municipal organization, which mandate it should have, or even what its assignments are meant to be.

Moreover, few programs state anything more specific and detailed about the background information used when assessing and evaluating the municipal risks and safety issues (the origin of the input, etc.). Nor do they in general indicate in any way how the analysis was performed or who the actors behind it were, etc. It is quite common to identify statements that express the need for better tools and procedures to identify, analyses and describe the local risks and to evaluate municipal risk and safety measures and operations.

The programs tend to have a biased view of protection against accidents within the Rescue Service Department’s immediate area of responsibility and most of them also explicitly declare that their program is delimited to issues that require emergency responses. Thus, the issues most frequently considered are related to fires, traffic, industries and to the transport of dangerous goods. Natural hazards and environmental risks are also frequently mentioned.

The programs’ references to more social, human and/or public health related issues or to management approaches based on accident and injury prevention are in general very few. When a reference occurs, it is seldom more than an outline of a future ambition or part of an overall safety goal for the municipal risk and safety work, as expressed in this quote: “The basic approach in this work shall, in the first hand, be to eliminate and/or reduce the source of risks through accident and injury-
preventive measures.” Still, some programs state that the preventive approach should be ‘extended’ in forthcoming programs. It is also relatively common to find statements declaring that the consideration of risks and safety issues will be ‘developed’ or ‘become broader’ in the future. Another common feature is to report on the general importance of special consideration to certain population groups (disabled, children and the elderly) in the management process.

**Summary of main findings from the municipal survey**

The section below summarizes the findings made in the statistical analyses of the survey investigation performed in *Article III & IV*.

**Article III**

In *Article III* the current directions for inner allocations of risk and safety management tasks (n=45) within the Swedish municipalities’ were identified using factor analysis, into an empirically identified typology with eight executive ‘risk-areas’. These were labeled and interpreted as dealing with issues related to:

1. Health and environment,
2. Traffic and transports,
3. Fires and extra-ordinary events,
4. Water, sewage and technical infrastructure,
5. Problems of social nature,
6. Home and leisure – children and youth,
7. Home and leisure – elderly
8. Suicide.

The identified pattern was considered to be based on a narrow management construct and the constitution of the typology seems to be rooted in the welfare bureaucracy and the municipal administrative structure.

**Article IV**

*Article IV* originated from the findings in *Article III*. Complementary information from another question in the survey was added about the respondents’ general assignments (n=25) within the municipality to further analyze the ‘risk-areas’ identified in *Article III*. Another factor analysis was performed, which resulted in nine ‘work-domains’ in the municipal government structure.
The ‘work-domains’ were labeled:

1. Technical infrastructure,
2. Land use planning,
3. Environmental and health protection,
4. Fire and rescue service,
5. School and child day care,
6. Culture and recreational/leisure activities,
7. Civil protection and safety,
8. Public health, crime and Agenda 21

By comparing the ‘risk-areas’ identified in the typology found in Article III and ‘work-domains’ (i.e. the two factor analyses outcomes) in an index matrix; an overview of the local governmental risk and safety management structure was created. The analysis also produced an indication of the degree to which each domain is active in the management of each specific risk area.

Three main findings can be drawn from this analysis that: 1) the identified domains take a rather sparse part in the governance of risks in general, 2) five of the nine identified domains seem to take active part in the management of a certain risk-area and, 3) most domains seem to be medium active in two or three risk-areas. Furthermore, the findings also indicates that each domain tend to focus on risks in line with what could be anticipated from that type of field-work and that the domains’ course of action was found to have three different types of value characters: Material/technical, Social/human and Cross-sectorial.

Accordingly domains like, Technical infrastructure, Land use planning, and Environmental and health protection, focus on risks in physical environments and technical systems which offer material values and commodities to the public. The domain Fire and rescue service focus on accident prevention and operational measures in relation to fires and to some extent also traffic incidents. While domains like School and child day care, Culture and recreational/leisure activities’, and Social and health care, all set their primary focus on incidents and activities related to social situation and public support of individuals. However, the two domains, Civil protection and safety and Public health crime and Agenda 21, seem to divide their focus on all the identified risk-areas. Moreover, some of the risk-areas seem to be handled to a rather low degree by all domains: e.g. the areas Home and leisure – elderly and Suicide.
Summary of the thesis empirical works

By summing-up the overall findings made in the empirical works (I-IV) in a matrix (Table 2); an overview of this thesis collective result is made. The left column states the research question investigated in each article (see p. 14) and the right column summarizes the main findings of each investigation.

