

Vestlandsforskinsrapport nr. 9/2008

Exit War, Enter Climate

Institutional change and the introduction of climate adaptation in Norway's public system of civil protection

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WNRI Report

Title Exit War, Enter Climate? Institutional change and the introduction of climate adaptation in Norway's public system of civil protection	Report No. 9/2008 Date 1 December 2008 Restrictions Open
Project title CIVILCLIM	Pages 86 Project No. 6065
Researcher(s) Idun A. Husabø	Project leader Carlo Aall
Contractors The Research Council of Norway	Keywords Civil protection, climate effects, climate change, climate planning, climate vulnerability, climate adaptation
ISBN: 978-82-428-0286-6	Price: NOK 200

Preface

This report constitutes the first stage of the research project *Civil Protection and Climate Vulnerability* (CIVILCLIM), and will form the basis for the following stages of the project. CIVILCLIM is funded by the Research Council of Norway, with contributions from the Directorate for Civil Protection and Emergency Planning. The project has a total time frame of four years and is coordinated by Western Norway Research Institute. A key aspect of the project is international co-operation and cross-national comparisons. The project's partners are the Swedish Defence Research Agency (FOI), Centre for Clean Technology and Environmental Policy (CSTM) at the University of Twente in the Netherlands, and the University of Hull in the United Kingdom.

Several people deserve mentioning for their assistance in compiling information material for this report. In particular, Haavard Stensvand at the County Governor's Office in Sogn og Fjordane provided invaluable input.

Sogndal, 15 December 2008

Carlo Aall

Project leader

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Summary

Climate change will most likely lead to more frequent occurrences of extreme weather events and natural disasters in Norway in the coming decades. For the public system of civil protection, this heralds new challenges and a need for new approaches. For example, the effects of climate change are expected to become a weightier consideration in all types of local planning in future years. This report seeks to provide insight into the way in which the system of civil protection currently handles challenges related to climate change. Ongoing processes of change within the institution of civil protection constitute a main focus. Four actors of civil protection have been studied: the Directorate for Civil Protection and Emergency Planning (DCPEP), the County Governors' civil protection staff, the County Geologists at some County Administrations and a set of voluntary rescue organisations. Three processes of change with possible effects on the prioritization of the system of civil protection in the last decades are subject to examination: the transition from a predominantly *military* to a predominantly *civil* focus in the 1990s, the entry of climate adaptation upon the agenda of the institution of civil protection, and negative effects of deregulation and privatisation - processes associated with New Public Management - in the public sector.

On the basis of this study, the following broad conclusions have been drawn concerning the status quo within the institution of civil protection:

- The actors studied here have all established a focus on the issue of climate adaptation, either explicitly or indirectly. The DCPEP was clearly a pioneer in the sense that dedicated members of staff contributed to pushing climate adaptation up the agenda of Norwegian politics.
- Preventive or proactive work is emphasized to an increasing extent, especially by the County Governors' Offices, e.g. through measures such as risk and vulnerability mapping in connection with land-use planning. This is directly related to experiences with natural disasters and extreme weather events in the last two decades. However, reactive measures – in contrast to preventive measures – are still granted the most attention in the system of civil protection, also with regard to climate change.
- Despite the fact that the issue of climate adaptation has climbed up the national political agenda, climate adaptation measures (such as ensuring safe land-use planning) still constitute a relatively novel concept in many parts of the system.
- National and regional priorities differ to some extent. For example, the issue of terrorism is still considered a top priority by the DCPEP, alongside with climate adaptation. In contrast, many County Governors' Offices consider terrorism less relevant to their civil protection work.
- So far in the effort to encourage climate adaptation, the system of civil protection has been highly focussed on the local level. Fulfilling these expectations constitutes quite a challenge for Norwegian municipalities.

Previous studies of major natural disasters, e.g. the 'New Year's Hurricane' in 1992 and the 'Vetleofsen' flood in Eastern Norway in 1995, indicate that deregulation of the public sector (and other aspects of 'New Public Management') may have impacted negatively on societal safety and security. In short, public sector privatization and less regulation of private actors, combined with a general prioritization of short-term economic gain, may affect the maintenance of public infrastructure. In turn, this could lead to enhanced vulnerability on the part of many key sectors vis-à-vis tougher weather conditions.

The report also touches on the institutional capacity of the selected civil protection actors for tackling climate adaptation. Three variables are central: knowledge resources, relational resources and attitudes to the issue. An additional fourth variable - administrative capacity - is worth studying because it may come to constitute an obstacle to fulfilling national expectations of stepping up the effort in the realm of climate adaptation. As for knowledge resources, there is a general potential for increasing the knowledge of how climate may influence society. Relational resources - an important prerequisite for strengthening one's knowledge resources – have generally increased, and this development is likely to continue as the debate on climate adaptation gains momentum. The attitude to climate change varies considerably between the different actors of civil protection, with the County Geologists at the least aware and proactive end of the continuum, voluntary rescue organisations somewhere in the middle, and the DCPEP and County Governor's Offices at the most aware and proactive end of the continuum.

Samandrag

Med klimaendringar kan Noreg oftare bli råka ekstremvær og naturkatastrofar. Dette har følgjer for det sivile beredskapssystemet. Til dømes kan ein vente at omsynet til sårbarheit for klimaendingane vil vege tyngre i alle typar samfunnsplanlegging i åra som kjem. Det overordna målet med denne rapporten er å gi innsikt i korleis beredskapssystemet så langt har handtert utfordringar knytt til klimaendringane. Rapporten ser i hovudsak på viktige endringsprosessar i den norske beredskapsinstitusjonen. Vi har studert fire beredskapsaktørar: Direktoratet for samfunnssikkerhet og beredskap (DSB), fylkesmennene sin beredskapsstab, fylkesgeologen i nokre av fylkeskommunane og friviljuge redningsorganisasjonar. Vi studerer tre endringsprosessar som har påverka prioriteringane til beredskapssystemet dei siste tiåra: utviklinga frå eit *militært* til eit meir *sivilt* fokus på nittitalet, starten på arbeidet med klimatilpassing og mulige negative følgjer av New Public Management – særleg deregulering og privatisering av offentleg sektor – for samfunnssikkerheit.

Meir konkret gir studien grunnlag for desse breie konklusjonane om status quo for klimatilpassing i den offentlege delen av den norske beredskapsinstitusjonen:

- Klimatilpassing er tematisert av alle dei fire beredskapsaktørane vi har studert. DSB var først ute, og direktoratet var drivkrafta bak klimatilpassinga sitt inntog på den nasjonale politiske dagsorden.
- Aktørane legg i stadig større grad vekt på førebyggjande arbeid, t.d. gjennom arealplanlegging som har til mål å redusere samfunnsrisiko. Dette gjeld særleg fylkesmennene, og har bakgrunn i konkrete erfaringar frå naturkatastrofar og ekstremvêrhendingar dei siste to tiåra. Likevel får reaktive tiltak – til skilnad frå førebyggjande tiltak – framleis mest merksemd i dei fleste delane av beredskapssystemet, òg når det gjeld arbeid knytt til klimaendringar.
- Sjølv om klimatilpassing har kome høgare på den politiske dagsorden, er tiltak for å stimulere til trygg planlegging og omsyn til klimatilpassing framleis i ein tidleg fase i Noreg.
- Det finst visse skilnader mellom prioriteringane til det regionale nivået og det nasjonale nivået. I motsetning til mange av beredskapsstabane hjå fylkesmennene, vurderer DSB terrorisme som eit svært aktuelt trugsmål, på linje med klimaendringar.
- Så langt i arbeidet med å fremje klimatilpassing, har beredskapssystemet lagt svært stor vekt på det lokale forvaltningsnivået. Det er ei stor utfordring å gjere kommunane i stand til å oppfylle forventningane.

Tidlegare studiar av større naturkatastrofar, t.d. Nyttårsorkanen i 1992 og flaumen på Austlandet i 1995 (Vetleofsen), tyder på at deregulering av offentleg sektor, eller den breiare prosessen som internasjonalt har nemninga New Public Management, kan ha negative konsekvensar når det gjeld å gjere samfunnet meir sårbart for klimaendringar. Heil- og delprivatisering av offentleg sektor og mindre vekt på regulering av private aktørar, kombinert med ei generell prioritering av kortsiktig økonomisk vinst i alle delar av samfunnet, kan gje dårlegare vilkår for å setje av tilstrekkelege ressursar til vedlikehald av offentleg infrastruktur. Dette kan gjere samfunnet meir sårbart for naturskade og (difor) klimaendringar.

Rapporten omtalar òg den institusjonelle kapasiteten til dei nemnde beredskapsaktørane. Her står tre variablar sentralt: kunnskapsressursar, relasjonsressursar og haldningar til klimaspørsmålet. I tillegg spelar ein fjerde variabel inn, nemleg administrativ kapasitet, dvs. økonomiske rammer. Generelt er den administrative kapasiteten blitt redusert innafor beredskapssystemet gjennom overgangen frå militær til sivil beredskap, særleg hjå fylkesmennene. Om ikkje denne utviklinga blir snudd, vil det representere ei hindring for å oppfylle forventningar om auka innsats frå beredskapssystemet på klimatilpassingsfeltet. Når det gjeld kunnskapsressursar, er det eit generelt potensial for å auke kunnskapen om korleis klimaet kan påverke samfunnet. Relasjonsressursar er ein viktig føresetnad for å styrke eigne kunnskapsressursar. Generelt har det vore ein stor auke i relasjonsressursane, og denne utviklinga vil venteleg halde fram etter kvart som det blir større debatt om behovet for klimatilpassing. Haldningar til klimaendringar varierar mykje mellom dei ulike beredskapsaktørane, med fylkesgeologane i den minst medvitne delen av skalaen, frivillige redningsorganisasjonar om lag i midten, og DSB og fylkesmannens beredskapsavdeling i den sterkt medvitne og mest proaktive enden av skalaen.

Introduction

In many ways, a turning point has been reached with regard to the challenges associated with the consequences of climate change in years to come. Although industrialised nations are generally less vulnerable to climate change compared to areas in several developing countries (e.g. Sub-Saharan Africa, Asia, Polynesia, and the Arctic), factors such as the heavy reliance on technology have added to our vulnerability to climate change in the West. In protecting human societies against the effects of climate change, systems of civil protection play a key role. This report looks at the human response dimension of global climate change, and seeks to provide insight into the interface between civil protection and climate change in Norway. In short, the report explores how the system of civil protection has responded to the issue of climate change.

Originally referring to the effort to prepare civilians for military attack, the concept of *civil protection* has undergone a focus shift in Norway and in many other European countries following the end of the Cold War.¹ The threat of military attack no longer being imminent, the public systems of civil protection focus more on tackling natural disasters. This report argues that this shift, having gone on since the mid-1990s, is currently entering a second phase in which the institution of civil protection focuses more specifically on tackling the consequences of climate change, rather than just natural disasters. Clearly, this shift entails widening of the focus from mainly post-crisis reactive work to risk mitigation and prevention of natural disasters, e.g. through safe land-use planning. In order for the organisations in question to respond effectively to the need for climate adaptation, a certain level of insight and awareness must be in place. The term used to describe this competence for climate adaptation, to be defined below, is *institutional capacity*.

The three chapters of the report focus on the following main questions:

1. What is the formal nature of the various public organisations of civil protection, and how do they function?²
2. What processes and developments have stimulated change within civil protection, shaping the agenda and priorities of the system?³
3. What can be discerned with regard to the institutional capacity of the various organisations? In other words, how well have the organisations responded to the challenges posed by climate change?⁴

Norway's public system of civil protection comprises actors at three levels: nationally, regionally, and locally, the former two being the subject of this report.⁵ The *first* chapter seeks to offer a description of Norway's public system of civil protection at the national and regional level, including parts of the Directorate for Civil Protection and Emergency Planning (DCPEP), the County Governors' Offices, and the County Administrations. At the DCPEP, the Norwegian Climate Adaptation Programme, assigned to the DCPEP by the Ministry of the Environment, will be described. At the County Governor's Office, the civil protection staff or Department of Civil Protection and Emergency Planning is of particular relevance. Finally, at the County Administration, the County Geologist's work will be examined. For each of these organisations, a set of formal structures will be described, including formal organisation, tasks and responsibilities, administrative capacity, tools, legal foundation, and central steering documents. In addition, the work of three of the most significant voluntary rescue organisations in

¹ The field of civil protection is, to an increasing extent, referred to by other names, mainly 'samfunnssikkerhet' (commonly translated as 'security and safety of society') in Norway. In Report no. 17 to the Storting (2001-2002), the concept is defined as follows: 'Society's ability to maintain important societal functions and the lives, health and basic needs of citizens under various forms of strain'. The term 'samfunnssikkerhet' is preferred by many County Governors as a term describing the civil protection work carried out. In this report, however, the term 'civil protection' will be used in most cases, in accordance with the terminology of the CIVILCLIM project.

² In examining this, a set of factors will be used.

³ Here, little distinction will be made between the individual organisations that form part of the overall institution of civil protection.

⁴ A definition of *institutional capacity* will be provided in the following.

⁵ Although municipalities (the local level) are in many ways the most important part of the system of public civil protection, the local level is not the subject of this particular report. However, municipal tasks and responsibilities are indirectly touched on in the sense that most of the tasks carried out by the County Governor's civil protection staff pertain to the municipalities.

Norway will be outlined, as their resources are often drawn on by the public system of civil protection. These organisations will, however, be discussed in less detail.

The *second* chapter sheds light on three processes of societal change which have, to a varying extent, stimulated change through shifting the priorities of the public system of civil protection in Norway in recent years. Factors such as the end of the Cold War and experiences with serious natural disasters stimulated institutional change in the early 1990s. This development will be described in the first section, along with a brief outline of the history of civil protection in Norway. The second section looks at the introduction of the issue of climate change and adaptation in civil protection at the national level, while the third section seeks to describe how New Public Management (including policies of privatisation, modernisation, and deregulation) may have contributed to enhancing societal vulnerability.

The *third* chapter seeks to establish insight into institutional capacity for climate adaptation on the part of the organisations in the public system of civil protection. The term 'institution' requires some clarification. Although this report will focus on a selection of public organisations (not to be confused with 'institutions'), these organisations form part of a larger system of tasks which can also justifiably be referred to as an institution. Here, the following definition of an institution will be adopted:

'Institutions are systems of rules, decision-making procedures, and programs that give rise to social practices, assign roles to participants in these practices, and guide interactions among the occupants of the relevant roles. Unlike organizations, which are material entities that typically figure as actors in social practices, institutions may be thought of as the rules of the game that determine the character of these practices.'⁶

In other words, the wider *realm* of civil protection in Norway will be viewed as an institution which in turn comprises a range of actors - including the public organisations that are described in the first chapter. In assessing their institutional capacity, three variables will be employed: knowledge resources, relational resources, and attitudes. An assessment based on these three variables will provide an indication of the extent to which an organisation is able to respond to a 'new issue' such as climate adaptation.

The report draws mainly on qualitative research techniques, and a series of in-depth interviews (and some shorter interviews) with people in key positions constitutes the main empirical foundation for this report. Examples from the County of Sogn og Fjordane are drawn on throughout the report. Moreover, relevant scientific publications, white papers, and public reports pertaining to civil protection in the post-Cold War era have been studied. Several conferences, seminars and simulation exercises have been attended in order to observe interaction between key actors and organisations, and in order to gain an impression of their methods, priorities, outlook, and opinions. Lists of interviews and observations are found at the end of the report.

⁶ Cited in <http://www.ihdp.unibonn.de/html/publications/reports/report09/ins.htm#Figure%201> (Source: Institutional Dimensions of Global Environmental Change (IDGEC Scientific Planning Committee)), 7 July 2008 at 10.30 am.

I. THE PUBLIC SYSTEM OF CIVIL PROTECTION IN NORWAY

1. The Directorate for Civil Protection and Emergency Planning

Organisation

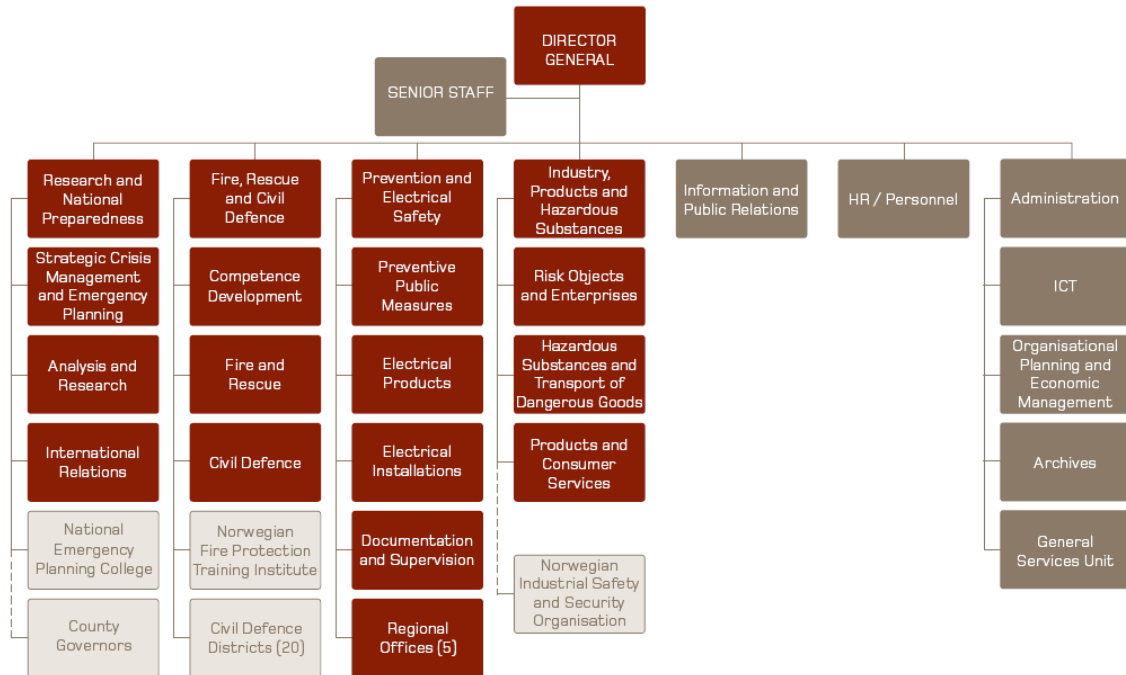
The Directorate for Civil Protection and Emergency Planning (DCPEP) is placed under the jurisdiction of the Ministry of Justice and the Police (MoJP). The Rescue and Emergency Planning Department at the MoJP (one of the Ministry's seven Departments) is the superior authority to the DCPEP. An important objective in establishing the Directorate in 2003 was to strengthen the coordinating function of the Ministry of Justice and the Police vis-à-vis the other Ministries. As such, the Directorate was assigned with the practical tasks associated with inspecting the other Ministries (Office of the Auditor General 2007:26).

The DCPEP was formally established on 1 September 2003, and incorporates three former directorates. The head office of the DCPEP is located in the city of Tønsberg, in accordance with the current government policy of decentralization. The process of merging and moving the office comprised two main steps: First, in 2002, the Directorate for Products and Electricity merged with the Directorate for Fire and Explosion Safety, with the former, Oslo-based directorate joining the latter in Tønsberg. Second, in 2004-5, the process was repeated as the former Directorate for Civil Protection moved from Oslo to Tønsberg to join the relatively young Directorate for Fire and Electrical Safety. The merger included designing a new internal structure, with former divisions and departments being split and joined with others.

The DCPEP currently boasts an employment figure of 700 individuals, the head office in Tønsberg comprising about 220 individuals. In addition to the Tønsberg-based staff, the organisation includes a total of 20 civil protection districts, five Civil Protection camps, five schools, and five regional inspectorates for electrical safety.⁷ The head office of the DCPEP, aside from the Director General and his staff, comprises four departments: Research and National Preparedness; Fire, Rescue and Civil Defence; Prevention and Electrical Safety; as well as Industry, Products and Hazardous Substances (Figure 1). The Department of Research and National Preparedness deals most directly with adaptation to climate change, through the assignation of a secretariat of the Norwegian Climate Adaptation Programme ('Klimatilpasning Norge') by the Ministry of the Environment.⁸

⁷ http://www.DCPEP.no/article.asp?articleid=1997&rightmenu=H_English&Framework=normalt&Rank=1&SubRank=1, accessed 18 December 2007 at 11.13 am.

⁸ Moreover, climate adaptation has become an important issue for some staff, e.g. those involved in land-use planning at the Department of Prevention and Electrical Safety.



Figur 1 Chart illustrating the formal organisation of the Directorate for Civil Protection and Emergency Planning⁹

Formal Tasks and Responsibilities

With respect to civil protection, the DCPEP's main overarching function is to maintain a complete overview of the risks and unwanted events which pose a potential threat to society. Moreover, the DCPEP is to gather relevant insight from other national authorities regarding the types of international crises which could potentially occur in Norway, the 2004 Madrid train bombings constituting one example.¹⁰ In other words, the Directorate is to monitor 'vulnerable situations and looming perils which threaten society – in peacetime and war, take initiatives to prevent accidents, disasters and other undesired occurrences, ensure that preparedness measures are adequate, in the event of inadequate safety and preparedness measures take initiative for follow up with the responsible authorities'.¹¹ Based on the insights assembled, the DCPEP presents national security and vulnerability assessments. In addition, the annual assignment of tasks from the Ministry of Justice and the Police may involve specific requests for reports. Relevant examples include a 2005 report on managing large crises and the potential ageing of critical infrastructure, and a 2007 report on natural hazards, with a special focus on rock slides.¹²

The DCPEP's work in certain ways appears to overlap with the work carried out by directorates such as the Norwegian Water Resources and Energy Directorate (NVE), the basic distinction being that the DCPEP acts as an over-arching authority on risks, whereas the NVE is in charge of scientific assessments within a field limited to the water and energy sector, and covers a far narrower range of issues than the DCPEP.

As previously touched on, the DCPEP assists the Ministry of Justice and the Police in practicalities associated with the inspection of the other Ministries, including tasks such as organising national simulation exercises, 'Øvelse Oslo' being one example of this.¹³

⁹ Obtained from Cathrine Andersen, DCPEP.

¹⁰ The Office of the Auditor General, Document no. 3:4 (2007–2008), p. 27

¹¹ http://www.DCPEP.no/article.asp?articleid=1997&rightmenu=H_English&Framework=normalt&Rank=1&SubRank=1, accessed 10 October 2007 at 3.10 pm.

¹² The Office of the Auditor General, Document no. 3:4 (2007–2008), p. 27

¹³ The Office of the Auditor General, Document no. 3:4 (2007–2008), p. 26

A particularly relevant function includes acting as the professional authority for the staff involved in civil protection and emergency planning at the County Governors' Offices, and carrying out inspections of this work. Other important tasks, though somewhat less relevant to this report, include monitoring and inspection of fire and electrical safety, hazardous substances and product safety. Moreover, the DCPEP is in charge of the Norwegian Civil Defence, the National Training Centre for Civil Protection and Emergency Planning, and the Fire Academy.

Administrative Capacity

Out of the DCPEP's total of approximately 700 employees, a number of individuals are directly, indirectly, or partly involved with civil protection. This includes fields such as municipal land-use planning, critical infrastructure and rescue-related work. Climate adaptation *per se* is currently the main focus of 3-4 officials, namely the secretariat of the Norwegian Climate Adaptation Programme. The Norwegian Government has provided the majority of the funding going into this work, and has guaranteed a minimum of four additional years of funding. Hence, one may tentatively conclude that the secretariat's administrative capacity is sufficient with regard to the tasks undertaken.

Tools

With respect to civil protection at the regional and local levels, one of the most important tools of the DCPEP is the indirect communication of priorities, tasks, and relevant information material to Norwegian municipalities via the County Governors' Offices. In this way, the DCPEP is to steer and guide civil protection work at the regional and local levels.

National simulation exercises constitute another important (though more specialised) arena for influencing work at the regional and local levels. As an example, the national, DCPEP-organised simulation exercise "Øvelse Skred" on 28-29 November 2007 involved a number of actors from the realm of civil protection, such as key persons from four rockslide-exposed municipalities, three County Governors' Offices from counties with potential rockslide areas, and two County Geologists from the same counties. The purpose of the two-day exercise was to raise awareness and rehearse a few pre-selected aspects of crisis management. In recent years, the DCPEP has considered developing web-based tools and services that directly target municipal land-use planners. One example includes a comprehensive, updated online guide to RVAs.¹⁴

Moreover, the DCPEP also exerts *direct* influence in the private and public sectors, through the dissemination of various types of information and through carrying out inspections. As an example, the DCPEP offers guidance and advice to a wide range of commercial and non-commercial actors who offer services and products that may in some way be associated with risks and hazards. Furthermore, the DCPEP is potentially in a position to make private-sector actors, such as the owners of distribution networks for electrical power and other types of critical infrastructure, look into the need for climate adaptation (e.g. through the renewal of physical components that could cause power outages in the case of storms and strong wind). In this case, DCPEP officials would point out cases of poor maintenance to the owners of critical infrastructure across Norway.¹⁵ The DCPEP's task is not to disclose the general state of the power supply infrastructure, but rather to uncover weak points in the most failure-prone parts of the system, where infrastructure failure would have the most serious consequences. Such inspections are deemed invaluable with regard to avoiding serious power cuts in Norway.¹⁶ In 2006, the DCPEP concluded that many infrastructure-owning companies still chose a somewhat opportunistic approach to maintenance, i.e. awaiting external inspections rather than carrying out thorough internal inspections (DCPEP 2005b).

Legal Foundation

The Directorate for Civil Protection and Emergency Planning administers the following Acts:¹⁷

¹⁴ The current version of the DCPEP's RVAguide, published in 1994, is available at http://www.DCPEP.no/File.asp?File=Publikasjoner/risiko_saarb-analyse_150.pdf&Framework=normalt, accessed 3 January 2008 at 14.32 pm.

¹⁵ Ørjan Steen, 6 December 2007

¹⁶ Ibid

¹⁷ In addition, some parts of The Planning and Building Act are relevant to the climate-related work carried out by the DCPEP.

- The Act on Civilian Defence
- The Act relating to the Prevention of Fire, Explosion and Accidents involving Hazardous Substances and the Fire Services' Tasks in Rescue Operations
- The Act relating to Control of Electrical Installations and Electrical Equipment
- The Act relating to the Control of Products and Consumer Services¹⁸

Central Steering Documents

The following documents describe the mandate and tasks of the secretariat for the Norwegian Climate Adaptation Programme (NCAP) hosted by the DCPEP:

- Ministry of the Environment, 2006: Statsbudsjettet 2007 – opprettelse av sekretariat for styringsgruppen som skal utarbeide tilpasningsstrategi til klimaendringer – belastningsfullmakt, Oslo, 30.05.2006.
- Norwegian Climate Adaptation Programme, 2008: Klimatilpasning i Norge. Regjeringens arbeid med tilpasning til klimaendringene.

2. The Department of Civil Protection and Emergency Planning at the County Governor's Office

Organisation

Formally, four main functions are held by County Governors in Norway: (1) On behalf of the various Ministries, the County Governor acts as the chief authority within several sectors; (2) By supervising municipalities and handling complaints, the County Governor acts as a guarantor for justice vis-à-vis the county's inhabitants; (3) The County Governor coordinates the work of the state at the regional level, and vis-à-vis municipalities and County Administrations; and (4) The County Governor acts as a hub of information, offering guidance to municipalities (The Office of the Auditor General 2007:7).

As a logical consequence of the tasks listed above, Norway's 18 County Governors supervise civil protection work in the country's 431 municipalities on behalf of the Norwegian Government. All of the 18 County Governors have staff whose work is mainly within this field, though the internal organisation is subject to some variation. A common organisational feature is the existence of the position of Head of Civil Protection and Emergency Planning.¹⁹ Civil protection may either be organised as a separate unit or department, but is sometimes integrated in other departments at the County Governor's Office. The difference is evident from the organisational charts below, which illustrate the formal organisation at the County Governors in the counties of Hordaland and Sogn og Fjordane respectively (Figures 2-3).

With respect to civil protection, the Ministry of Justice and the Police is the superior authority to the County Governor. Orders and instructions are presented in annual documents of instruction issued by the Ministry of Government Administration and Reform as well by the various Ministries and directorates such as the DCPEP.

¹⁸ http://www.DCPEP.no/article.asp?articleid=1997&rightmenu=H_English&Framework=normalt&Rank=1&SubRank=1, accessed 10 October 2007 at 3.10 pm.

¹⁹ In Norwegian: *fylkesberedskapssjef*



Figure 2 Formal organisational placement of civil protection work at the County Governor's Office in Hordaland. Civil protection constitutes a separate Unit of Civil Protection ('Beredskapsavdeling') (circled).

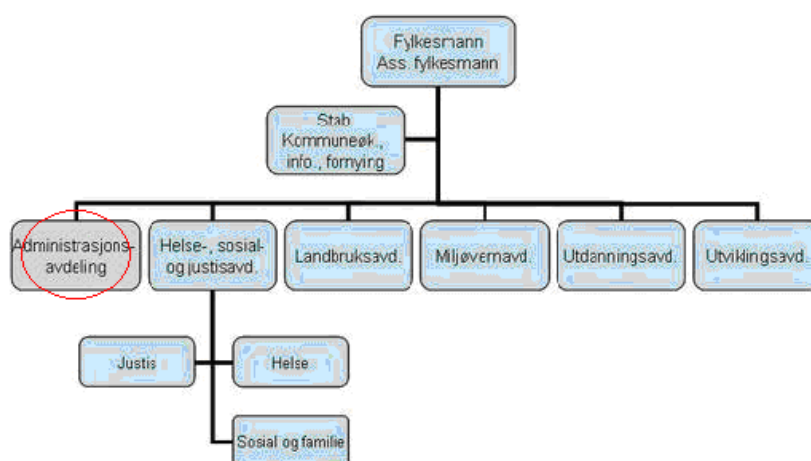


Figure 3 Formal organisational placement of civil protection work at the County Governor's Office in Sogn og Fjordane. Civil protection is integrated in the Department of Administration ('Administrasjonsavdeling') (circled).

Formal Tasks and Responsibilities

As the formal representative of the Norwegian Central Government in each county, the County Governor holds a pivotal role of coordination and supervision of civil protection work in the municipalities, and in other bodies of government in each county. Two documents lay down the basic framework for the civil protection work to be carried out by the County Governor's Offices: *Instruction for work related to the safety and security of society and civil protection at the County Governors' Offices* (Royal Resolution of 18 April 2008)²⁰ and *Guidelines for coordination during crises and peacetime catastrophes* (Royal Resolution of 12 December 1997)²¹. In addition, the County Governor's role in land-use planning is guided by a separate document, *Guidelines for the County Governors' use of formal objections in land-use planning cases according to the Planning and Building Act*, issued

²⁰ Royal Resolution of 18 April 2008 (Instruks for samfunnssikkerhet- og beredskapsarbeidet til Fylkesmannen og Sysselmannen på Svalbard), http://www.fylkesmannen.no/kgl_res_FMinstruks_180408_qFy0B.pdf.file, accessed 22 July 2008 at 1 pm.

²¹ Royal Resolution of 12 Desember 1997 (Retningslinjer for samordningsansvaret under kriser og katastrofer i fred)

by the Directorate for Civil Protection 1997.²² Specific tasks and responsibilities are formally assigned by the Ministry of Government Administration and Reform on a year-to-year basis.

The work of the County Governors in the realm of civil protection consists of three main pillars: maintaining an *overview* of risks and vulnerability across the county, *crisis prevention*, and *crisis management*.²³ The first pillar includes work such as developing a County Risk and Vulnerability Assessment²⁴, i.e. a report describing the current risks and forms of vulnerability perceived around the county, as well as suggesting ways of handling these issues. The second and third pillars of the County Governors' civil protection tasks (*crisis prevention* and *crisis management*) pertain to proactive and reactive work, respectively. Two types of *proactive* tasks are handled by the Head of Civil Protection and Emergency Planning: risk mitigation includes supervision of municipal land-use planning, in which formal objections and Risk and Vulnerability Assessments constitute key tools. In addition, some crisis planning is included in this work. *Reactive* tasks, such as crisis management and coordination, are mainly carried out in the event of wide-ranging accidents, crises, or natural disasters.

Proactive tasks

The County Governors oversee land-use planning in the municipalities, and according to the Planning and Building Act (PBA), the County Governor is entitled to a copy of all municipal land-use plans. The hierarchy of land-use plans consists of four levels:

- *County Plans* ('fylkesplan') are by nature advisory, and do not include a legally binding section on land-use. It is possible to raise formal objections against county plans. State authorities, such as the Ministry of the Environment, arbitrate in such cases.
- *Municipal Master Plans (General Plans)*²⁵ are overall 'macro' plans pertaining to the entire geographical area covered by the municipality. Municipal Master Plans concern issues such as the future location of commercial and residential areas. These plans are legally binding, and are subject to adjustments every four years.²⁶
- *Local Development Plans*²⁷ concern a more limited area within the municipality. In producing a development plan, the local-level politicians consult the Municipal Master Plan. It is normally possible to apply for an exemption.
- *Building Development Plans*²⁸ pertain to specific construction projects.

Municipal authorities can control land-use at three stages in the planning process: in the part of the Municipal Master Plan referring to land-use, in the Local Development Plan and/or the Building Development Plan, as well as in connection with applications for planning permissions (building permits). If a land-use plan is perceived by the County Governor to disclose a potential safety threat which should not be tolerated, a *formal objection* may be raised. Currently, the Planning and Building Act does not specifically request Risk and Vulnerability Assessments in connection with land-use planning. However, the use of RVAs is strongly encouraged by the County Governors, and the revised Planning and Building Act (taking effect from 1 July 2009) will most likely include a formal requirement for RVAs.²⁹ Nonetheless, paragraph 68 of the PBA places a legal imperative on municipalities with respect to mitigation of risk related to natural hazards and disasters.³⁰ In short, paragraph 68 states that the implementation of land-use plans should only proceed if the 'natural and environmental conditions' are considered sufficiently safe for construction, and municipal authorities may be held liable for the consequences of failing to abide by paragraph 68 (Leivestad 2008:6). In order to promote the notion of safe land-use planning, the County Governors offer advice, assistance and information on the use of RVAs on a regular basis, as well as posting

²² Retningslinjer for fylkesmannens bruk av innsigelser i plansaker etter plan- og bygningsloven, Direktoratet for sivilt beredskap 1997, <http://www.regjeringen.no/nb/dep/md/dok/rundskriv/1995/T-595-Innsigelse-i-plansaker.html?id=108000>, accessed 22 July 2008 at 1 pm.

²³ Haavard Stensvand, 18 October 2007

²⁴ In Norwegian: *fylkes-ROS*

²⁵ In Norwegian: *kommuneplan*

²⁶ The part of the Municipal Master Plan referring to land use is called *kommuneplanens arealdel*.

²⁷ In Norwegian: *reguleringsplan*

²⁸ In Norwegian: *bebyggelsesplan*

²⁹ <http://www.ks.no/upload/112495/020608PBLMD.pdf>, accessed 30 July 2008 at 11 am.

³⁰ Some parts of the Natural Damage Act also pertain to this field, especially paragraph 20.

guiding material on the County Governor's official web site.³¹ In addition, the County Governors organise seminars and training sessions for administrative staff and newly elected local politicians, with the objective of implementing awareness of relevant municipal tasks.³² One-to-one dialogues between the County Governors' staff and municipal authorities also form part of this effort.³³

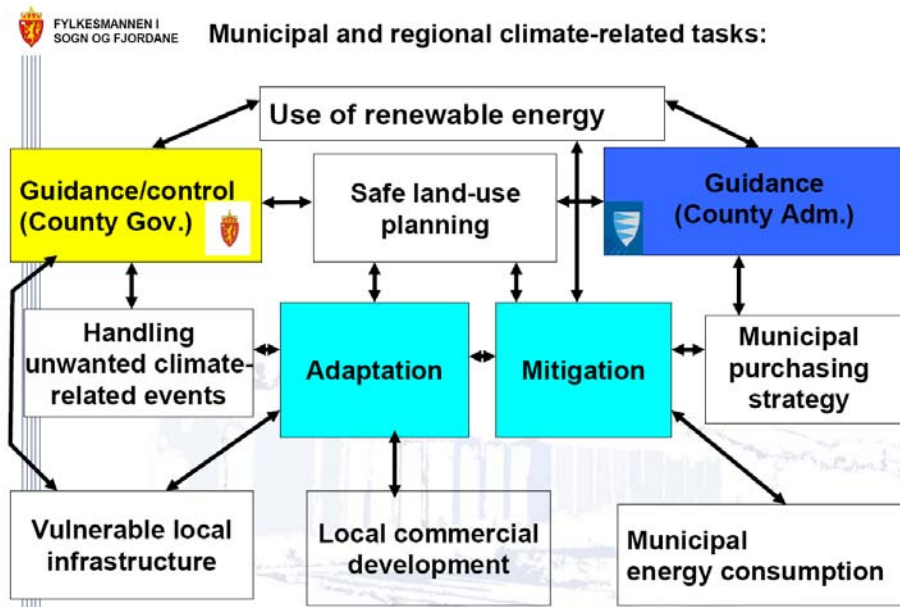


Figure 4 Unofficial chart showing the possible future division of work between the County Governor and the County Administration in the county of Sogn og Fjordane with regard to climate-related tasks at the municipal and regional level.³⁴

Another important proactive task undertaken by the County Governor is distributing early warnings to municipal authorities concerning flooding or extreme weather (e.g. heavy rain and storm surges). According to Report no. 37 to the Storting (1995-96), there should be a 'unitary warning route from central professional authorities via the regional level to the municipalities' (DCPEP 2001:4). The County Governors receive warnings directly from the Norwegian Water Resources and Energy Directorate, the Norwegian Meteorological Institute, and (in rare cases) from the Norwegian Radiation Protection Authority.³⁵ Early warnings were previously distributed by telefax, but are currently sent to municipal mobile phones using text messaging or SMS.³⁶ According to the DCPEP,

'[a] key characteristic of warnings is that they should result in action on the part of the recipient, even if the action is merely consists of an assessment of whether further action must be undertaken' (DCPEP 2001b:3).