<table>
<thead>
<tr>
<th>Research question</th>
<th>Main findings</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Article I</strong>&lt;br&gt;How are questions about risk issues treated in Swedish societal planning today?</td>
<td>Focus on large accidents with low probabilities and large consequences. Ambitions to develop the consideration of risks and safety issues and different types of multi-sectorial collaborations. However, practical difficulties to do so are also outlined.</td>
</tr>
<tr>
<td><strong>Article II</strong>&lt;br&gt;Is a broad and multifaceted approach applied in the public management of risk and safety?</td>
<td>Municipal risk and safety work is planned and executed in the administrative line organization and in relation to demands stated in different regulations. Lack of preventive management perspective, but a lot of development-goals in that direction. Need for better tools and procedures. Practical difficulties to conduct cross-sectorial work. Plans for a coordinating administrative organ with participants from different sectors.</td>
</tr>
<tr>
<td><strong>Article III</strong>&lt;br&gt;What constitutes societal risks and safety management on the local level?</td>
<td>Local SRSM typology for how a variety of risk and safety management tasks are allocated in eight 'risk-areas'. National uniformity for institutionalizing risk and safety issues.</td>
</tr>
<tr>
<td><strong>Article IV</strong>&lt;br&gt;How is the management of risks institutionalized in a modern welfare society at the local government level?</td>
<td>Local SRSM-work is divided into nine different 'work-domains'. Most domains are active in the management of one specific risk-area in line with what could be anticipated from that type of field-work. Some 'risk-areas' seem to be handled to a rather low degree by all domains. Local SRSM have different types of value characters: a Material/technical, a Social/human and a Cross-sectorial.</td>
</tr>
</tbody>
</table>

Table 2 Summary of the main findings in thesis empirical works
Discussion

This chapter is divided into three sections. It starts with a discussion, in line with the thesis *Aim and objectives* (see p. 15), about the overall lessons learned in the thesis empirical works (*Article I-IV*). This is followed by a reflection on future research needs (see p. 49 ff.). The chapter ends with an outline about the methodological considerations made and the circumstances that might have affected the final outcome of this thesis (see p. 51 ff.). When a ‘specific finding’ (from *Article I-IV*) is invoked in the argumentation below; reference is done in brackets by the roman number that the article was given at page *V*.

Reflection on the overall findings

The field of risk and safety management research is, as Hale et al. (1998, p. 9) points out, not only “[..] young, immature and not yet adequately based on empirical studies”, but also “[..] worryingly atheoretical in nature”. Nevertheless, the necessity to consider risk and safety with a holistic view, and address these questions multi-strategically through inter-sectorial collaborations, is something that has been emphasized for decades (WHO, 1998; WHO Europe, 1998; Svanström & Haglund, 2000; Pedersen & Bunton, 1997; Cohen et al., 2003; Sime, 1991; Heimplaetzter & Goossens, 1991; McCarthy, 1996). It has also been (as illustrated at p. 9 ff.) implicitly indicated in ‘modern’ Swedish national laws and policy objectives and highlighted in several governmental reports (see for instance Räddningsverket, 2004 or Hermelin, 2012). However, there have been few prior attempts – none as far as the author knows - to scientifically study the implementation of these ‘notions’ and empirically map and provide a scientific founded overview of the prevailing municipal administrative structures and management perspectives applied for SRSM.