In practice, this assessment is often done at the regional level, and hence, only some of the warnings received by the County Governors are forwarded to the municipalities.³⁷ In total, the County Governor of Sogn og Fjordane

³¹ For example: <http://fylkesmannen.no/fagom.aspx?m=600>

³² Haavard Stensvand, 18 October 2007

³³ <http://www.DCPEP.no/Article.asp?ArticleID=1283>, accessed 12 October 2007 at 3.15 pm.

³⁴ With the permission of Haavard Stensvand

³⁵ The Head of Police in each county also receives a warning from one of the two Rescue Coordination Centres, and both County Governor and Head of Police check that the other also has received the message. The county's Chief of Police may contact the municipality's District Sheriff following an assessment.

³⁶ See Appendix for an example of this practice.

³⁷ Warning example: <http://fylkesmannen.no/fagom.aspx?m=475&amid=2097019>, accessed 30 July 2008 at 1 pm.

forwards no more than three or four warnings per year.³⁸ This filtering is done in order to avoid a 'warning inflation' which could cause the municipal authorities to take warnings less seriously. Following warning distributions, and if further measures are carried out, the County Governors may choose to report to the DCPEP.³⁹ This practice has been emphasised more by the DCPEP in recent years, probably as a result of increasing interest in staying informed on the part of the Government.⁴⁰ Some of the background for this change is explained in a circular to all County Governors (DCPEP 2007e):

'The DCPEP/MoJP have moved in the direction of wishing to lower the threshold for situational reporting, out of consideration for the potential pressure on central authorities [in connection with undesirable events]. The DCPEP perceives a need for somewhat more frequent reporting and an earlier starting point' (2007e).

As for crisis planning, the County Governor is responsible for planning and organising simulation exercises and training courses within the county, and each municipality is required to take part in a simulation exercise at least once every four years.⁴¹ The Appendix summarizing 'Exercise Mørejarl' provides some insight into the nature of such exercises, which are usually based on a crisis scenario designed by the organising party or central participants. The County Governor delivers an annual report to the DCPEP on civil protection planning and simulation exercises within the county in question.

Reactive tasks

During crises, the County Governor is responsible for the same tasks as under normal circumstances, in accordance with the three basic principles which structure civil protection in Norway.⁴² In addition, the County Governor sometimes takes on crisis management tasks related to overall coordination. Although crisis management is not a main focus in this report, an outline of the formal tasks of the County Governor during such situations is pertinent.⁴³ The regional level is normally only involved in the event of extensive or extraordinary crises and disasters. The initiative for involvement of the regional level is taken by the municipal authorities involved in the event (MoJP 2001:18). Communication and facilitation of cooperation constitute the primary tasks of the County Governor during crises, especially if a high number of actors are involved, i.e. the Chief of Police, regional state authorities, the County Administration, and municipalities. The County Governor is obliged to stay informed of the ongoing work, and collects relevant information from public authorities at all administrative levels (state, County Administration and municipalities). Moreover, the County Governor is to inform the central administration, and the military leadership of the current situation in the county, as well as raising questions of concern with external actors.

The County Governor may choose to convene the County Council for Civil Protection⁴⁴ in order to seek a consensus on further action. This is a crisis coordinating body which is assembled once every year, and the council mainly offers advice and exchanges information. The nature of the crisis also determines whether or not the entire council is assembled. Typical members include the County Governor (in person), the Head of Civil Protection and Emergency Planning at the Office of the County Governor, other Heads of Department the County Governor's, the Mayor of the County Administration, the Advisor to the Mayor of the County Administration, the Head of Police, and representatives from the Norwegian Civil Defence⁴⁵ and the Norwegian Defence⁴⁶. Serious

³⁸ Haavard Stensvand, 29 July 2008

³⁹ In Norwegian: *situasjonsrapportering*

⁴⁰ Haavard Stensvand, 29 July 2008

⁴¹ See <http://fylkesmannen.no/fagom.aspx?m=699&amid=1094325> for an example of a municipal simulation exercise.

⁴² In sum, the principles of decentralisation, liability and conformity (In Norwegian: 'nærleiksprinsippet', 'ansvarsprinsippet' and 'likhetsprinsippet') state that the distribution of tasks during crises should differ as little as possible from normal circumstances, and matters should be dealt with at the lowest possible level of government, and as close to the crisis as possible. (Ministry of Justice and the Police, NOU 2006:6, 1.4.2)

⁴³ Norwegian Official Report 2001 constitutes the main source for the contents of this section.

⁴⁴ In Norwegian: *fylkesberedskapsrådet*

⁴⁵ In Norwegian: *Sivilforsvaret*

⁴⁶ In Norwegian: *Forsvaret*

divergences of opinion may be resolved by the County Governor, or by consulting the Ministry of Justice and the Police.

Should the need for coordinated crisis management arise, and should lives no longer be at stake, the County Governor may be asked to replace the Head of Police as the central crisis coordinator. The County Governor may also be asked to resolve issues raised by municipalities, the County Administration, or other regional state institutions. The County Governor acts as an intermediary if municipalities wish to request the use of the resources of the Norwegian Defence, or the non-local resources of the Norwegian Home Guard and the Norwegian Civil Defence. In capacity of his coordinating role, the County Governor constitutes the main point of contact between the public system of civil protection and the Norwegian Defence. As such, the County Governors should ensure that the plans and needs of the system of civil protection are in accordance with military plans and needs.⁴⁷ Moreover, the County Governor is to offer advice to the Norwegian Defence in questions of a civil nature. Should a crisis escalate to the point where lives are at stake, the public rescue services become involved, the County Governor is responsible for informing the nearest rescue station as well as one of Norway's two Rescue Coordination Centres.⁴⁸

Tools

Inspections, guidance, and tasks in the fields of simulation exercises and land-use planning constitute the main tools of the County Governors in the realm of civil protection and the safety and security of society (DCPEP 2006a:15). In the following, two specific tools that form part of the latter will be discussed in greater depth. This includes Risk and Vulnerability Assessments (RVAs)⁴⁹ and formal objections to land-use plans, both of which are intended to provide solid grounds for implementation of desired civil protection standards at the local level. The DCPEP is quite explicit with regard to the importance of these tools, stating that the County Governor is expected to inform the municipalities that RVAs are expected, inquire about findings, and make use of formal objections when RVAs have not been carried out or findings have not been followed up with needed measures (DCPEP 2006c).

Risk and Vulnerability Assessments

The 2008 Instruction guiding the civil protection work of the County Governors⁵⁰ is quite explicit about the County Governors' responsibility for encouraging the use of Risk and Vulnerability Assessments in municipal land-use planning, and as a foundation for crisis management plans (MoJP 2008b). The DCPEP also strongly encourages the use of Risk and Vulnerability Assessments (RVAs) as part of both crisis planning and land-use planning at the local and regional levels (DCP 1994). To be specific, an RVA is a risk mapping method with a long-term focus, and a focus on catastrophes and crises rather than small, daily incidents⁵¹ (Nilsen 2007:6). Two types of RVAs are particularly relevant here: general municipal RVAs pertaining to the entire municipality, and specific RVAs pertaining to individual construction plans. The County Governors have long been urging municipalities to implement RVAs as a standard tool in land-use planning, but as previously mentioned, legal requirement for the use of RVAs will not be implemented until 1 July 2009 (MoE 2008:9).

⁴⁷ This function, along with several other, is considered a 'sleeping paragraph'. The DCPEP's 'Project Moth Bag' (Prosjekt Møllpose) aims to remove such 'outdated' tasks. Haavard Stensvand 30 July 2008.

⁴⁸ Royal Resolution, 12 December 1997

⁴⁹ In Norwegian: *Risiko- og sårbarhets-analyse* or *ROS-analyse*

⁵⁰ Issued in April 2008, this Instruction replaced a previous instruction from 1979.

⁵¹ As opposed to 'Mini Risk Assessments'



Images 1-2 Members of the administrative staff in Luster Municipality (Sogn og Fjordane County) explain their approach to assessing risks and vulnerability in land-use planning.

The DCPEP deems the realm of crisis prevention to hold the greatest potential for improvement of all the realms the represented in the County Governor's civil protection work (DCPEP 2006c). Moreover, climate change contributes to the relevance of the field. The County Governors have received explicit signals that this work must be prioritised.⁵² The importance of encouraging RAVs has been stressed for several years. For example, the DCPEP criticised the County Governor of Sogn og Fjordane in 2004 for the fact that only 6 per cent of the county's municipalities reported having carried out RVAs in connection with land-use planning (DCPEP 2006c:25). The DCPEP stresses the significance of the County Governor's role in preventing crises and accidents related to land-use and hazards such as flooding and slides.

So far, RVAs have not been fully embraced as a part of land-use planning in Norwegian municipalities. The DCPEP's 2007 survey among Norwegian municipalities (with a response rate of 90 percent) revealed that 67 per cent of the municipalities had produced RVAs of some kind in the last four years. The corresponding figures for 2006 and 2005 were 65 and 67 per cent (DCPEP 2007c:7). Following the 2006 survey, the Directorate expressed great concern over the fact that three quarters of Norway's municipalities still lacked RAVs related to land-use planning, especially 'in times when extreme weather produces a heightened risk of slides and flooding'.⁵³ The number of municipalities stating that RVAs related to land-use planning have been carried out, however, is still only 39 percent, out of the municipalities that have produced RVAs, exactly the same figure as in 2006 (2007c:7). The absence of a legal requirement for RVAs is probably part of the explanation for the absence of improvement in this realm. In addition, a lack of interest in working with RVAs on the part of staff at some County Governor's Offices has been reported, and it has been claimed that the DCPEP has not followed up on this work with the County Governors in a satisfactory way (The Office of the Auditor General 2007:10).

Furthermore, with regard to scope, it has proved necessary for the County Governors to specify to municipalities that general RVAs must be based on a relatively wide understanding of the types of risks and hazards each municipality may face.⁵⁴ For instance, unexpected, and yet probable, events such as long-lasting power failures (e.g. Steigen, January 2007) or heavy snowfall with ensuing infrastructure paralysis (e.g. Southern Norway, February 2007), whether caused by weather events or not, may bring about potentially dangerous situations and cause problems in a number of sectors (DCPEP 2007b:35). As an example, transportation chaos following heavy snowfall can cause social services and care for the elderly to come to a halt. Another observed problem is that RVAs often seem to be treated as static lists by municipal staff, in the sense that no further action is taken towards implementing risk-reducing measures. Yet another problem reported is a lack of updates to reflect the

⁵² <http://www.regjeringen.no/nb/dep/jd/dok/regpubl/stmeld/2007-2008/stmeld-nr-22-2007-2008-/3/5/2.html?id=510675>, accessed 22 July 2008 at 3 pm.

⁵³ <http://www.DCPEP.no/Article.asp?ArticleID=2416&oppslag=1&Framework=normalt&oppslag=1>, accessed 29 October 2007 at 3 pm.

⁵⁴ Haavard Stensvand, 18 October 2007

status quo. It has been suggested that the slowness with which RVAs have caught on at the local level may result from a notion on the part of municipal staff that RVAs are ‘just another top-down request’ for which there is not a real need.⁵⁵ Signals, however, have long been clear; a circular letter issued by the Ministry of the Environment in 1998 states that ‘all considerations pertaining to safety, security and preparedness are to occupy a pivotal position in local and regional planning’. The letter emphasises that RVAs constitute a significant part of this work.⁵⁶



Image 3 ‘We must plan for the future despite the fact that we are unsure what it will bring’. Headline in web article on climate adaptation targeting municipal planners, published by the Head of Civil Protection and Emergency Planning at the County Governor of Sogn og Fjordane’s Office. The web article explains the background for the high frequency of formal objections raised by the County Governor in 2007.⁵⁷

Formal Objections

Another tool relied on by the County Governor in the realm of civil protection is the institute of formal objections⁵⁸ to local land-use plans, a right shared with the County Administration, state authorities and neighbouring municipalities (DCPEP 1997:6). Formally, one out of two criteria must be fulfilled in order for a formal objection to be raised for reasons pertaining to safety: Either, the municipality has not carried out an RVA demonstrating societal security and civil protection consequences of implementing the plan in question, or the municipal authorities (having carried out a RVA) have concluded that going ahead with construction the area in question will comprise a level of risk which can be tolerated. The County Governor may still choose to raise an objection if the plan represents a threat to interests of societal safety and civil protection (DCPEP 1997:6). In a circular letter on the 1997 instruction, the DCPEP specified that the County Governors must mention the civil protection aspects of land-use planning in correspondence with municipalities, and engage in an awareness-raising dialogue. Training sessions or conferences are also recommended in the circular (DCPEP 2001a).

⁵⁵ Ibid

⁵⁶ Miljøverndepartementets Rundskriv T-2/98 *Nasjonale mål og interesser i fylkes- og kommuneplanleggingen*

⁵⁷ <http://fylkesmannen.no/fagom.aspx?m=600&amid=1814393>, accessed 18 December 2007 at 11.21 am.

⁵⁸ In Norwegian: *motsegn* or *innsigelse*

Should the municipality and the County Governor fail to reach a consensus on the matter which led to the objection, the municipality's right to make a judicially binding decision in a planning case (as stated by the Planning and Building Act) can be withdrawn. This leads to an automatic transfer of the case to the Ministry of the Environment.⁵⁹ However, as a rule, only cases comprising a considerable level of conflict are transferred to the central level of decision-making.⁶⁰ As a representative of the Norwegian Government, the County Governor's main task is to communicate national and regional objectives and guidelines to municipal authorities through offering professional advice and comments. Thus the current guidelines state that the institute of formal objections should be used 'with caution' as a way of getting the municipality to consider risks and vulnerability in land-use planning (DCP 1997:4).

In recent years, a new and tougher approach may be discerned in some counties. As an example, the County Governor of Sogn og Fjordane raised objections to every General Plan submitted in 2007, as well other land-use plans.⁶¹ This policy was explicitly communicated to the municipalities by the County Governor in 2006 together with a promise of one-year leeway lasting until 2007. The reasons given for such objections in Sogn og Fjordane vary; while some RVAs are deemed inadequate or lacking, other cases have demonstrated a lack of relevant documentation and reports on the various *counter-measures* implemented by the municipalities in response to RVAs. In some cases, RVAs fail to highlight the possible *impact* of going ahead with a proposed plan. There are also examples of municipal authorities concluding (on the basis of an RVA) that an area is subject to a level of risk, but a level that the local authorities are prepared to tolerate.⁶² According to one Head of Civil Protection and Emergency Planning, there is clearly a need for an 'educational effort' on the part of the County Governors, as most of the municipalities need to learn routines and ways of reasoning with regard to the safety and security of society and land-use planning.⁶³ As such, the aforementioned strictness, initialised by direct top-down requests by the DCPEP, should be seen as part of a conscious effort to raise awareness in the municipalities of the importance of considering civil protection and land-use planning as closely related fields.

Administrative capacity

In recent years, the funding for civil protection at the County Governors' Offices has been subject to a reduction (Office of the Auditor General 2007, Aall and Groven 2003:50). A concomitant reduction in the number of person-years devoted to the field can be discerned. In a report handed over to the Storting in September 2007, the Office of the Auditor General criticises the Ministry of Government Administration and Reform for pursuing a strict funding policy vis-à-vis the County Governors' Offices. The report concludes that the current, thoroughgoing lack of financial resources may have had a particularly negative impact on tasks related to civil protection and emergency planning, and neglected tasks include county-wide RVAs, as well as civil protection work involving municipalities (Office of the Auditor General 2007:10). The report suggests that one reason for the tight resource situation is a general increase in the scope and difficulty of the County Governor's tasks and responsibilities (*ibid*). Adding to the seriousness of the situation, the number of person-years devoted to civil protection tasks at the County Governors' Offices has seen a steady decline in recent years. The County Governors' annual reports to DCPEP for 2002 showed that on average, 4.2 person-years were spent on civil protection tasks that year (Aall and Groven 2003:48). Four years later, in 2006, the average was down to 3.3 person-years, the minimum figure observed being 2 person-years and the maximum 5.5 person-years.⁶⁴ The Office of the Auditor General views the decreasing size of civil protection units at the County Governors' Offices as a reason for concern with regard to competence-building and the ability to carry out a wide range of assigned tasks.

'The study indicates that the County Governors' ability to influence the municipalities and other state authorities in this field is in many cases weak. Other regional state

⁵⁹ <http://www.DCPEP.no/Article.asp?ArticleID=1283>, accessed 11 October 2007 at 1.40 pm.

⁶⁰ <http://www.regjeringen.no/nb/dep/md/dok/rundskriv/1995/T-595-Innsigelse-i-plansaker.html?id=108000>, accessed 30 October 2007 at 10.15 am.

⁶¹ Haavard Stensvand, 18 October 2007

⁶² *Ibid*

⁶³ *Ibid*

⁶⁴ Jan Aastø (DCPEP), 11 October 2007.

authorities primarily tend to the needs of their sectors, and the fact that the County Governor possesses few tools, hampers the efficiency of coordination within the field of civil protection and emergency planning' (Office of the Auditor General 2007:11).

In some counties, county-specific circumstances produce more work for the County Governor's Office. As an example, the Head of Civil Protection and Emergency Planning in the County of Troms reports that the situation with regard to land-use planning in Troms, where several municipalities lack municipal master plans, forces the County Governor of Troms to follow up nearly 700 building development plans per year, as opposed to focussing on the municipal master plans. This steals time from other civil protection tasks, and the current resource situation, allowing for 4 person-years in the field, is not considered satisfactory. The actual need is estimated to 7 person-years, not counting 'new' tasks such as those related to climate adaptation.⁶⁵ The County Governor of Troms reports that with the current work overload, his staff gives priority to the work involving municipalities and land-use planning, while other types of tasks will be de-emphasized.⁶⁶ Interestingly, it should also be noted that the DCPEP has detected a high level of concern on the part of the County Governors with regard to their own ability to handle the future consequences of climate change (DCPEP 2007f:20). While 73 per cent state that this constitutes 'some concern' or 'a great concern', the corresponding figures for Norwegian municipalities and County Administrations is much lower (51 and 56 per cent respectively) (2007f:19).