The findings made in this thesis indicate that Swedish municipal SRSM has an administrative structure that reflects a division of tasks that seems highly founded in a traditional municipal administrative line organization (*I-IV*). Accordingly, the findings made confirm in many ways the idea of SRSM as a practice with a clear division between different roles and managing arenas (Maurice et al., 2001; Andersson, 2005; Olsen et al., 2007; Rasmussen, 1997; Rasmussen & Svedung, 2000; Svedung & Rasmussen, 1997). Apparently, the local ability to develop a wide-ranging risk and safety consideration is up for a fight against the forceful barriers of a specialized organizational structure (Kleven, 1996; Nilsen, 2007).
However, since the Swedish municipalities have a great deal of freedom to decide about their own organizational structure, and should adjust their implementation of laws and policies to local premises (as accounted for at p. 9 ff.); the identified strong homogeneity in the administrative division of the ‘risk and safety area’ is a somewhat surprising and unanticipated result (III & IV). Furthermore, it was not in advance self-evident, as Fromm (2006, p. 249) points out “[…] to which domain a certain risk should be associated – they may in fact be relevant for risk assessments in various domains.” Hence, considering the thesis empirical setting, the investigated municipalities’ contextual variety and the long tradition of local self-governance; it would theoretically have been more likely to find a more diverse pattern for how risk and safety issues are handled across the municipalities (Bergström, 2006).

The ‘Rescue services department’ is in the investigated documents often pointed out as a principal actor for handling risk and safety issues (I). However, their ‘strong position’ has shown to have a somewhat suppressing effect on other local actors’ participation in cross-sectorial risk and safety work-processes (Räddningsverket, 2008; Rosenberg, 2004). Therefore it seems highly relevant to raise questions regarding which actor that got ‘preferential right’ (power, control and responsibility) for chosen focus, proper course of action and underlying logics (Petersen, 1996; Lupton, 1999; Nilsen & Olsen, 2005; Boholm et al., 2012; Van Asselt & Renn, 2012). Thus, the identified ‘post-incident’ perspective (bias towards reactive actions/measures, ‘large accidents’ and statistically unlikely events) found in the investigated documents, is not a complete surprise but rather a probable indication that only a few sectors were involved in the development of the documents (I & II).

Moreover, it seems also likely that the identified management structure frames what kind of issues a ‘work-domain’ (IV) assume responsibility for; which in turn might lead to that some issues could ‘fall between management chairs’ (like unmanaged interfaces) and are left unattended because no domain feels responsible for them. If this is the case, it would help explaining the identified low management degree for the risk-areas ‘Home and leisure – elderly’ and ‘Suicide’ (IV) and the potential inertia for handling these types of issues from a ‘risk and safety perspective’. Furthermore, the low scores for these two risk-areas are a somewhat ironically finding, since they appear to be issues highly in need of being addressed holistically and multi-strategic through inter-sectorial collaborations.
Based on the survey’s strict division and general low management scores for all sorts of risk issues (III & IV) and the official documents’ failure to consider the full range of potential threats/all kind of accidents (I & II) - it seems as if the municipalities are somewhat reluctant or unable to face the national level’s ambitions and that much remains to be done to (fully) reach them. Accordingly, just like Kleven (1996) pointed out, policy intentions and norms seem to be one thing and the (municipal) reality another.

Thus, in the light of the suggested ‘Onion-framework’ (Figure 3, p. 26) and the findings made in this research project (I-IV), the statements of Johansson-Hidén et al. (2003) regarding the need of more vertical and horizontal coordination and interaction in the Swedish governance system still stands as a valid claim.

Moreover, even though a variety of actors are mentioned in the investigated documents (I & II), and some of the ‘work-domains’ seem to have a more public health and socially related approach (IV), there is reason to believe that a higher involvement of officials from these kind of departments would be beneficial for the local development of a more preventive, proactive, innovative and ‘all-inclusive’ focus (Svanström & Haglund, 2000; Hale & Hovden, 1998; Renn, 1998; Renn, 1992). This seems as an urgent matter to develop; especially since our society, according to Andersson (2003), seems ill-equipped to deal with risks associated to more ‘socially oriented threats’ and unable to create effective prevention for the ones that dominate ‘the accident or injury picture’: the elderly, the sick, the alcohol and drug addicts, the socially and economically marginalized, etc.

However, it must be acknowledged that a recurring phenomenon in the investigated documents (I & II) has been the consideration of so called ‘vulnerable groups’ in the local safety work; which corresponds well to preventive ideas (give power to and involve those who are affected) and to democratic principles behind local self-government (all public decisions should be made in close relation with the concerned, etc.) (see p. 8 ff.).

Moreover, the identification of two cross-sectorial domains (IV) might be an indication that holistic, inter-sectorial and multi-strategic work processes anyhow exist locally. Still, the identification of two (instead of one) cross-sectorial domains is a rather puzzling phenomena. Why the duality? One
plausible explanation could be that these domains also are dichotomously divided, focusing on one of the two identified ‘value characters’ (Material/technical or Social/human) (IV). However, the division of the cross-sectorial function works well with the traditional separation of prevention strategies; to either work with environmental protection, or with support of individuals (WHO, 1998; Maurice et al., 2001; Svanström & Haglund, 2000; Carlsson-Gielen & Sleet, 2006; Tones & Green, 2004; IOM, 2001).

Moreover, in analogy to the different management stages in the ‘bow-tie-model (Figure 2, p. 23) and in line with Hovden (2004, p. 636) argumentation, their seems to be a general need for increased interaction between the two ‘different management sides’ (prior and post) in the municipal SRSM; “In a way it looks like two separate worlds; control and preventive means and measures versus emergency planning/response and consequence reduction. Can they be mixed, and what can be achieved? Are there any synergies?”

Nevertheless, this thesis empirical findings (I & II) indicates that SRSM tend to foremost have a post-perspective, but they also indicates that the municipalities have a general ambition to strengthen their focus on commonly occurring risks and adopt a more preventive approach. A commonly expressed first step would be to develop inter-sectorial and multi-strategic work-collaborations with participants from all local departments and functions. Still, the development of so called ‘risk-groups’ has been advocated for a long time by the national governmental level (Räddningsverket, 2004; Räddningsverket, 2008). Still, it is in large unclear what such groups would actually imply; which role and mandate are they supposed to have in the municipal organizations?

However, the development of a multifaceted SRSM-practice(-s) might be complicated to facilitate. Especially, since different actors reasonably view ‘risk and safety issues’ from different angles, and might not understand each other’s rationales and hence favor and act protectively towards interests and outlooks of their own domain (Maurice et al., 2001; Andersson, 2005; Olsen et al., 2007; Bergström, 2006; WHO, 1998; Fromm, 2006; Cooper, 2000; Renn, 1998; Van Asselt & Renn, 2011, Renn, 1992).

Accordingly, the success of implementation of a holistic, inter-sectorial and multi-strategic SRSM-practice seems dependent on the municipal ability to combine, integrate and synchronize different forms of knowledge and acknowledge that different actors all have something valuable to add (WHO,
1998, Althaus, 2005; Lidskog et al., 2005; Hellström, 2003) and to do so “[…] without any one profession or discipline having monopoly of wisdom over optimum strategies for reducing the likelihood of accidents, disasters and injuries” (Sime, 1991, p. 121-122).

However, since different actors have been found to use a ‘domain-specific’ vocabulary (Bergström, 2006; Fredriksson, 2007) the creation of common understandings could be complicated to facilitate. Thus, yet another potential hinder for collaborations might be the many interlinked and multi-dimensional terms that exist in the SRSM-area (see p. 16 ff.).

Also others (see for instance Räddningsverket, 2008; Rosenberg & Andersson, 2004) have noticed that municipal SRSM is an area entangled with several practical difficulties and lack of routines (I & II). Accordingly, the municipal ability to work holistic, inter-sectorial and multi-strategic seems - in analogy with the suggested ‘Onion-framework’ (Figure 3, p. 26) – as a key-issue to develop if stated strategies (in Layer 1 & 2) are to be fulfilled (by Layer 3-5).

Accordingly, if the national level wishes to see a local progress in the desired policy direction, they need to improve the implementation support offered to the local level. A first mission would be to clarify the overall intention with different ‘SRMS-policies and laws’ and highlight their connections/mutual coherence and the advantages of adopting a collective approach. Moreover, the national level also needs to be more explicit with the expected application and the ‘practical role’ of local planning documents. Otherwise, there is a danger that stated objectives (Layer 1 & 2) remain a rhetorical bureaucratic exercise (Layer 3) with few practical effects (i.e. as ‘fancy ideals’ in a document on a shelf) and not part of, or guide for, the operational level (Layer 4 & 5). This seems especially evident since, as Kleven states (1996, p. 135), local plan documents: “[…] have a tendency to disappear into some sort of political oblivion” after they have been completed.