Legal foundation

The legal foundation for the County Governor's civil protection work is divided into two main fields: preparedness and emergency planning, and land-use planning. As for legislation pertaining to the County Governor's rights and obligations in the former field, the following acts are of particular relevance:

- Act on Health and Social Preparedness
- Act of 14 December 1956 relating to Supply and Civil Defence Measures
- Act no. 7 of 15 December 1950 relating to Special Measures in Time of War, Threat of War and Similar Circumstances

The legislation pertaining to land-use planning largely includes legislation pertaining to municipal tasks. According to the Public Administration Act (§ 17), administrative bodies must ensure that in the process of planning various types of construction, sufficient information is sought and made available before decisions are made so that risks pertaining to the area may be disclosed. Furthermore, the Natural Damage Act (§ 20) lists the obligations of municipalities in introducing preventive measures against natural damage. The Planning and Building Act (§ 25) describes the various types of areas associated with potential danger, where construction may only be considered following thorough process of identifying and assessing risks and vulnerabilities. Moreover, the Planning and Building Act (§ 68) declares that construction may not proceed in areas that are threatened by natural or environmental conditions, and assigns municipalities with the right to prohibit construction in such areas.

Central steering documents

The following documents currently guide the County Governors in carrying out civil protection work at the regional level:

- *Instruction for work related to the safety and security of society and civil protection at the County Governors' Offices* (Royal Resolution of 18 April 2008)⁶⁷
- *Guidelines for coordination during crises and peacetime catastrophes* (Royal Resolution of 12 December 1997)⁶⁸

⁶⁵ Per Elvestad, 29 November 2007

⁶⁶ Ibid

⁶⁷ Royal Resolution of 18 April 2008 (Instruks for samfunnssikkerhet- og beredskapsarbeidet til Fylkesmannen og Sysselmannen på Svalbard), http://www.fylkesmannen.no/kgl_res_FMinstruks_180408_qFy0B.pdf, accessed 22 July 2008 at 1 pm.

⁶⁸ Royal Resolution of 12 December 1997 (Retningslinjer for samordningsansvaret under kriser og katastrofer i fred)

- *Guidelines for the County Governor's Use of Formal Objections in Land-use Planning Cases according to the Planning and Building Act*, issued by the Directorate for Civil Protection 1997, issued by the DSB in 1997.⁶⁹
- Further specifications of the use of formal objections are stated in a circular letter issued by the DCPEP in 2001, 'Circular on the practice of the County Governors' Offices regarding the institute of formal objections in the field of civil protection' (Circular GS-1/01) (DCPEP 2001a).

3. The County Geologist at the County Administration

The position of the County Geologist is not formally a part of the system of civil protection in Norway, and employing a County Geologist in the County Administration is not legally required. Still, the position and role of the County Geologist will be examined in the following, as it is of relevance to civil protection in counties where geohazards play a major role with regard to land-use planning. In total, there are six County (or 'Regional') Geologists in Norway, covering eight out of nineteen counties. The position originates in the County of Sogn og Fjordane, where the impetus was a proposition by local representatives of the Norwegian Labour Party in two municipalities, Askvoll and Årdal. In 1974, the County Council of Sogn og Fjordane voted in favour of the proposition, resulting in the employment of Bjørn Falck Russenes (still employed) in 1976.⁷⁰ Other counties in Western and Northern Norway followed the example of Sogn og Fjordane, with Møre og Romsdal in 1983, and other administrations in later years. Today, a full-time position as County Geologist exists in five counties: Troms, Nordland, Nord-Trøndelag, Møre og Romsdal and Sogn og Fjordane. In addition, three other counties - Vestfold, Telemark and Buskerud - have adopted an alternative model whereby one Regional Geologist covers all three counties. This model is based on these counties' former trial period as a larger administrative region, the so-called BTV Region, from 2004-7.

Formal Organisation

The County or Regional Geologist's position commonly part of departments with a main focus on regional and commercial development. As an example, the County Geologist in Sogn og Fjordane reports to the Department of Regional Development at the County Administration, placing the County Geologist under the Director of the Department of Regional Development. Møre og Romsdal boasts a different model, due to the fact that the County Administration and County Governor merged in 2004 into a joint body named 'Møre and Romsdal County'.⁷¹ Currently, the County Geologist therefore belongs to the Department of Municipalities and Civil Protection⁷², in close contact with the Head of Civil Protection and Emergency Planning. This model of organisation seems highly rational in a county where geological hazards represent a considerable threat to societal security.⁷³

Formal Tasks and Responsibilities

Tasks and responsibilities carried out by the County Geologist are assigned by each County Administration according to the characteristics and needs of the county in question, resulting in considerable variation. As a result of topographical and climatic similarities in Sogn og Fjordane and Møre og Romsdal, a considerable share

⁶⁹ Retningslinjer for fylkesmannens bruk av innsigelser i plansaker etter plan- og bygningsloven, Direktoratet for sivil beredskap 1997, <http://www.regjeringen.no/nb/dep/md/dok/rundskriv/1995/T-595-Innsigelse-i-plansaker.html?id=108000>, accessed 22 July 2008 at 1 pm.

⁷⁰ The same year, the introduction an organisational reform led to a formal separation of the County Administration and the County Governor in this county, making the County Geologist a part of the rapidly expanding staff of the County Administration. Until 1976, the County Governor formed part of the County Administration through functioning as County Advisor.

⁷¹ In Norwegian: *Møre og Romsdal fylke*

⁷² In Norwegian: *kommunal- og beredskapsavdelinga*

⁷³ Geohazards are generally prolific in this county. In addition, the mountain Åkerneset is closely monitored by the Geological Survey of Norway (NGU) due to instable geological conditions. A large rock slide will invariably cause a devastating tsunami in the nearby fjords.

of these County Geologists' time is devoted to mapping geohazards.⁷⁴ In Sogn og Fjordane, this work constitutes about 50 per cent of the County Geologist's work time, whereas the County Geologist in Møre og Romsdal has adopted a sole focus on geohazards. In comparison, the County Geologist in Nord-Trøndelag only spends about 10 per cent of his assigned work time on geohazards, or more specifically, areas prone to clay slides. The County Geologist in Nordland is not involved in any tasks of this kind.⁷⁵ According to the County Geologist in Sogn og Fjordane, there is definitely a potential for expanding the effort on mapping, monitoring and securing geohazards in Sogn og Fjordane. This would, however, require either a shift in priorities or the employment of more than one Geologist by the County Administration.⁷⁶

County	Time share
Møre og Romsdal	100
Sogn og Fjordane	50
Vestfold, Telemark, and Buskerud	15-20 ⁷⁷
Nord-Trøndelag	10
Nordland	0
Troms	10-15 ⁷⁸

Table 1 Share of total work time devoted to geohazards in counties with a County or Regional Geologist ⁷⁹

The County Geologist in Sogn og Fjordane distinguishes between two types of work related to geohazards. Day-to-day tasks mainly consist of geological assessments in connection with land-use planning in the county's 26 municipalities. This is based on a provision in the Planning and Building Act which assigns the County Administrations with the task of offering guidance in questions related to municipal land-use planning. In addition, the County Geologist occasionally carries out geological inspections on a short notice. This is done when potentially dangerous situations arise, such as heavy rainfall increasing the risk of a debris flow in a populated area.⁸⁰

The County Geologist often offers advice and assistance to municipalities that are in the process of developing various types of municipal land-use plans. Importantly, the municipalities are legally responsible for municipal resolutions and the plans that are passed by such resolutions. Hence, the County Geologist holds no power of enforcement vis-à-vis the municipalities that seek advice, and the most common form of interaction is a dialogue on the contents and implications of municipal plans. Reportedly, municipal authorities tend to pay heed to professional advice of this kind. Should a divergence of opinion arise, the County Administration is legally entitled to raising a formal objection to municipal plans, along with the County Governor, neighbouring municipalities and

⁷⁴ The remaining 50 per cent of the County Geologist in Sogn og Fjordane's time is to be spent on investigating the potential for commercial activities related to mineral resources.

⁷⁵ Ole Sivert Hembre, 25 October 2007

⁷⁶ Bjørn Falck Russenes, 24 October 2007

⁷⁷ The figure is based on the average time share spent on geohazards during the last two years.

⁷⁸ Estimated by the County Administration of Troms due to a leave from duty.

⁷⁹ The figures are based on estimates by the persons holding the position of County Geologist.

⁸⁰ Bjørn Falck Russenes, 24 October 2007

other state authorities. Such objections may be based on the professional advice of the County Geologist, although this occurs very rarely, if ever.⁸¹

4. Non-governmental rescue organisations

Non-governmental organisations specialising in rescue and relief constitute a major part of the Norwegian system of civil protection, complementing the work of the public system. In an acknowledgment of this effort, the Ministry of Justice and the Police doubled state funding from NOK 6.1 million to NOK 12.2 million in 2008.⁸² A total of 20,000 individuals participate in voluntary work of this kind.⁸³ The largest organisations combine employed personnel with extensive bodies of local volunteers. As these organisations serve to integrate and involve ordinary citizens in a joint effort to minimize risk and tackle unforeseen challenges of various kinds, they constitute a very important link between the public system of civil protection and society at large. The knowledge of the local area held by local members of rescue organisations has proved invaluable several times, such as during the forest fires in Frøland in June 2008. In the following, three of the most significant rescue organisations in Norway will be described briefly. This includes the Norwegian Red Cross' Search and Rescue Corps, the Norwegian Society for Sea Rescue, and the Medical Corps of Norwegian People's Aid.⁸⁴

*The Norwegian Red Cross' Search and Rescue Corps*⁸⁵ comprises a total of approximately 322 local corps, all together 7000 voluntary and trained members from the age of 17 and upwards. This makes it the largest non-governmental rescue organisation in Norway.⁸⁶ All volunteers receive basic training within first aid, rescue and civil protection, whereas active members are subject to specialist approval reviews every three years. On an annual basis, the Search and Rescue Corps takes part in about 400 rescue operations, and the corps are on 24-hour standby. In addition, the Norwegian Red Cross owns about a third of ambulances in Norway, providing ambulance services to the public health system, with a total of 47,000 call-outs in 2000. During peacetime the organisation's rescue work comes under the auspices of the police force's coordinating management, as do other rescue services, such as the health service, the fire service and the armed forces. In the event of war, however, the Norwegian Red Cross will place itself at the disposal of the authorities, and the Norwegian Defence may impose clear limits on the type of tasks to be undertaken by Red Cross personnel in such situations.⁸⁷ In spite of its original establishment being motivated by the fear of war, the NRC's voluntary rescue services now by and large focuses on peacetime incidents and disasters. Parallel to the system of civil protection, the Red Cross has experienced a priority shift away from the military realm in recent years. Today, climate change and its consequences is fast becoming a major part of the Search and Rescue Corps' latter-day *raison-d'être*.⁸⁸

*The Norwegian Society for Sea Rescue*⁸⁹ (NSSR), unlike most other rescue organisations in Norway, is primarily based on a professional crew. Established in 1891, the organisation's sole objective was to save lives and recover property at sea. The first salvage vessels, powered by sails and oars, were put into operation in 1893. Since then, 6200 lives have been saved at sea, and more than 500,000 people have received assistance from the

⁸¹ Bjørn Falck Russenes, 24 October 2007. Technical objections against municipal plans have only been forwarded twice since the beginning of Russenes' employment in 1976, and both objections were successful with regard to influencing the final decision of the municipalities.

⁸² The Ministry also took action to ensure that volunteers are insured against injuries, as well as making the refunding system more economically beneficial for volunteers, according to Report no. 22 to the Storting (2007-2008), p. 59.

⁸³ Report no. 39 to the Storting (2006-2007), p. 169.

⁸⁴ This section is mainly based on Norwegian Official Report 2001:31 and Aall and Groven 2003, as well as the official web sites of the organisations in question (accessed in October 2007).

⁸⁵ In Norwegian: *Norges Røde Kors Hjelpekorps*

⁸⁶ http://www.rodekors.no/Nyheter_og_presse/Kronikker/Redningstjenesten_i_krevende_terreng/, accessed on 11 October 2007 at 11.10 am.

⁸⁷ <http://www.rodekors.no/upload/dokumenter/thisisnordcross.pdf>, accessed on 11 October 2007 at 10.40 am.

⁸⁸ http://www.rodekors.no/Nyheter_og_presse/Kronikker/Redningstjenesten_i_krevende_terreng/, accessed on 11 October 2007 at 11.26 am.

⁸⁹ In Norwegian: *Redningsselskapet* (Norsk Selskab til Skibbrudnes Redning)

organisation.⁹⁰ More than a century later, in 2006, the organisation boasted 42 rescue boats stationed all along the coast of Norway. Out of the 42 boats, 27 were permanently manned and on 24-hour standby.⁹¹ An additional 15 boats were manned by trained volunteers. The NSSR coordinates 750 volunteers operating through 13 local sea rescue corps on the coast and at the inland lakes of Mjøsa and Femunden. Rescue crews are always on standby, with crew members either lodging on board or in quarters close to the salvage vessels. The NSSR's rescue boat crews are specialised in skills related to maritime rescue, diving, smoke diving and first aid. Most boats are able to perform ambulance missions. All permanently manned boats have divers on board, and underwater cameras for inspection dives are found on several vessels. A total of 30 shore bases are manned year-round, while 20 are used exclusively in connection with seasonal fisheries or holidays, when the recreational fleet is active. The bulk of NSSR's all-year work takes place in northern Norway, with higher activity in the south during the summer. On the preventive side, the NSSR provides an information service and has developed an educational programme designed to improve safety at sea.

*The Medical Corps of Norwegian People's Aid*⁹² is a voluntary rescue service operated by the Norwegian People's Aid. The Medical Corps comprises 72 local corps across Norway, with a total of 2000 volunteers. The main effort is directed towards emergency tasks such as first aid, conducting searches, rescue at sea, evacuations, and environmental relief, in addition to accident-prevention work. Along with other similar organisations, the Norwegian People's Aid has suffered from a loss of members. According to the annual report from the Board of Norwegian People's Aid in 2006, membership fell by 10 per cent during the course of the year.⁹³ The report does not state how this affected the work of the Medical Corps.

Nine of Norway's non-governmental rescue organisations are currently members of an over-arching coordinating association, Voluntary Organisations' Forum for Rescue⁹⁴ (FORF). This includes:

- The contact group for alpine mountain rescue units
- Norwegian Speleological Society
- Norwegian Air Sports Federation
- The Norwegian Red Cross' Search and Rescue Corps
- The Medical Corps of Norwegian People's Aid
- Norwegian Search and Rescue Dogs
- Norsk Radio Relæ Liga
- The Norwegian Society for Sea Rescue
- The Rovers' Preparedness groups in the Norwegian Guide and Scout Association

Aall and Groven (2003) have attempted to estimate the size of the work load taken on by the various voluntary organisations, as well as the distribution of work between them, relying on the logs of Norway's two Rescue Coordination Centres. From 1995-1999, the NSSR took part in an average of 368 rescue operations a year. The land-based voluntary organisations took part in a total of 600 rescue operations coordinated by the main rescue stations.⁹⁵ The Norwegian Red Cross' Search and Rescue Corps is the largest of all voluntary rescue organisations, taking part in 90 per cent of all rescue operations that involve volunteers. In 1999, the Norwegian Red Cross' Search and Rescue Corps took part in almost four times as many operations as Norwegian Search and Rescue Dogs, appearing 11 times more often than the Medical Corps of Norwegian People's Aid. In addition, several rescue operations (no figure obtained) are coordinated by local rescue stations at the level of each police

⁹⁰ <http://www.redningsselskapet.no/page?id=170>, accessed on 11 October 2007 at 2.30 pm.

⁹¹ This is the highest number of operational boats in the history of the organisation, according to the NSSR's Annual Report for 2006.

⁹² In Norwegian: *Norsk Folkehjelp Sanitet*

⁹³ <http://www.npaid.org/filestore/FolkehjelpEngelsk.pdf>, p.12, accessed on 11 October at 10.30 am.

⁹⁴ In Norwegian: *Frivillige Organisasjoners Redningsfaglige Forum*

⁹⁵ The figure is based on an overview of the number of times each rescue organisation was drawn on by the Main Rescue Stations (MoJP 2001, table 3.1). As several organisations may have been involved in the same rescue operation, there will be some cases of double reporting. The statistics do not provide an overview of person-hours spent, only the number of operation in which each actor participates.

district, evading the main rescue stations' logs. According to the Norwegian Red Cross' Search and Rescue Corps, the average number of rescue operations is 4-500 (in 2006, the number was 352).⁹⁶ This indicates that a large portion of the local operations are, after all, included in the main rescue stations' logs, as this material displays participation by the Norwegian Red Cross' Search and Rescue Corps in an average of 409 rescue operations per year from 1995-99. The Institute of Transport Economics in Oslo examined the socio-economic value of the sea rescue services in 1999-2004, concluding that society's returns were four times as large as the expenses associated with operating the services (FORF 2007:18).

⁹⁶ <http://www.redcross.no>, accessed in October 2007.

II. PROCESSES OF INSTITUTIONAL CHANGE

1. The shift away from a predominantly military focus

This chapter outlines three processes of change which have stimulated change in the institution of civil protection at large. In the 1990s, the Norwegian system of civil protection experienced a shift which partly stemmed from the geopolitical relaxation following the end of the Cold War. As the emphasis on military risks declined, and as Norway experienced serious natural disasters⁹⁷, non-military risks were gradually pushed to the foreground (MoJP 2001:67). The course of this development will be elaborated in the first section of this chapter, along with a brief outline of the history of civil protection in Norway. The second section looks at the entry of the climate issue upon the agenda of the national level of the system of civil protection, and the third section seeks to describe some of the negative effects of modernisation and deregulation (on societal vulnerability), using the power market as a case.