Another issue that needs to be clarified is how this kind of documents should be regarded and used; as a local policy statement, an information source about local ambitions or as a national control-instrument for local development? Or should they satisfy all of the above? If so, is that even possible?
Reflection on further research needs

The overall idea with the outlines below is to provide a reflection of some of the research challenges that lies ahead in the SRSM-area and to stimulate the direction of future research efforts. The suggestions made (below) have emerged based on the findings made in the thesis empirical works (Article I-IV), but also on basis of the thesis methodological demarcations.

The thesis explorative and descriptive approach, along with the fact that research about SRSM is in its infancy; made it easy to identify further research challenges. Thus, while writing this report, it was clear that this research project has just begun the process of ‘peeling and chopping the onion’ (see p. 24 ff.). Apparently, more systematic research is needed about the terms that surrounds and effects ‘SRSM-issues’ and about “the collective mechanism by which some risks become managerially and politically visible while others do not” (Power, 2004, p. 39).

In line with the suggested ‘Onion-framework’ (see p. 24 ff.), more research is needed about the normative, methodological, institutional, cultural, and economical aspects of the SRSM governance system and its real world dynamics (Khakee & Eckerberg, 1993; Petersen, 1996; Duhl & Sanchez, 1999; Boholm et al., 2012; Van Asselt & Renn, 2011).

A start for further research would be to perform critical analyses of the whole ‘governance system’ - from strategic policies to local actions - and investigate the relationships (if there are any) between the overall national laws, policies and strategies (Layer 1 & 2), the local plan-making processes (Layer 3) and the daily execution of tasks (Layer 4 & 5) and later evaluate the ‘outcome’ as a measure of the implementation success.

These kinds of lessons would not just empirically validate the suggested model (Figure 3, p.26); they would also probably provide knowledge that could be transferred into actions-strategies and provide candidates of ‘current best practice’ or so to say examples of ’how to walk the talk’ (Nilsen, 2007; Rasmussen, 2003; Svedung & Rasmussen, 1998; Rasmussen & Svedung, 2000; Svedung & Rasmussen, 1997; Van Asselt & Renn, 2011; Wiberg, 1999).
A natural continuation of the work performed in this thesis would be to perform content analysis of future municipal plans/programs (I & II) and include the ‘procedural aspects’ of both the planning process and the subsequent implementation. Furthermore, there are also many incentives to develop the questionnaire and expand the survey to include all of Sweden’s 290 municipalities (III & IV).

Apparently, since no in-depth interviews (individual or focus-groups) with officials and politicians have been performed within this thesis, more systematic information about their views and experiences regarding the practical abilities (and potential obstacles) to consider risk and safety with a holistic view and address them multi-strategically through inter-sectorial collaborations is needed.

Moreover, researchers like, for instance, Enander (2003) and Lidskog et al. (2005) points out that there are differences in risk-perception among men and women. Thus, it seems very important to draw attention to control and power in the SRSM-area from a gender perspective (Lupton 1999; Petersen, 1996). Because, as Fromm (2006, p. 248) has shown, male ‘risk experts’ are “[…] most often oriented towards natural science and technology in their education”, while female are “[…] often more oriented towards health and social science”. Accordingly, it would be interesting to investigate societal risk and safety management and the identified ‘work-domains’ and ‘value characters’ (III & IV) from a gender and equality perspective.

Furthermore, since it has not been within the scope of this thesis to describe, analyze or explain the reasons ‘behind’ the identified management structures and applied perspectives, advances that set focus on the historical context which directly and indirectly has formed their terms would be interesting.

Finally, it would also be interesting to design a comparative research approach; especially among countries that has a similar SRSM and ‘governance system’ -like the Nordic ones. Especially, since their ‘leading international positions’ in the preventive area often is explained by and deduced to the systematic use of inter-sectorial work-alliances (Svanström & Haglund, 2000).
Methodological considerations and potential limitations

The section below describes the overall attempts to establish good scientific quality in this research project and discusses the potential implications that might exist due to the applied design. The accounts are divided in three parts: the first part examines the thesis as a whole (see p. 52 ff.), the second part considers the document analyses performed in Article I & II (see p. 54 ff.) and the third part scrutinizes the survey and the measures used in Article III & IV (see p. 55 ff.). Each part ends with an ethical reflection.

A lot of different methodological and ethical considerations have been taken to assure scientific rigor and establish empirical legitimacy in this multi- and interdisciplinary research project (Patton, 1997; Patton, 2002; Bryman, 2002; Rolfe, 2006; Allwood, 2004; Yin, 2003; Bergström & Boréus, 2005; Hsieh & Shannon, 2005; Svensson and Starrin, 1996; Börjesson, 2003; Richards, 2002; Krippendorff, 2004; Svensson, 1993; Child, 1970; Kim & Mueller, 1986; Kim & Mueller, 1987; Schuman & Presser, 1996; Johansson, 2004; Johansson et al., 2006; Johansson & Svedung, 2006).

The overall study design and the evaluation of this thesis quality (as accounted for in the sections below) have been guided by the authors’ understanding of three, closely linked and interdependent scientific criterions: validity, reliability and trustworthiness (Patton, 2002; Bryman, 2002). The forthcoming pages will account for how these criterions have been applied in this thesis.

- **Valid data** is considered as data that is accurate to the reality that it tries to capture. **Validity** is therefore an issue concerning the methodological rigor in all steps of the study process and on the suitability of applying a particular instrument to find an answer to the specific research question.
- **Reliable data** is considered as data that has been produced in a consistent manner, so that random circumstances (errors and biases) are minimized and the findings obtained can be considered as truthful and fair. **Reliability** is therefore concerned with the consistency of the measurements applied and the possibility to replicate the study.
- **Trustworthy data** is considered as data that is upright against its source and has reach correspondence to reality. **Trustworthiness** is therefore an issue concerned with whether the study has given an honest, meaningful and empirically supported picture of the phenomenon under study.
**Scrutiny of the research project as a whole**

The design of the research project has, due to the general lack of both previous research and universal methodology to assess scientific knowledge regarding municipal SRSM, been an inspiring challenge on both a practical and an analytical level. Apparently, since a single Swedish municipality potentially could have a unique organization (see p. 7 ff.) a systematic and at the same time pragmatic research approach had to be developed (see p. 21 ff. and p. 28 ff.).

The evaluation of this project as a whole and the possibilities to generalize from its findings depends utterly on the reviewing researchers’ choice of scientific reference frame, views about appropriate methodology and acceptable criterions for judging scientific outcomes (as indicated earlier in this report at for instance at p. 2 ff. and p. 28 ff.). Since this research projects overall research design moves across the continuum between the two contrasted standpoints (illustrated in Figure 4, p. 29) and has used both; inductive and deductive reasoning, qualitative and quantitative measures and statistical data as well as information from artifacts – a key factor for evaluation is to determine whether the design applied has acted as a strengthening factor for the comprehensive outcome; or if the findings jointly made in Article I-IV works in an irreconcilable and inconsistent way. Accordingly, evaluation of this thesis is ultimately a question about whether the findings together have provided us with information that could be considered as consistent and representative for Swedish SRSM (Patton, 2002; Bryman, 2002; Yin, 2003).

As illustrated in the Results chapter (see p. 38 ff.) and in the summary of the thesis overall findings (presented in Table 2, p. 43), Article I-IV works consistently well together and confirms and amplifies each other’s findings in many ways. Thus, the applied design can be considered as a strengthening factor (Yin, 2003). However, acting as a devil’s advocate, the selection criteria’s and the order of succession for the empirical works, combined with the fact that they jointly only covers 20-25% of the total number of Swedish municipalities, can be considered as an methodological weakness (see p. 31 ff.).

However, given that the investigated material is collected from a variation of municipalities, the solidity of data, the likelihood of the overall results and their applicability to a ‘larger context’ are in some extent secured (Patton, 2002; Bryman, 2002; Yin, 2003). Still, the design applied has (despite possible shortcomings) provided this thesis with a more comprehensive presentation of
municipal SRSM, than each of the four articles are able to do on their own. However, since research about SRSM is in its infancy, it is a bit problematic to compare and value the findings made against other contributions.