In the years following World War II, the risk of new wars on Norwegian territory was still considered high (Serigstad 2003:45). Most of Norwegian society was geared towards rebuilding the country, and new plans for defending the country were implemented. As part of this effort, a new system of civil protection was established, based on the concept of 'total defence'. The notion underpinning this concept is that the totality of the country's resources, civil as well as military, are to be drawn on in the event of a war or a serious crisis. This approach was introduced by the National Defence Commission of Norway in 1946, born out of the bitter lessons of World War II, when Norway failed to defend the country's long coastline and Eastern borders.⁹⁸ In the next five decades, few overall assessments of the system of civil protection were carried out (Serigstad 2003:55). However, following the fall of the Berlin Wall, the Warsaw Pact and the Soviet Union around 1990, the need for institutional adjustments grew increasingly apparent. The gradual de-prioritization of the traditional military focus was not an explicit strategy embraced by the Norwegian Government at any given point in time. Rather, the change occurred over time, as a slow transition consisting of several small steps, with a culmination around 1998 (Serigstad 2003:59).⁹⁹

The first indication of institutional change appeared in 1989, during the political discussions on the 1990-93 'Long-term Plan for Civil Protection'.¹⁰⁰ However, the traditional focus remained dominant in the sense that basic premises and objectives underpinning this realm were still considered valid. In the early 1990s, the Government-assembled *Buvik Committee*, perceiving a need for stronger coordination of the field of civil protection, recommended assigning the Ministry of Justice with the task of overall national coordination of the field of civil protection. Importantly, the recommendations of the Buvik Committee were echoed in Report No. 24 to the Storting (1992-93), which proposed long-term goals and perspectives in the field of civil protection. Because it heralded a change in the balance between the traditional military risks and 'new' risks, some consider this document an indication of the first real watershed in this realm since 1969 (Serigstad 2003:56). The white paper identified several weaknesses in the existing system of civil protection, and outlined a set of possible new guiding principles and objectives that would have the effect of shifting non-military challenges to an unprecedented position. In spite of this, however, the risk of new wars remained the *raison d'être* of the Norwegian system of civil protection for some years (Serigstad 2003:57-58). Another white paper, Report No. 48 to the Storting (1993-94), recommended the implementation of the proposed measures. This included the assignment of the task of national coordination to the Ministry of Justice, the establishment of a Council of Civil Protection, an effort to rewrite civil protection plans, as well as to establish the possible nature of an internal control mechanism assigned to the Directorate for Civil Protection. Importantly, the white paper followed up on the foregoing recommendation of down-scaling the focus on military challenges and focussing more on the *civil* aspect of civil protection.

⁹⁷ In particular, the New Year's Hurricane in 1992 and the flood in Eastern Norway in 1995 ('Vesleofsen').

⁹⁸ <http://www.nve.no/FileArchive/97/Vedl%201%20historikk.pdf>, accessed 20. February 2008 at 2.30 pm.

⁹⁹ As touched on in the second section of this chapter and in chapter 3, Norway's experiences with natural disasters in the 1990s also contributed to the development away from a military focus.

¹⁰⁰ Report. No. 52 to the Storting (1988-89) 'Langtidsplanen for det sivile beredskap 1990-93'

These suggestions were accepted by the Storting, spurring a process of transformation in the public system of civil protection. In the next long-term white paper issued in 1998, Report No. 25 to the Storting (1997-98), the Norwegian Government explicitly declared that new tasks and foci should be adopted. For the first time, a clear line was drawn between the systems of civil and military protection. In addition, it was underlined that the system of civil protection should focus on tasks that contributed to reducing the general vulnerability of civil society, as well as preparing for peacetime crises. A Norwegian Official Report describes the shift of the 1990s in retrospect:

'Until the 1990s, planning was more or less singularly geared towards war, but in later years, more emphasis is put on emergency planning and preparations for handling peacetime catastrophes and disasters' (MoJP 2001:67).

Another interesting development took place at the turn of the century. In 1999, the Norwegian Government appointed a public committee, popularly known as *the Committee on the Vulnerability of Society* (Sårbarhetsutvalget). Chaired by former Prime Minister Kåre Willoch, the committee's mandate was to provide a holistic description of extraordinary threats against Norwegian society during peacetime, security policy crises and wartime, so as to provide a foundation for recommending political priorities and measures. In 2000, the committee handed over their final report, which received a considerable amount of attention.¹⁰¹ Underlining the notion that 'total war' should no longer be considered an imminent threat, the focus was shifted to the *general vulnerability of modern society*. In essence, the report concluded that society had become more vulnerable to, for instance, breakdowns in the supply of goods and services as a result of terrorism, natural disasters, or technical failure of various kinds. In their final report, Willoch's committee proposed a set of 22 improvements to the system of civil protection, including measures within specific sectors, organisational changes, judicial changes, and changes pertaining to research and development. Many of these suggestions have later been implemented, although a few have been ignored. The report served as a source of inspiration for several subsequent white papers, such as Report to the Storting 17 (2001-2002), Report to the Storting 17 (2002-2003), and Report to the Storting 39 (2003-2004). Some of the proposed measures were implemented in the wake of the terrorist attacks on 11 September 2001.¹⁰²

In terms of overall organisation of the public system of civil protection, Willoch's committee suggested establishing a ministry dedicated exclusively to societal security and civil protection. Instead, the Norwegian Government assigned the Ministry of Justice and the Police with the responsibility for societal security, in the so-called 'Sem Declaration'. In practice, thus, most of the tasks referred to are now carried out by a single ministry, which is the superior authority of the Directorate for Civil Protection and Emergency Planning. Today, Kåre Willoch deems this course of action a clear mistake. As an example, Willoch finds it regrettable that events such as the fire in Oslo Central Station in November 2007 are not accompanied by political repercussions.¹⁰³ A Ministry, Willoch argues, would make a greater effort to avoid such scandals:

'The Committee on the Vulnerability of Society was ever so explicit about the expectation that a directorate would not hold the weight needed for handling such a demanding field [societal security and safety]. Still, we were quite prepared that our request would not be successful for quite some time. (...) I still see a need for a ministry fully dedicated to societal security and safety. The Minister of Justice has far too many other tasks to deal with'.¹⁰⁴

Adding weight to Willoch's point, the Ministry of Justice and the Police was criticised by the Office of the Auditor General in 2008 for failing to fulfil its responsibility for the field of civil protection and emergency planning at the

¹⁰¹ <http://www.regjeringen.no/nb/dep/jd/dok/NOUer/2006/NOU-2006-6/24.html?id=157741>, accessed 5 February 2008 at 12.30 pm.

¹⁰² Ibid

¹⁰³ http://www.dsb.no/File.asp?File=PDF/Publikasjonsliste\Rapporter/oslosrapport_web.pdf, accessed 5 February 2008 at 1 pm.

¹⁰⁴ Kåre Willoch, 18 January 2008

national level. In early 2008, the Office of the Auditor General concluded that the Ministry of Justice and the Police had failed to take an active role with respect to coordination in the realm of societal security.¹⁰⁵ Soon after, in Report no. 22 to the Storting (2007-2008), the Norwegian Government stated that the Ministry's role as a coordinator would be strengthened. Seen together, the Auditor General's conclusion and the white paper clearly indicate that the prioritisation of civil protection, at least nationally, has been somewhat low, but that measures will be introduced to change the current situation.

Finally, it seems pertinent to ask how far the shift of the 1990s brought the institution of civil protection in terms of *demilitarisation*. In essence, it was adaptation to the geopolitical situation that led the Norwegian system of civil protection to shift away from planning and preparing for war. But as seen in the below citation from the official web site of the Norwegian Government, the risk of war still receives mention with respect to civil protection, along with a set of 'new' challenges.

'Today's security challenges are less related than before to traditional military threats. The possibility has increased for terrorist attacks, major environmental and natural catastrophes or major accidents in various sectors of society. The Government will endeavour to pursue a coherent security policy, strengthening the level of civil protection and striking a good balance between military and civil emergency planning'.¹⁰⁶

In later years, the concept of 'societal security and safety'¹⁰⁷ has gained footing, and as the web site of the DCPEP rightly stresses, 'the vulnerability of society is not static – the challenges of today may not be the challenges of tomorrow'.¹⁰⁸ Hence, it would be wrong to conclude that the focus shift of the 1990s has demilitarised the system of civil protection completely. Rather, it seems that peacetime crises of a non-military character have become subject to greater acknowledgement over the last two decades. The place of climate change in this shift, as a possible continuation of the shift, will be discussed in the following.

2. Increased focus on climate adaptation

Climate adaptation has already risen up the agenda of some parts of the institution civil protection. People in key positions have generally accepted the scientific prediction that natural disasters are likely to occur more frequently as a result of climate change. It is also generally understood that natural disasters may occur in new locations or at unusual times of year, challenging previous notions of what is 'safe'. Some of this realisation stems from Norway's experience with natural disasters and extreme weather events in the 1990s and 2000s. Disasters such as the flood in Eastern Norway in 1995 demonstrated the principle that safe land-use planning determines, to a certain extent, a location or building's level of vulnerability to the forces of nature.¹⁰⁹ In the following, the process by which the issue of climate change has become an issue and been approached by key players at the national level of civil protection will be outlined. In particular, the work of the newly established *Norwegian Climate Adaptation Programme* will be touched on.

¹⁰⁵ http://www.riksrevisjonen.no/Aktuelt/Pressemeldinger/Pressemelding_Dok_3_4_2007_2008.htm, accessed 5 February 2008 at 2 pm.

¹⁰⁶ <http://www.regjeringen.no/en/topics/Civil-protection-and-defence.html?id=215>, accessed 11 October 2007 at 2 pm.

¹⁰⁷ In Norwegian: *samfunssikkerhet*

¹⁰⁸ http://www.DCPEP.no/article.asp?ArticleID=1218&Rightmenu=H_Om_DCPEP&leftmenu=Forsiden, accessed November 20 2007 at 3 pm.

¹⁰⁹ Aall og Nordland (2003) distinguish between three types of vulnerability to climate change: *natural, socio-economical, and institutional vulnerability*. The capacity of local authorities to implement adaptive measures determines an area's degree of *institutional vulnerability*.

The first public discussions of climate adaptation in the context of societal security and safety started appearing only a few years ago. The DCPEP approached the issue of climate adaptation publically for the first time in an article for a special climate issue of the magazine *Plan* in 2003 (Steen 2003).¹¹⁰ The author, Roger Steen, outlined some of the expected consequences of climate change in Norway, drawing attention to the need to strengthen preparedness at the local level. Thus, Steen echoed some of the recommendations of Willoch's Committee on the Vulnerability of Society that have yet to be implemented in legislation.¹¹¹ At the time, the DCPEP was somewhat detached from the field of adaptation to climate change, which was not defined or perceived as overlapping with the Directorate's fields of competence. Few felt that climate adaptation should come to constitute a separate field of focus. This approach has been kept, and thus 'climate awareness' is being integrated in the Directorate's different departments rather than being handled by a new or separate unit.

Following the budding national awakening of this decade, priorities changed both at the national political level and within the DCPEP. Report to the Storting 39 (2003-2004), issued in 2004, devoted an entire chapter to the consequences of climate change for societal security and safety. Steen at the DCPEP contributed significantly as an author and advisor.¹¹² The fact that the Government considered the topic relevant signified a political acknowledgment of anthropogenic climate change (and adaptation) as a national challenge. The report also constituted a turning point in the sense that adaptation became an issue alongside mitigation. In 2006, Norwegian Official Report 2006:6 raised the same issue in a separate subsection, labelling the effects of climate change a 'new' security threat along with terrorist attacks (NOU 2006:6:15, 41). Coincidental or not, 'climate change and natural disasters' is mentioned first out of a total of seven topics, with 'terrorism and organised crime' listed third (ibid: 16). The second topic mentioned is 'aging of critical infrastructure', a problem which may in itself be seen as an indicator of climate awareness, in the sense that climate change may speed up the ageing process in various kinds of physical infrastructure, or in other ways affect the critical infrastructure negatively. The problem of vulnerability of critical infrastructure was also the subject of a report issued by the DCPEP the previous year, which concludes that the expected negative consequences of climate change, such as temperature change and heavy rain, constitute a significant challenge to infrastructure, and thus also to societal security and safety (2005b:35).

Like Report no. 39 to the Storting (2003-2004), Norwegian Official Report 2006:6 took a proactive and positive stance on the issue of climate vulnerability, highlighting the importance of early adaptation with regard to critical infrastructure and land-use planning:

'Society is heavily dependent on safe access to infrastructure such as roads, railways, and harbours. The decisions we make today concerning investment in roads, buildings and technology are going to influence the effects of climate change on infrastructure for a long time in the future. If we take future climate change into account in planning, we will be able to adapt to the extreme weather events that will follow from a changing climate' (MoJP 2006:42).

Interestingly, the report distinguishes between the risks of the past and the main threats of today, including terrorism and climate change. The latter are characterised as 'diffuse' or 'potential' threats. This is by virtue of the fact that climate scenarios are associated with various forms of uncertainty, and that terrorists may strike anywhere and at any given time. Significantly, these 'new' risks are seen as holding a great potential to inflict damage on society, partly because society, at least in some ways, has become more vulnerable (ibid:41).¹¹³

By 2007, climate adaptation had become an integral part of the concept of societal security and safety, and was considered urgent enough to warrant special mention in an editorial by the DCPEP's Director Jon A. Lea. In a 2007 issue of the DCPEP-produced magazine *Samfunnssikkerhet*, Lea admitted that Norwegian society is not fully prepared for tackling climate change.

¹¹⁰ To the best of the interviewee's knowledge. Roger Steen, 6 February 2008

¹¹¹ According to Report no. 22 to the Storting (2007-2008), certain measures related to civil protection and emergency planning in Norwegian municipalities will become compulsory by law, probably from 2009 on, eventually signaling an acceptance of some of the Committee's recommendations.

¹¹² Roger Steen, 6 February 2008

¹¹³ The relationship between societal vulnerability and climate vulnerability is discussed by Aall and Groven (2003:24).

'I am tempted to conclude that we are not. We have not realised the full extent of the challenges associated with climate change. We know a lot about the causes of climate change, but we are hardly familiar with the consequences'.¹¹⁴

The various public reports and white papers of recent years have all pointed to a need for awareness-raising and competence-building at the local level, especially within the realm of land-use planning and climate adaptation. Almost without exception, *municipalities* are singled out as key players in the effort to reduce climate vulnerability. A report issued by the Ministry of the Environment (2005) stressed the importance of alerting local authorities to the importance of safe land-use planning:

'Climate change may produce greater uncertainty, and may require other limitations to [land-] use than what is accepted today. Thus, climate change could have a *direct* effect on land-use planning. The risk of floods, avalanches and strong winds will be of the greatest significance to where buildings and infrastructure are placed.' (MoE 2005:13)

The report also concludes that a key challenge within planning is to provide the local and regional authorities with easy access to the existing information and research results on regional or local consequences of climate change. In addition, the Ministry of the Environment identified *the 'reactive' part of the system* of civil protection as a key target for awareness-raising. An important question in this sector is whether the rescue approach of previous times is going to be outdated:

'There is a need for providing insight and disseminating information on climate change within the sectors of fire, rescue, electricity, and within the Norwegian Civil Defence. The equipment and resources of the various sectors must be adapted to the challenges climate changes are expected to lead to, both in the form of extreme weather, and an increased risk of forest fires and technical damages.' (MoE 2005:13)

Interestingly, the shift in priorities which has placed climate change at the forefront in civil protection, seems to be in close accordance with the risk perception of the general public. The DCPEP's latest National Barometer (2007b:9) demonstrates that the type of crisis believed to be most likely to occur is 'natural disasters' (81 percent), while 'war on Norwegian territory' is ranked lowest (7 percent) (figure 5). Moreover, the proportion of respondents viewing natural disasters as the most likely type of crisis has increased the most in the last two surveys, from 63 percent in 2004 to 81 percent in the 2007 survey. Also, an increasing proportion of the Norwegian population believes that climate change is taking place. Whereas only 47 percent believed in climate change in 2006, as much as 60 percent stated that they *did* believe in climate change by 2007. If the proportion agreeing 'totally' is added to those that agree 'partly', the proportion of 'climate-believers' is close to 90 percent (2007b:21).

¹¹⁴ Samfunnssikkerhet (3-2007:2)

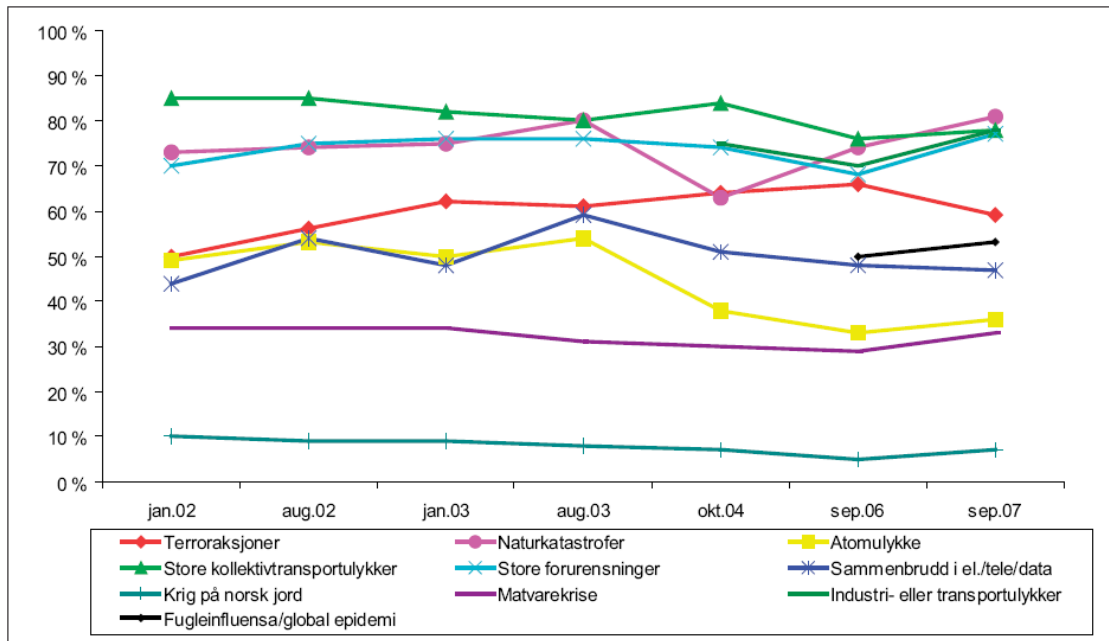


Figure 5 Proportion of the population which considers the probability for different types of crises occurring in the next 5-10 years 'high' or 'relatively high'. N=1000 (DCPEP 2007b:9).