Nevertheless, along the research processes several other factors have favored the methodological quality of the thesis final outcome. All steps in the research process and the emerging results in the thesis have been constantly debriefed and evaluated with the articles’ co-authors (all highly competent and experienced in their respective scientific fields). The findings have also been reviewed a number of times with scholars from different research disciplines and with officials from different governmental levels. The findings also have been comprehensively presented in other publications related to the research project (Johansson, 2004; Johansson & Svedung, 2006; Johansson et al., 2006) and at several international research conferences. Finally, the usage of softwares in the research processes must also be considered as another overall strengthening factor for the methodological approach applied.

**Ethical reflections for the project as a whole**

An overall ethical dilemma in need of self-appraisal is whether this research project could be considered as intellectually independent and morally free, since it has been funded by a state agency. However, since the SRSA’s financial ‘environmental support for universities and research institutes’ has been provided directly to Karlstad University and later directed to this project by indirect means; the research integrity and the researchers’ independence is considered to have been kept intact.

Consideration must also be given to the facts that the thesis author was during 2008 part-time employed by the SRSA as a project manager for a development-project concerning ‘Municipal risk management and safety-work’; and that she, since 2009, is a full-time employee, as a ‘risk management advisor’ and development project manager, at the Greater Stockholm Fire Brigade (GSFB) (See Preface p. I ff.). The author has naturally gained a deeper understanding for SRSM at different governmental levels through these positions, but the SRSA or the GSFB did not have any (direct) association with, or impact on, the present research project.
Scrutiny of the document analyses

Since there is “no clear-cut research design for evaluation of strategic plans” (Mastop and Faludi, 1997, p. 815), Article I & II need to be scrutinized against the lack of ‘validated methodology’. Since the analysis performed cannot rely on statistical tests to tell whether the findings made are significant or meaningful, an important issue for evaluation is related to whether the methodological process been accurate and if reviewers have been invited to verify the results. Thus, important issues for the evaluation are the investigator’s skill and competence - as the instrument - to perform the study and to establish consistent findings and his/her ability to present them in a balanced and fair way so that ‘naturalistic validations’ can be performed. Accordingly, an important feature for evaluation of Article I & II is the usage of actual phrasings and descriptive statistics so that reviewers can evaluate if the ‘described reality’ is reflected in the investigated plans/programs (Patton 2002; Bryman, 2002; Rolfe, 2006; Bergström & Boréus, 2005).

The findings in Article I & II must naturally be acknowledged as sample-bounded, but due to the amount of investigated documents and their broad variation in origins and structures; they are jointly considered to be a sincere and representative description of these kinds of ‘artifacts’ and their content. Still, there is always - due to the investigated documents’ varied degree of user-friendliness and richness - a possibility that some observations have been misclassified, misinterpreted or overlooked. Thus, decisive factors for the investigations’ overall quality are the uses of the thematic content analysis tool in Article I and of N6 software in Article II (Patton, 2002; Bryman, 2002; Hsieh & Shannon, 2005; Davids et al., 1997; Richards, 2002; Krippendorff, 2004).

Ethical reflections on the document analyses

Even though the official documents investigated in Article I & II are public and free for everyone to require, several measures have been taken to avoid exposure and to protect the integrity of the specific municipality and it was judged to be irrelevant for the specific research questions to determine in which specific plan/program a specific quote were found. Another reason for not making municipal references in Article II was due to the strong resemblances between the investigated programs and the fact that one quote could very well be accurate for and deduced from two or more programs. Still, in Article I, the quotes used (as positive examples) have been given a municipal reference.
**Scrutiny of the municipal survey analyses**

The major potential limitation for the investigations performed in *Article III & IV* originates from the overall survey-design and the criterions for selection of the respondents and the subsequent difficulties to provide a conventional non-response analysis (due to the potential theoretical variety in organizational models). Nevertheless, the participating respondents were fairly evenly distributed across all sorts of existing departments/functions (Johansson et al., 2006).

However, the respondents’ knowledge about the investigated matter could always be questioned. The author(-s) do not, however, have any reason to suspect that they intentionally would have provided false or misleading information. Still, a potential general error when using questionnaires is that the respondents’ knowledge and perceptions will change as time passes. Even though the survey had a rather high response rate, the analysis had a relatively high degree of explained variance and standard criteria were used for measuring the statistical evidence; the findings made are dependent both on the variables’ sampling adequacy and on the use of factor analysis as an investigation method (Child, 1970; Kim & Mueller, 1986; Kim & Mueller, 1987).

Apparently, the chosen response alternatives and the exclusion of answers might be considered as a limitation and it could perhaps have been more suitable to have attached the responses to another type of scale and/or used another analytical technique (Schuman & Presser, 1996). However, the present design could also be considered as a strengthening factor, since the respondents were able to make a choice that might be more accurate to their understanding, instead of being forced to make a less attractive choice. Moreover, the identified factors might have been labeled differently by others.

Moreover, the inclusion of additional municipalities to the originally selected 50 (see p. 31 ff.) might indicate a selection bias. However, there are no indications that any of the selected municipalities in any way would perform a ‘better’ or ‘worse’ SRSM-work than other municipalities (Strömgren and Andersson, 2010; Johansson et al., 2006).

Also other, more external factors could have affected the survey. At the time of the data collection, two major (‘glocal’ and national) events occurred that heavily challenged the Swedish municipalities: the 'Tsunami' in Thailand in...
December 2004 and a severe storm called 'Gudrun' in January 2005. These circumstances might have affected the overall response rate and the respondents’ ability to answer the questionnaire (due to work overload). However, these events could also be claimed to have raised the general interest for SRSM-issues and may have had a positive influence on the response rate.

*Ethical reflections on the survey analyses*

The survey was performed in accordance to the standard ‘ethical research principles and guidelines’ (Bryman, 2002). The participating officials were informed about the study, its aim and the terms for their participation. They were also notified that their participation was voluntary and could, without any subsequent effects or explanation, be called off. The respondents were also free to decide the level of participation (if they wanted to decline participation, skip questions, etc.). Since it was a web-survey, the respondents’ consent to participate was considered to be equal to the fact that they chose to answer the questionnaire. The collected information was stored so that unauthorized persons could not take part of it and all analyses have been reported in aggregated form (Bryman 2002; Patton, 2002; Johansson et al., 2006).
Conclusion

In conclusion, this thesis provides through its empirical works (Article I-VI) an outlook on the general characteristics and archetypical features of the Swedish local level’s administrative structures and management perspective on risk and safety management; and proposes a municipal typology and a set of value characters for allocation and institutionalization of SRSM-tasks locally. This thesis also suggests a conceptual ‘Onion-framework’ for overviewing the societal risk and safety management’s steering elements.

Based on the findings made in this thesis empirical works (Article I-VI) it seems as if the local level’s compliance to the strategic level’s ambitions for the risk and safety area is hindered by practical implementation difficulties and that much work remains in order to reach stated international and national strategic objectives regarding holistic, inter-sectorial and multi-strategic management approaches, and preventive work.

This research project has shown several explorative and descriptive merits, which hopefully can give a valuable contribution to the academic thinking in this area and inspire to a continued discussion and future research in the societal risk and safety management area. Hopefully, it will also serve as useful input to future policy and planning designs and appraisal of the governmental development at different levels.
References


Societal risk and safety management

This compilation thesis investigates risk and safety management at the Swedish local governmental level. It sets special focus on municipal implementation of overall international and national strategies and objectives regarding holistic, cross-sectorial and multi-strategic risk and safety work, and the prevention of accidents and injuries.

The overall aim for this thesis have been to empirically map and provide an overview of the administrative structures for, and the prevailing management perspectives applied in the societal risk and safety management in Sweden, as well as to study the diffusion of strategic intentions for this area down to the municipal level.

This thesis provides through its empirical works (Article I-VI) an outlook on the general characteristics and archetypical features of the Swedish local level’s administrative structures and management perspective on risk and safety management; and proposes a municipal typology and a set of value characters for allocation and institutionalization of risk and safety-tasks. This thesis also suggests a conceptual framework for overviewing risk and safety management’s systemic steering elements in its framework report.

Based on the findings made in this thesis, it seems as if the local level’s compliance to the strategic level’s ambitions for the risk and safety area is hindered by practical implementation difficulties and that much work remains in order to reach stated strategic objectives regarding holistic, inter-sectorial and multi-strategic management approaches, and preventive risk and safety work.

urn:nbn:se:kau:diva-27079


ISSN 1403-8099

DISSERTATION  |  Karlstad University Studies  |  2013:23