The DCPEP's Population Survey (2007a) paints a similar picture. A total of 86 percent of Norwegians fear that climate change will have an undesirable impact on society (figure 6). Moreover, 66 percent believe that 'to a great extent' or 'to some extent', one will notice the effects of climate change locally (2007a:12). Furthermore, 71 percent consider it 'very important' or 'quite important' that municipal plans exist (2007a:14). However, it is interesting to note that only 13 percent are planning to secure their property against possible consequences of climate change (2007a:13). This is worrying, as seems to indicate that most people trust the state to provide them with the needed protection. Commenting on the survey, the DCPEP's Director, Jon A. Lea, stressed the importance of raising awareness, and for relevant actors to acknowledge the challenges they are going to encounter, as well as the fact that adaptation is required.¹¹⁵

¹¹⁵ <http://www.dsb.no/Article.asp?ArticleID=2734&oppslag=1>, accessed 5 February 2008 at 4 pm.

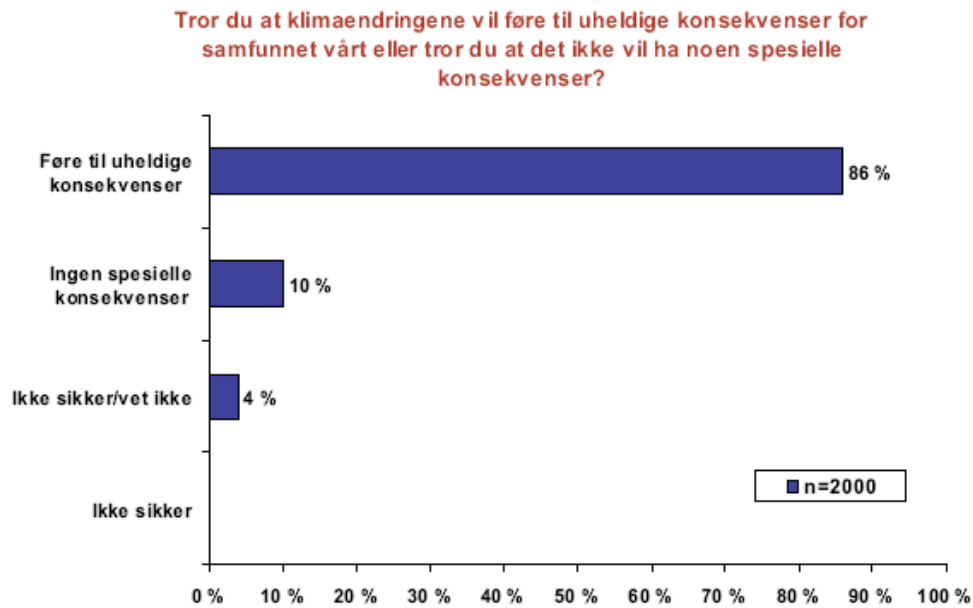


Figure 6 Proportion of respondents stating that they fear climate change will lead to undesirable consequences for society (first column), that climate change will have no special consequences (second column), and that they are not sure (third column). N=2000. (DCPEP 2007a:10)

The Norwegian Climate Adaptation Programme

In May 2006, the DCPEP's effort to address the issue of climate adaptation manifested itself in an interministerial 'coordinating group' headed by the Ministry of the Environment. The Norwegian Climate Adaptation Programme came into existence, and the DCPEP was assigned with the task of operating a secretariat for the programme on behalf of the coordinating group. In October 2008, the secretariat consisted of five staff members at the DCPEP's headquarters in Tønsberg (2.5 from the Section for Analysis and Research, and 0.5 from the Section for International Relations at the Department of Research and National Preparedness, a staff member from the Department of Information and Communication, and a programme coordinator for *Framtidens byer*¹¹⁶ employed through the Ministry of the Environment).¹¹⁷ The NCAP's coordinating group includes representatives of 12 ministries.¹¹⁸ Representatives of other ministries, as well as relevant directorates, and representatives of Norwegian municipalities, research institutions and organisations may be invited to the meetings of the coordinating group, which are to take place once or twice a year.¹¹⁹

One of the first tasks carried out by the secretariat of the Norwegian Climate Adaptation Programme (NCAP)¹²⁰, was the development of a national strategy for the future work with climate adaptation in Norway. The document 'Climate Adaptation in Norway', publicised in May 2008, outlines the main challenges associated with the consequences of climate change. A national 'overall objective' for climate adaptation is proposed: 'Reducing society's vulnerability to climate change and contributing to strengthening Norway's adaptive capacity' (NCAP 2008:13). Moreover, the document identifies three subsidiary objectives: (1) Mapping climate vulnerability and integrating climate considerations in planning, (2) Generating more research on climate change and adaptation, (3) Encouraging coordination, dissemination of information and competence-building. As part of the third subsidiary objective, a web portal on climate adaptation will be launched in the autumn of 2008.

¹¹⁶ In English: *Cities of the Future*

¹¹⁷ In July 2008, this included Marianne Karlsen, Cathrine Andersen and Guro Andersen.

¹¹⁸ This includes the Ministry of Labour and Social Inclusion, the Ministry of Finance, the Ministry of Fisheries and Coastal Affairs, the Ministry of Health and Care Services, the Ministry of Justice and the Police, the Ministry of Local Government and Regional Development, the Ministry of Agriculture and Food, the Ministry of the Environment, the Ministry of Trade and Industry, the Ministry of Petroleum and Energy, the Ministry of Transportation and Communications, and the Ministry of Foreign Affairs.

¹¹⁹ Marianne Karlsen, 7 December 2007

¹²⁰ In Norwegian: *Klimatilpasning Norge*

With respect to funding, the NCAP secretariat received funding of NOK 2 million in 2007, and NOK 4 million in 2008. Funding has been guaranteed until 2010-11 (MoE 2007d). In addition, the DCPEP contributes financially through covering staff time and other costs, which amounts to a few million NOK.¹²¹ Tasks to be carried out, as well as work reported by the secretariat, are listed below (MoE 2007d).

Task assigned	Work reported
- Function as secretariat for the coordinating group, and carry out assigned tasks	- At the first meeting of the coordinating group, 12 September 2007, the initial outline of a National Strategy was presented. A revised version will be submitted to the MoE by 1 January 2008. ¹²²
- Contribute to raising awareness among relevant target groups through information exchanges on climate adaptation - Establish a foundation for holistic information exchange on climate effects and adaptation measures, including the establishment and operation of a web site gathering relevant information. The secretariat will suggest measures and map the status in various sectors	- A survey of attitudes to climate change and adaptation among 2000 Norwegian citizens - A concomitant survey in Norwegian municipalities, County Administrations and County Governors' Offices - Estimated ocean rise maps provided by the Bjerknes Centre by December 2007 - A web site to be owned by the MoE at www.government.no is in progress. Pre-project (NOK 1.7 million) concluded by 30 December 2007
- Establish a scientific knowledge platform through identifying the most vulnerable areas and sectors in Norway, and contribute to filling knowledge gaps	See above. The secretariat has defined its role as that of a <i>facilitator</i> , whereby relevant actors identify vulnerability in their own realms. The main effort will possibly be directed at the municipalities. Identification of knowledge gaps to be carried out in cooperation with the researchers and stakeholders in question
- Act as a catalyst for activities related to climate adaptation and contribute to collaboration with/between state authorities in various sectors, different levels of government, researchers and other relevant stakeholders	Contributions to and attendance of meetings, seminars, and conferences at pre-existing arenas. In addition, County Governors have been instructed to organise climate adaptation seminars in 2007-8. A reference group with representatives from the County Governors' has been established to assist the secretariat
- Offer advice to Norwegian society on vulnerability analyses and adaptation	The web portal will serve this function. In addition, a comprehensive online guide to RVAs, including information on climate adaptation, will be ready in 2008

Table 3 Overview of the tasks assigned to the secretariat for the Norwegian Climate Adaptation Programme and the work reported for 2007 (DCPEP 2007d).

The work of the secretariat was commenced in 2007, and primarily comprised tasks pertaining to the national level. In addition, the secretariat assisted in the DCPEP's internal effort to raise awareness and build competence on climate change and adaptation within the realms relevant to the DCPEP's many fields of responsibility, partly through an internal resource group drawing members from different departments in the DCPEP.¹²³ As demonstrated above (Table 2), the secretariat has attempted to gain an overview of the status and needs in adaptation at the national, regional, and local levels, mainly through surveys. Furthermore, the secretariat has been engaging in the public discourse and attending relevant conferences and seminars with the objective of gaining insight and establishing a network of contacts. With regard to dissemination and communication with the wider public, the development of a comprehensive web portal hosted by the official web site of the Norwegian Government (www.government.no) has been commenced.¹²⁴ The NCAP secretariat has also developed the

¹²¹ Roger Steen, 6 February 2008

¹²² The document 'Climate Adaptation in Norway' was publicised somewhat later, on 15 May 2008.

¹²³ In addition to assisting in competence-building within the DCPEP, this group functions as a resource group for the secretariat of NCAP.

¹²⁴ *Samfunnssikkerhet* 3/2007, p.2

aforementioned document 'Climate Adaptation in Norway' which presents a set of recommendations in the field of climate adaptation in Norway.

How did climate adaptation first enter upon the stage at the national level of the system of civil protection? As previously mentioned, the climate adaptation was hardly considered a matter relevant to the DCPEP before 2003. The context in which the DCPEP first raised the issue with the Ministry of the Environment was a perceived need for revising the existing regulations in land-use planning. The idea of a secretariat with supporting functions was born at a seminar on strategies for adaptation organised by the Ministry of the Environment in August 2005.¹²⁵ Here, the DCPEP's representative pointed to the need for national authorities to start looking at climate adaptation, and furthermore, that the Planning and Building Act ought to have a greater focus on safety, security and climate change.¹²⁶ In the discussion that followed, the DCPEP's suggestions received support from several other state authorities. A fruitful dialogue between the Directorate and the Ministry ensued, and as a result of close cooperation between the DCPEP and a handful of supportive officials in the Ministry of the Environment, the Norwegian Government and the Ministry of Justice and the Police gave their support to the idea of involving the DCPEP in climate adaptation work through assigning the directorate with a secretariat for an interdepartmental coordinating group.¹²⁷ In conclusion, although the DCPEP initiated the process, the Ministry of the Environment played a central role by providing funding, political support, as well as legitimacy across the Norwegian Government. Still, in 2006, no reference was given to the need of climate change adaptation in the last of the three Government white papers so far to be issued on the issue of climate policy. The *only* reference to climate change adaptation was the following (page 58, our translation): "There is also a need for building knowledge in the field of climate vulnerability and adaptation to climate change in developing countries"¹²⁸.

In all, it took about five years for the issue of climate adaptation to be integrated in the institution of civil protection, at least at the national level. Though it is tempting to suggest that this amounts to a very slow response, one of the key persons in this process considers five years a decent time frame for such a process to bear fruits within the Norwegian system.¹²⁹ In the next chapter, the introduction of the issue of climate adaptation at the County Governor's Offices, in the County Administrations, and in non-governmental rescue organisations will be described briefly.

3. Negative effects of deregulation, privatisation, and modernisation

In an effort to modernise the public sector, reform policies inspired by New Public Management were introduced by conservative governments in Norway in the 1980s and early 1990s, cost-efficiency, freedom of choice, and increased quality being some of the main objectives. Thus, several key sectors became subject to deregulation and privatisation, and in addition, NPM-style policies have seeped into the non-privatised parts of the public sector, decreasing the traditional role of regulation. Historically, public ownership has been perceived as a guarantee for the security of critical infrastructure and vital societal functions in Norway, and as such, processes of deregulation and privatisation have been viewed with considerable anxiety and scepticism – mainly as a possible source of increased societal vulnerability. The notion that privatisation constitutes a threat to societal safety and security is reflected in public documents such as Norwegian Official Report (NOU) 2006:6: 41 and Report to the Storting 17 (2001-2):

'The choice of ownership must be made on the basis of a total assessment where the desirability of public control is weighed against economical advantages

¹²⁵ <http://www.regjeringen.no/nb/dep/md/tema/klima/globale-klimaendringer/Program-for-seminar-om-tilpasningsstrategier-til-klimaendringer.html?id=440587>, accessed 22 July 2008 at 9 am.

¹²⁶ Roger Steen, 6 February 2008

¹²⁷ Another milestone mentioned by the DCPEP is the Nordic sustainability conference 'Framtid-kom.no' on 25-27 October 2006, which included a two-day workshop on climate vulnerability and opportunities for adaptation. <http://www.regjeringen.no/nb/dep/md/kampanjer/Framtid-komno/Program.html?id=426528>, accessed 22 July 2008 at 9 am.

¹²⁸ <http://www.regjeringen.no/nb/dep/md/dok/regpubl/stmeld/2006-2007/Stmeld-nr-34-2006-2007-.html?id=473411>, accessed 20 October 2008 at 10 am.

¹²⁹ Roger Steen, 6 February 2008

of private ownership. Societal safety and security must be seen as weighty reasons for infrastructure and societal functions that are of a critical nature'.¹³⁰

The sectors that have been subject to deregulation and privatisation in Norway since the early 1990s include power supply, telephone services, transportation, and health services. This process has run parallel to an increased demand for cost efficiency and short-term income, which serves to slow investments. As a result, the operation of several key societal functions and services are now subject to commercial criteria (NOU 2006:6).¹³¹ One potentially harmful effect of this development mentioned in NOU 2006:6 includes widespread *specialisation* leading to subcontracting to foreign companies with little competence in Norway and a general reduction of the amount of storage. A possible result is increased dependence on foreign-based goods and services, and in turn, a higher degree of vulnerability on the part of Norwegian society.¹³² In the following, deregulation of the electricity supply sector in Norway will serve as a case in point of how deregulation and privatisation might contribute to heightened societal vulnerability.

Case: Deregulation of electricity supply

Deregulation of the electricity sector appeared on the political agenda across the world in the late 1980s and 1990s. Besides the political aspect of a policy of privatization, there was an economic rationale of competition driving down production cost and price. Norway, together with the UK, was the first country to reform the electricity sector. The electricity value chain was split into a competitive part and a monopolistic part. On one hand, a wholesale market for electricity was opened, and customers were now free to choose where to buy electricity. On the other hand, transmission companies remained regional monopolies, but were now regulated using a revenue-cap system. The revenue-cap contracts used for grid companies have led to increased incentives in operating the system in a more efficient way. Also, the old system of cost-plus contracts gave too strong incentives to increase production and transmission capacity. However, the issue of giving sufficient incentives to build and maintain an optimal level of transmission remains unresolved.

The passing of a new Energy Act, effective from 1991, paved the way for privatisation in the 1990s. Today, public ownership still constitutes about 88 per cent of the total production capacity in the hydro power-producing sector. The Norwegian Government (through Statkraft¹³³) owns about 36 per cent of the production capacity; private companies own about 12 per cent. The rest is owned by municipalities and county administrations across Norway.¹³⁴ Importantly, the responsibility for the supply of electricity and for the physical conditions of power lines and power masts is held by each grid company. The same owners, now in part private, are entitled to take out profits. This provides a possible motivation for limiting spending on maintenance and repairs, although it is difficult to prove that such a strategy has consciously been pursued. However, as documented by the DCPEP, the task of maintaining and repairing the power infrastructure has been handled rather poorly in recent years (2005b:32), and Report no. 22 to the Storting (2007-2008) supports this notion (2008:44). As a result of this perception of the situation, the state's instruments in the power supply sector have recently been subject to close scrutiny. In October 2008, the Office of the Auditor General of Norway presented a report on the state's instruments with regard to the power sector. The report concluded that the rate of reinvestment in the distribution grid must be increased in the coming years in order to maintain the current technical standard of the infrastructure in question. Moreover, the Auditor General confirmed the notion that there is potential for improvement of the infrastructure inspections carried out by the DCPEP and the Norwegian Water Resources and Energy Directorate (2008b). In June 2008, following an internal examination of the framework of rules pertaining to inspections of physical infrastructure, a joint forum was established by the Norwegian Water Resources and Energy Directorate (NVE)

¹³⁰ <http://www.regjeringen.no/nb/dep/jd/dok/NOUer/2006/NOU-2006-6/3.html?id=157411>, accessed 4 February 2008 at 5 pm.

¹³¹ <http://www.regjeringen.no/nb/dep/jd/dok/NOUer/2006/NOU-2006-6/18/4.html?id=373517>, accessed 1 February 2008 at 10 am.

¹³² The notion that society is becoming more vulnerable as a result of various processes of change is a premise which underpins this report, as well as the work of the public system of civil protection.

¹³³ Statkraft was established as a state-owned enterprise on 1 January 1992. On 1 October 2004 Statkraft changed its form of business organisation from state-owned enterprise to limited company.

¹³⁴ <http://www.regjeringen.no/nb/dep/oed/dok/regpubl/otprp/2007-2008/otprp-nr-61-2007-2008-/4.html?id=515396>, accessed 1 August 2008 at 2 pm.

and the DCPEP with the objective of improving coordination and encourage communication between the two directorates in the realm of inspection of grid companies.¹³⁵

The general impression reported by the DCPEP is that rather than carrying out maintenance on their own initiative, grid companies have tended to await state inspections and specific prohibitions, giving rise to phrases such as 'breakdown-based maintenance' and 'DCPEP-steered maintenance'.¹³⁶ This is particularly serious in the light of climate change, as poor maintenance of infrastructure contributes to heightening societal vulnerability to extreme weather events. The storm 'Gudrun' is one example of how exposed the distribution network may be to storms. Hitting Sweden on 8 January 2005, the storm damaged some 20,000 kilometres of power lines. In all, as much as 2,180 km of power lines had to be entirely replaced (Sydkraft Nät 2005:10). Poor maintenance could have extremely serious consequences if power cuts coincide with cold weather (as is often the case with winter storms), or if power cuts affect densely populated or urban areas where alternative sources of stationary heating are generally non-existent in modern residential buildings. The following startling citation supports the allegation that some network owners are aware of the dire state of physical power infrastructure without taking action:

'Inspection findings in some areas imply that a high number of wooden power masts are so rotten that the owner of the distribution network has introduced routines to prevent employees from climbing the masts' (DCPEP 2005b:32).



Images 4-6 Examples of ageing in technical components, a high-voltage power mast on the left and two low-voltage power masts on the right. The age of these two types of masts generally being the same, the DCPEP assume that high-voltage masts are in an equally poor condition as the depicted low-voltage masts. These particular masts have now undergone repairs.¹³⁷

The gravity of the situation is added to by the fact that the DCPEP's mandate has mainly been limited to conducting spot checks and inspections of particularly risk-prone locations, rather than all-encompassing, regular inspections of the country's grid system. Hence, there is a considerable risk that neither the DCPEP nor the electricity suppliers themselves will discover some of the weak spots in the distribution network until storms or heavy snowfall occur, causing power cuts. The Norwegian Government acknowledges the existence of interference of commercial concerns in security considerations:

'Public institutions with responsibilities within the field of civil protection are being reorganised and deregulated. (...) The fact that commercial interests may be in

¹³⁵ http://www.nve.no/modules/module_111/news_item_view.asp?iNewsId=39154&iCategoryId=1683, accessed 9 October 2008 at 11 am.

¹³⁶ Ørjan Steen, 6 December 2007 and the DCPEP's Power Point presentation *What is the condition of our power supply net?*, www.fagforbundet.no/kommunal_06/lea.ppt, accessed 21 February 2008 at 11 am.

¹³⁷ Ørjan Steen, 6 December 2007 and the DCPEP's Power Point presentation *What is the condition of our power supply net?*, www.fagforbundet.no/kommunal_06/lea.ppt, accessed 21 February 2008 at 11 am.

conflict with interests of civil protection clearly challenges the safety and security of society'.¹³⁸

The DCPEP has also presented data which supports the above assumption. The DCPEP carried out surveys on the level of investments made in new power infrastructures in Statnett¹³⁹ from 1963-2002. The diagram shows a clear lack of investments after 1993 (figure 6). While it is possible that the large-scale infrastructure investments of the 1970s and 1980s reduced the need for a similar level of investments in the 1990s, it is a common perception that investments dropped as a direct result of the implementation of new legislation pertaining to the energy sector in 1991.¹⁴⁰ In short, the consequence of the new energy legislation was a liberalisation of a realm which had previously been subject to strict state regulations, as the forces of the market were now viewed as a useful instrument for striking a good balance between supply and demand. With deregulation, private and public owners alike gained access to the extraction of profits, an opportunity which has continued to be grasped by private and public owners alike until today. In 2006, municipal owners took out about NOK 2,800 million, whereas the County Administrations took out a total of NOK 685 million. Statkraft's total profit in 2006 amounted to NOK 5,976 million, and NOK 5,857 million was extracted.

Re-investments in maintenance of the power supply system for 1991 was in the region of NOK 500 million, a much lower figure than one would expect, compared to the reinvestment level in previous years. This trend suggests a certain lack of maintenance and improvement to the system. The corresponding growth in the amount of electricity consumed in the same period might also indicate a lack of responsibility on the part of the suppliers. Such irresponsibility is deemed to be verging on the boundaries of limitation (2005b:29). The same conclusion can be reached when one analyses other years in the 1990s. On the positive side, fiscal sanctions have proven to be an effective tool for enabling suppliers to react accordingly and carry out improvements following the discovery of unacceptable conditions by the DCPEP's inspections (2005b:32).

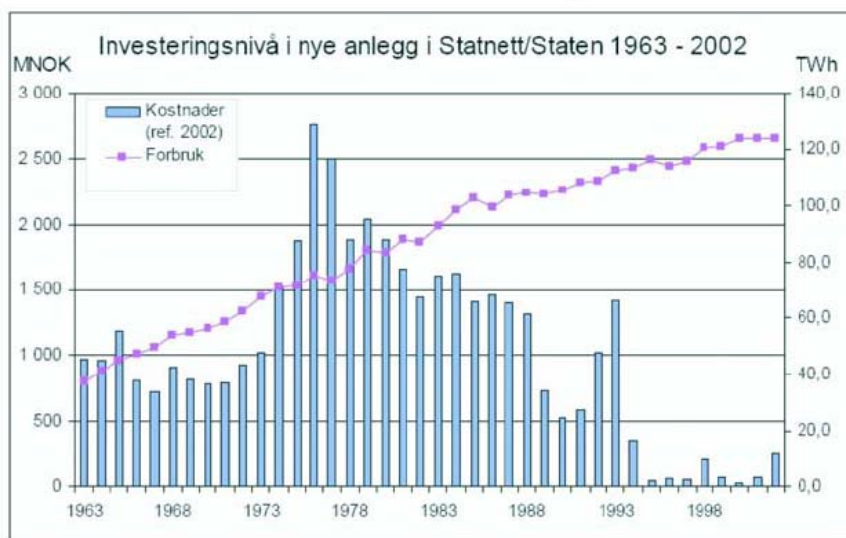


Figure 7 Level of investment in new power infrastructure in Statnett/the Norwegian State 1963-2002. Reported figures from Statnett and NVE. Columns represent costs in NOK (year 2000); the dotted line represents consumption (DCPEP 2005b:53).

¹³⁸ NOU 2006:6, p.44

¹³⁹ Statnett, a national transmission system operator, is responsible for co-ordinating supply and demand in the Norwegian power system. Statnett owns and operates large sections of the main Norwegian power grid and the Norwegian section of power lines and subsea cables to other countries. The supreme authority of the enterprise is the general meeting, i.e. the Minister of Petroleum and Energy.

¹⁴⁰ Ørjan Steen, 21 February 2008

Critics have also pointed to worrying side effects of modernisation measures, pertaining to staff competence and repairs. For instance, network owners have reported that power suppliers, in the process of installing new surveillance systems, do not always consider it economically viable to follow up on older operating systems. The paradoxical result is weakened support for the oldest, most failure-prone systems (2005b:25). Moreover, technical components are reportedly retained for so long that the current maintenance staff is no longer in possession of the competence needed to carry out repairs. Also, organisational changes such as a reduction in the number of suppliers, or a development in the direction of larger companies, represent potential competence drains. In recent years, there has been a decline in the number of small network owners due to mergers, with large companies buying out smaller suppliers (figure 8). When crises hit, however, a lack of essential 'local' knowledge sometimes arises, as seen by the fact that large companies often tend to hire local personnel after the crises arise (DCPEP 2005b:30-31). Langdal and Eggen (2003) have coined the term 'large-scale net governance', referring to a situation characterised by larger units with fewer personnel, less local knowledge and hiring of entrepreneurial services (DCPEP 2005b:31). Internationalisation is another related challenge which requires new types of formalised, international collaboration, and which has resulted in an unprecedented degree of dependence on entrepreneurs based outside of Norway.¹⁴¹



Figure 8 The number of network owners as a function of the number of end users. In 1996, the total number of network owners in Norway was 180. In 2003, the figure was down to 143 (DCPEP 2005b:59).

Beside the negative effects of modernisation and climate change, it is evident that society itself has changed in ways that prepare the ground for heightened vulnerability. For instance, widespread automation of important everyday services dramatically lowers society's ability to handle long-term power failures. Different types of critical infrastructure are often mutually dependent on each other, adding to the problem.¹⁴² Moreover, power cuts tend to be caused by so-called 'extreme' weather conditions that involve other types of hazards (e.g. heavy snowfall and strong winds). In such cases, the difficulties and dangers encountered by the public are often aggravated by, or a result of, the advanced, technology-dependent nature of today's society. For instance, it has proved very difficult to operate life-saving medical equipment during long-term power failures. Likewise, rescue vehicles have been unable to tank up with fuel because most fuel pumps are digital. Society basically comes to a complete halt when automatic doors, elevators, escalators and shop tills stop functioning all at once.¹⁴³ In addition, the total level of societal vulnerability with regard to power supply is added to by another factor: poor municipal emergency preparedness. The DCPEP's annual survey of municipal emergency preparedness in 2007 revealed a worrying picture. A quarter of Norwegian municipalities have not discussed the issue of power supply in the event of power cuts with local network owners. One in five municipalities state that they are not in possession of mobile power-aggregating units for supplying special customers, such as hospitals and nursing homes, with electrical power during power failures. This is described as a reason for great concern by the DCPEP; as aforementioned, long-

¹⁴¹ St.meld. nr. 17 (2001-2), chapter 6.3.2.

¹⁴² Haavard Stensvand, 18 October 2008.

¹⁴³ Examples provided by Ørjan Steen, 6 December 2007.

lasting power cuts tend to occur during cold spells in winter.¹⁴⁴ On the positive side, Report no. 22 to the Storting (2007-2008) heralds positive change for preparedness and planning at the municipal level (MoJP 2008a:5).

A few promising improvements have, however, been introduced in later years. From 1 January 2007, the fiscal regulation of power suppliers was subject to several changes with a potential effect on the prioritisation of investments and power delivery. Partly in an attempt to provide stronger incentives for carrying out repairs on the low-voltage distribution net, end users are now entitled to state-defined compensation in the event of long-term power failures (MoJP 2008a:44). Moreover, companies are penalized for failures to comply with the existing legislation (Ibid). The white paper also underlines that outsourcing central tasks and functions is not acceptable, and that clear instructions will be provided by the Norwegian Water Resources and Energy Directorate shortly (MoJP 2008a:45).

The notion that modernisation and deregulation heightens the vulnerability of society has been challenged, for example by researchers at the University of Stavanger (UiS) in response to Norwegian Official Report 2006:6, which presents the notion that private ownership implies maximization of profit and constitutes a threat to the security and safety of society.¹⁴⁵ The critics at the University of Stavanger claim that the empirical foundation for such a claim is non-existent, as no historical analysis of the state's record in handling security and safety issues is presented in NOU 2006:6. Moreover, it is argued that because power production in Norway, which is still partly publically owned, boasts such a poor record in terms of maintenance that public ownership cannot be viewed as a guarantee for critical infrastructure. Rather than calling for public ownership, the researchers suggest that more specific demands and requirements are introduced in the power sector.

¹⁴⁴ <http://www.dsb.no/Article.asp?ArticleID=2754&oppslag=1>, accessed 4 February 2008 at 5 pm.

¹⁴⁵ <http://www.regjeringen.no/upload/kilde/jd/hdk/2006/0017/ddd/pdfv/297416-uis1.pdf>, accessed 1 August 2008 at 2 pm.

III. INSTITUTIONAL CAPACITY FOR CLIMATE ADAPTATION

This chapter seeks to establish insight into the institutional capacity (with regard to climate change) of the public system of civil protection, i.e. the four organisations described in the first chapter of this report. In order to approach the institutional capacity of the organisations in question, three 'indicators' will be examined: *knowledge resources*, *relational resources*, and *attitudes*. In addition to asking how capable the organisations in question seem to be of responding to change and undertaking a new set of tasks in the field of climate adaptation, this chapter seeks to determine how well the various organisations of civil protection have already responded to the challenges posed by climate change. The term 'institutional capacity', as well as each of the listed indicators, will be discussed in the following.

Definitions of the term 'institutional capacity' abound, but for the purposes of this report, the term will be redefined, using an existing definition as a starting point. Healey et al (1999) have described 'institutional capacity' as the product of an institution's *knowledge resources*, *relational resources* and *mobilisation capacity* (in terms of activating the aforementioned types of resources). According to Healey et al, 'Knowledge resources' are developed if there is good access to a wide range of knowledge, which is shared and developed through continuous introduction of new ideas. 'Relational resources' refers to the existence of networks in a community, which may require restructuring in order to suit a specific purpose. This type of resource needs to be developed into a wide web of relations involving different stakeholders, and should be 'open' rather than 'closed'.¹⁴⁶ Although the definition of Healey et al will not be employed directly in this report, the terms *knowledge resources* and *relational resources* will be employed in the following, albeit with a slightly different meaning. 'Knowledge resources' will refer to the degree of insight into climate-related issues demonstrated by key actors, and the extent to which external resources are drawn on to gain more knowledge. This is relevant in the sense that a sound understanding of the problem of climate change and the challenges associated with adaptation are direct prerequisites for good and forward-looking decisions. 'Relational resources' will refer to the extent to which the organisation seeks contact with other relevant actors for instance to gain knowledge or leverage, or in order to seek allies or collaboration partners. The interdisciplinary nature of the realm of climate change requires an active, open, and cooperative approach on the part of organisations of civil protection, enabling contact with other relevant actors. Here, a third component, *attitudes*, will be added. Taking the history of the institution of civil protection into consideration, it is evident that some parts of the system still need undertake an 'attitude leap' from the Cold War era and into the 21 century, in addition to leaving certain outdated ideas and approaches behind. Moreover, it is evident that climate scepticism (i.e. a rejection of the possibility for anthropogenic climate change) still prevails in some milieus. Such attitudes constitute barriers to an organisation's capacity to handle climate adaptation, and to necessary institutional change.

1. The Directorate for Civil Protection and Emergency Planning

Knowledge resources

As previously touched on, the DCPEP's climate adaptation effort has a dual focus: First, the secretariat of NCAP works with climate adaptation at the national level under a mandate from the Ministry of the Environment. Second, an internal group consisting of representatives from each of the departments at the DCPEP and one member of the senior staff, functions partly as a national resource group for the secretariat, and partly as an internal resource group within the Directorate itself, focussing on competence-building and awareness-raising related to climate adaptation. The resource group, in place since 2007, was not hand-picked. Rather, employees were encouraged to join out of personal and professional interest. This strategy may prove effective in terms of diffusing insight into

¹⁴⁶ With regard to requirements for a successful process, Healey et al mention an ability to enlist and interest actors, as well as keeping these actors interested over time. The aforementioned types of resources are seen as preconditions to developing sustainable institutional capacity. Healey et al. moreover hold that the aforementioned resources must be deliberately mobilised in order to attain their full potential, hence the third term, 'mobilisation capacity'. Opportunities, arenas, mobilisation techniques and change agents are requirements for mobilisation to take place.

climate change and its consequences *within* the Directorate. Members of the resource group are encouraged to attend relevant seminars and conferences to build up their 'climate competence'. In turn, their insight and interest is likely to trickle into their various departments and units at the DCPEP, where it may function as an eye-opener to needed climate adaptation in the various sub-fields of the Directorate's tasks and responsibilities.

As an example, two engineers from the Department of Industry, Products and Hazardous Substances explained how they had tried to visualize possible climate-related challenges to their colleagues, both through presenting concrete examples of how climate change may require adaptation within industry, and through collecting media stories relevant to the department's tasks.¹⁴⁷ As an example of the latter, a flash flood in a small river led to the death of two hikers on a guided hike. Examples of how the effects of climate change may aggravate dangerous events, such as industrial leakage, have also been presented. The department had also looked at rules and regulations pertaining to their fields of responsibility in the light of climate change and adaptation. In 2008, the department in question will carry out a larger, more systematic assessment of its fields of responsibility with regard to climate adaptation, with an eye to how the DCPEP can make industrial enterprises and others implement adaptive measures.

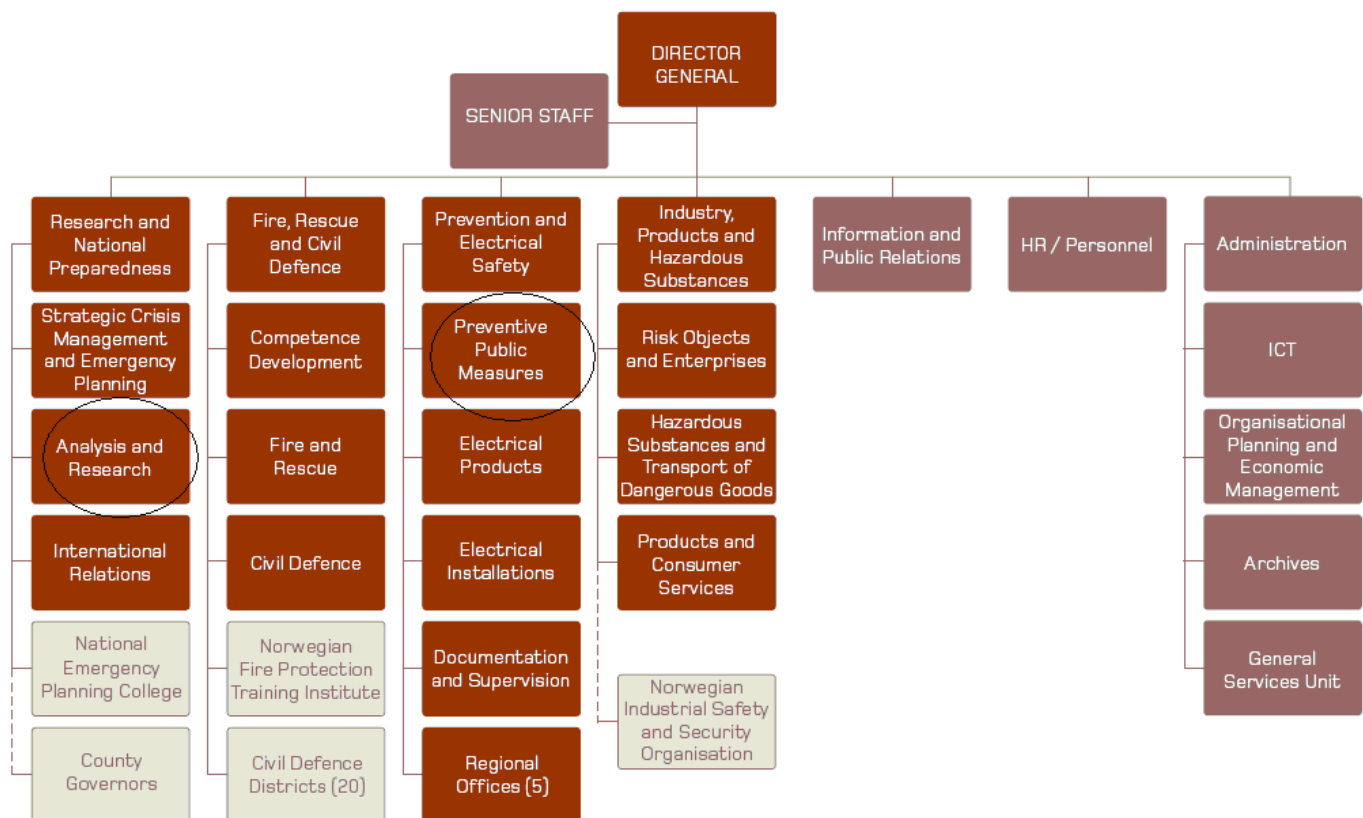


Figure 9 Chart indicating the departments at the DCPEP working with climate adaptation (Section for Analysis and Research and Section for Preventive Public Measures). In addition, the resource group includes members from each department, as well as from the senior staff.¹⁴⁸

The secretariat for NCAP, which has been carefully selected by the DCPEP for this purpose, consists of well-skilled staff members who are highly motivated to promote the issue of climate adaptation nationally. The educational background of the staff present in late 2007 included an MSc in Human Geography, a PhD in Marine

¹⁴⁷ Bente Tornsjo and Vibeke Henden Nilssen, 6 December 2007

¹⁴⁸ http://www.DCPEP.no/article.asp?articleid=1997&rightmenu=H_English&Framework=normal&Rank=1&SubRank=1, accessed 10 October 2007 at 3.10 pm. Red ellipses are added by the author.

Geology, and an MSc in Political Science.¹⁴⁹ In terms of previous experience, these staff members had all worked with environmental and climate-related issues. Importantly, the secretariat staff demonstrated deep insight into the political system and processes relevant to their work. In terms of experience at the DCPEP, two of the three had only worked at the Directorate for about one year, whereas one had promoted the issue of climate adaptation from within the DCPEP for some years.¹⁵⁰

Relational resources

With regard to climate adaptation, it is essential for the DCPEP to establish close links and direct collaboration with relevant stakeholders in the system which will be involved in climate adaptation. To what extent has this been achieved? In spite of limited resources and personnel, the secretariat of NCAP has been represented at numerous seminars and conferences on climate adaptation in 2007-8, sometimes accompanied by members of the DCPEP's resource group. Through media appearances and other forms of participation in the national discourse, the work of the Norwegian Climate Adaptation Programme is being promoted, and other players nationally start becoming aware of NCAP's mandate and work. Both the national web portal and the national strategy on climate adaptation have been presented at various occasions. As such, the secretariat has prepared the ground for future collaboration within several circles: civil protection, planning, climate research, local and regional government, and politics. Also, the secretariat has engaged in direct collaboration with several key players in connection with the development of a national web portal for climate adaptation. As an example, this includes state authorities such as the Norwegian Water Resources and Energy Directorate, but also research institutes across Norway, such as CICERO (Center for International Climate and Environmental Research - Oslo), Bjerknes Centre for Climate Research in Bergen, and Western Norway Research Institute in Sogndal.¹⁵¹

There are those who believe that the NCAP (as a programme) would have benefitted from establishing more extensive networks, especially with Norwegian scientists.¹⁵² The fact that the inter-ministerial coordinating group from which the secretariat has received its mandate does not include climate researchers, or does not include more than one resource group, has been questioned by some interviewees, who believe that several opportunities for knowledge transfers have been missed.¹⁵³ Moreover, some see an unfulfilled need for more outgoing activities, such as establishing resource groups outside of the DCPEP, and bringing enterprises together with the local and regional levels of government to initialise collaboration on climate adaptation. As of today, though, the secretariat has, in fact, established some resource groups, or advisory bodies, e.g. one including representatives from the County Governors' Offices. With regard to this group, the secretariat members reportedly demonstrated a humble and open approach, underlining the importance of learning from the County Governors' work with civil protection.¹⁵⁴ The latter are mere examples of the fact that NCAP has established a wide-ranging network consisting of key players in the realm of climate adaptation. As a newcomer on this arena, the secretariat has clearly benefited from the work related to the national web portal and the national strategy for climate adaptation, in the sense that this work facilitated the process of relation-building.

¹⁴⁹ In 2008, the political scientist resigned. A new staff member, specialized in media and information, joined the secretariat, and focuses on the process of establishing a national web portal for climate adaptation.

¹⁵⁰ Marianne Karlsen and Cathrine Andersen, 6 December 2007

¹⁵¹ A general invitation to contribute to the dialogue on the current research gaps was sent to all scientific institutions in November 2007, according to the document 'Climate Adaptation in Norway' (NCAP 2008:14)

¹⁵² Anonymous, 30 November 2007

¹⁵³ This is, however, not the secretariat's decision. Ties to scientific institutions have been developed by the secretariat in other ways.

¹⁵⁴ Marianne Karlsen and Cathrine Andersen, 6 December 2007

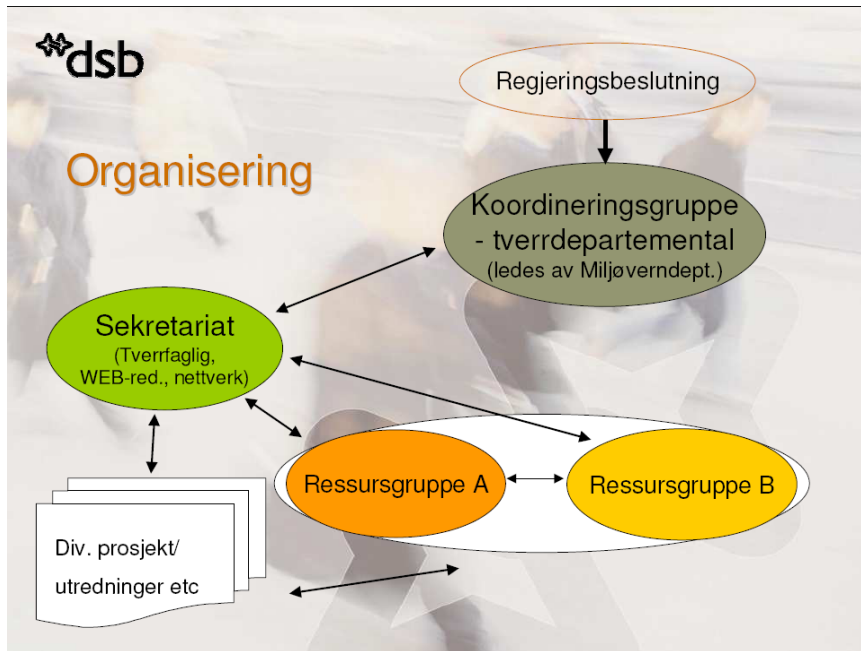


Figure 10 Chart by the DCPEP outlining the structure of the national effort in the field of climate adaptation.¹⁵⁵

Attitudes

In the DCPEP at large, the concept of climate adaptation was relatively unknown until 2006 or 2007, and two interviewees have described their colleagues' degree of familiarity with the term as 'still a bit new', although an acceptance of anthropogenic climate change is 'slowly trickling in'.¹⁵⁶ The fact that some departments and units at the DCPEP are professionally far removed from environmental protection is identified as a likely explanation for the mild scepticism sometimes perceived. The fact that an unusually high number of employees at the DCPEP attended an internal seminar on climate adaptation is interpreted as a sign that attitudes are about to change.¹⁵⁷ Still, some have, perhaps wrongly, questioned the fact that it took such a long time before the issue of climate adaptation appeared on the national agenda. Several interviewees indicate that the Ministry of the Environment, but also the DCPEP have been somewhat slow at grasping this challenge, as municipalities have so far been left to work out adaptation measures on their own initiative. For several reasons, this criticism of the DCPEP is not entirely fair. First, key officials at the DCPEP have been working systematically to achieve political legitimacy and funding from the Norwegian Government through the Ministry of the Environment for several years.¹⁵⁸ Second, the notion that adaptive measures are required in Norwegian municipalities is relatively recent, and climate adaptation is of such a crosscutting nature that it does not fall exclusively within the DCPEP's mandate. Third, a significant part of the scientific material forming the basis for decisions related to climate adaptation had to be made accessible and interpreted on behalf of the relevant target groups before it was at all possible to provide the municipal sector with clear advice. For instance, down-scaled maps showing the expected ocean level for each coastal municipality in Norway are a prerequisite for action for local authorities.¹⁵⁹ On the other hand, the DCPEP could have started raising the issue of climate adaptation at an earlier point in time, through day-to-day contact with the municipalities and County Governors. It is possible to organise seminars on practical, climate-related issues (e.g. expansion of drainage pipes in flood-prone areas) without waiting for government backing. Still, it is obvious that a large-scale effort and earmarked funding were required for raising climate adaptation in a real and

¹⁵⁵ [http://www.tekna.no/iKnowBase/Content/20611/\(01\)%20Marianne%20Karlsen.pdf](http://www.tekna.no/iKnowBase/Content/20611/(01)%20Marianne%20Karlsen.pdf), accessed 4 December 2007 at 1 pm.

¹⁵⁶ Bente Tornsjø and Vibeke Henden Nilssen, 6 December 2007

¹⁵⁷ Ibid

¹⁵⁸ Roger Steen, 6 February 2008

¹⁵⁹ In 2007-8, the secretariat of the Norwegian Climate Adaptation Programme obtained ocean rise maps from Bjerknes Centre for Climate Research, as part of the effort to assist municipalities in planning for climate change.

meaningful manner. As such, the Directorate was right to await a final go-ahead signal from the Government and from the Ministry in charge.

What some perceive as a 'slow response' to climate-related hazards and challenges on the part of the Ministry of the Environment and the DCPEP, has also been said to originate from a lack of interest in environmental issues within the Directorate.¹⁶⁰ To some extent, this seems likely; both the DCPEP and its predecessor lacked employees with a background in environmental science.¹⁶¹ Few staff members took any interest in climate adaptation before the issue gained recognition and support from the Ministry of the Environment.¹⁶² Today, however, the realm of climate change is on its way to involving attractive career opportunities within the DCPEP, and perhaps in various Ministries. Other possible barriers have also been mentioned. For example, some perceive a culture of 'careerism' at the DCPEP, in the sense that ambitious officials tend to use the Directorate as a stepping stone to more prestigious positions in the Ministries.¹⁶³ Another possible organisational weakness on the part of the DCPEP stems from its recent history. The DCPEP is in many ways a young organisation, and a considerable proportion of the staff resigned following the move to the city of Tønsberg. This required large-scale local recruitment in Tønsberg and the County of Vestfold. The merger and concomitant influx of new staff members invariably caused some degree of destabilisation. A considerable effort must also be made to bridge knowledge gaps and build a new professional foundation. Certainly, such a transformation might provide an opportunity for change or a 'formative moment', i.e. an occasion for introducing new issues and themes. However, in all, it would seem that the Directorate was not in a position to take on too many new tasks when the issue of climate adaptation first started emerging.

In all, it is clear that the DCPEP has been responding well, though not rapidly, to the need for climate adaptation. As soon as funding and a mandate were in place, the secretariat and the DCPEP's resource group embarked on a process of promoting climate awareness and adaptation. Without doubt, the staff in question has demonstrated an impressive capacity to build knowledge resources and relational resources within a short period of time. This is quite a feat because the immediate environment in the DCPEP only started to embrace the notion of climate change in recent years. Given access to resources, staff stability and even progress with regard to tasks and plans, the institutional capacity of the DCPEP and the secretariat for NCAP is likely to go on expanding.

2. The Department of Civil Protection and Emergency Planning at the County Governor's Office

Knowledge resources

In the last years, the Norwegian County Governors¹⁶⁴ started considering climate adaptation a relevant factor in their work related to civil protection and land-use planning.¹⁶⁵ According to a survey carried out by the DCPEP in 2007, the conclusions of the IPCC regarding climate change have been discussed at four out of five County Governors' Offices (with 83 per cent against only 34 per cent in the municipalities) (2007f:13). Moreover, there is a 100 per cent agreement at the County Governors' Offices (all of whom responded to the questionnaire behind

¹⁶⁰ Anonymous, 30 November 2007

¹⁶¹ Within the former Directorate for Civil Protection, many employees shared a professional background within the Norwegian Defence, whereas the two mergers brought in civil engineers and technically trained staff with different attitudes and ideas.

¹⁶² Roger Steen, 6 February 2008

¹⁶³ Anonymous, 30 November 2007

¹⁶⁴ In this report, the term 'County Governor's Office' essentially refers to the civil protection staff at the County Governors' Offices, sometimes without specifying that this is the case. However, when making references to other departments or other staff members, this is explicitly stated.

¹⁶⁵ In most cases, the issue of climate adaptation has been followed up by the civil protection staff - rather than the environmental protection staff - at the County Governors' Offices. This constitutes quite a paradox, as it is by far the latter staff which holds the most relevant educational and professional competence. This finding will, however, not be subject to further discussion in the following.

the survey) that climate change, in the long run, will entail consequences for their fields of responsibility, and 94 per cent believe that these consequences are already felt (2007f:15). Most likely, the public opinion shift in recent years in with regard to climate change partly accounts for of this high awareness level. In addition, the County Governors' experience with natural disasters since the 1990s, as outlined below, is probably of some importance.¹⁶⁶

In all, it seems clear that a process of competence-building and attitude change is underway at the County Governors' Offices; several examples from across the country support this notion. In the RVA for the County of Sogn og Fjordane (County Governor of Sogn og Fjordane 2007), the word 'climate' appears no less than 23 times, and the prospect of changes in the magnitude and frequency of 'unwanted natural events' is discussed both at a general level and with regard to specific sectors.¹⁶⁷ A RVA Guide pertaining to the construction of second homes in mountainous areas, issued by the County Governor of Vest-Agder, pertinently suggests that the following question should be considered: 'Is the area overall so predisposed for extreme weather that construction should not proceed?'¹⁶⁸ With regard to the review of a county-wide RVA for Hedmark, the County Governor, Sigbjørn Johnsen, declared that climate would be made a 'central topic' in the upcoming review.¹⁶⁹ At a meeting for the County Council for Civil Protection in Hedmark on 25 October 2007, climate change was discussed as a separate point on the agenda. The meeting minutes reveal a responsible approach on the part of the County Governor with regard to his office's role in preparing for climate change:

'In the time to come, long-term planning and adaptation of crisis preparedness will be of major importance. In addition, we must avoid building in ways that further increases society's vulnerability [to climate change]'.¹⁷⁰

In spite of the favourable tendencies described above, the aforementioned decline in administrative capacity over the past few years (Office of the Auditor General 2007:10) obviously constitutes a threat to the needed knowledge-building.¹⁷¹ As for the need for additional knowledge, the DCPEP's survey reveals that 90 per cent of the County Governors' Offices believe more knowledge on climate adaptation is needed. In itself, this assessment bears witness to a high level of awareness and concern, as well as a motivation to actively seek more insight. However, with respect to reasons for this great demand for knowledge, the placement of the issue of climate adaptation at the County Governors' Offices seems relevant to mention. Climate adaptation has generally been defined as a matter pertaining to the Department of Civil Protection and Emergency Planning (or the staff carrying out such work), rather than being regarded as a main task for the Department of Environmental Protection. In a way, this is peculiar because of the close link between climate change and environmental protection. One might also expect that the County Governor's civil protection staff generally lacks the educational background and work experience related to environmental science which is common on the part of staff members in the Department of Environmental Protection. At a very general level, it is natural to assume that the civil protection staff is less likely to hold extensive insight into environmental issues such as climate change, giving rise to a knowledge demand. Alternatively, the high demand for knowledge might be interpreted as an indication of a need for more detailed climate projections, which would allow the County Governors to give clearer signals and instructions to the municipalities. It is possible that the strong practical link between climate adaptation and tasks related to land-use planning compensates for the general absence of formal competence on environmental science on the part of civil protection staff. Also, the formal placement of several tasks related to climate adaptation in the DCPEP could gradually strengthen the notion that this issue 'belongs' in the hands of the civil protection staff.

¹⁶⁶ Haavard Stensvand, 30 July 2008

¹⁶⁷ <http://www.fylkesmannen.no/fagom.aspx?m=600&amid=1524137>, accessed 23 november 2007 at 2 pm

¹⁶⁸ <http://www.DCPEP.no/File.asp?File=PDF/2005/Veileder%20ROS-analyse%20fritiDCPEPoliger%20i%20fjellet.pdf&Framework=normalt>, accessed 23 November 2007 at 2 pm.

¹⁶⁹ www.fylkesmannen.no/Referat_251007_2_6gtR3.pdf, 23 November 2007, 10 am

¹⁷⁰ www.fylkesmannen.no/Referat_251007_2_6gtR3.pdf, 23 November 2007, 10 am

¹⁷¹ See chapter 1.

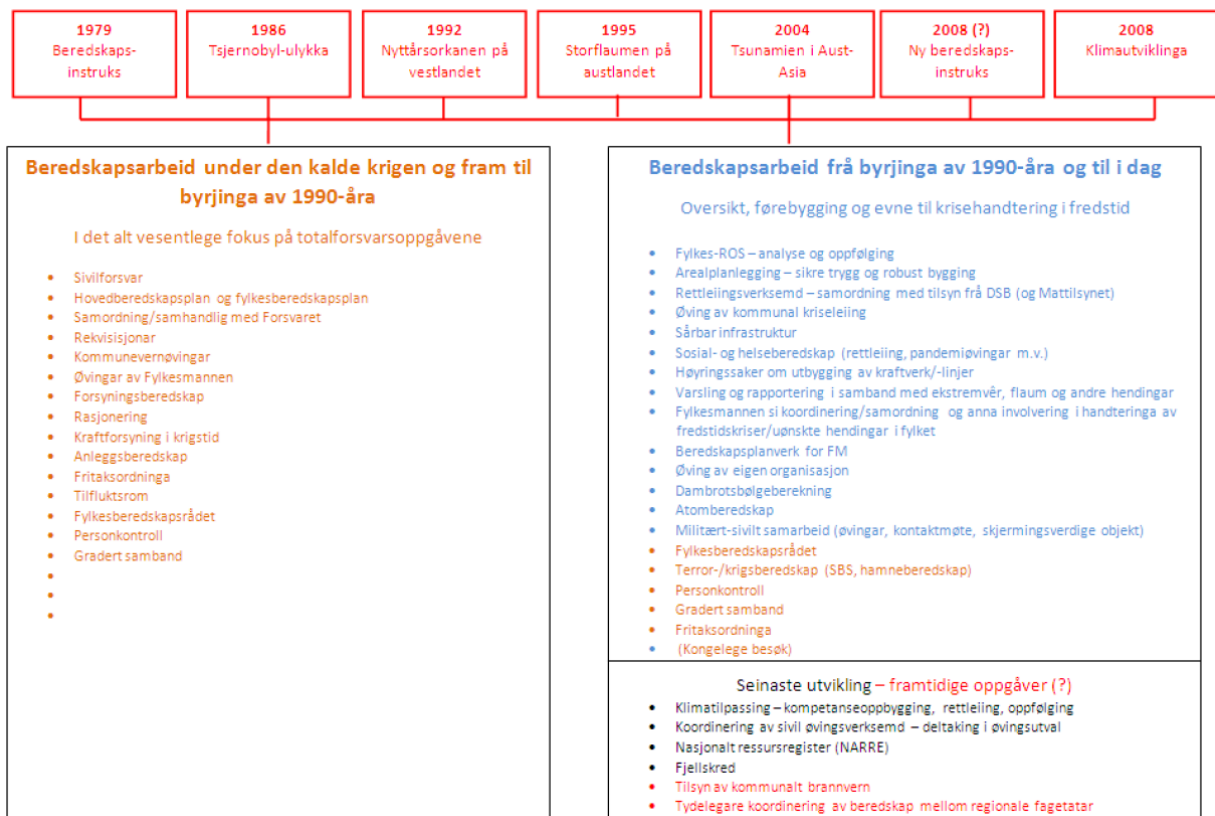


Figure 11 Chart illustrating the focus shift in civil protection work at the regional level, as perceived by the County Governor of Sogn og Fjordane. The timeline at the top of the chart shows some of the milestones in the development away from a predominantly military focus. The tasks listed on the left constitute the bulk of civil protection work until 1990, whereas the tasks listed on the right are current.¹⁷²

A handful of natural disasters or extreme weather events requiring a large-scale civil protection effort served as 'wake-up calls' with regard to the link between climate change and civil protection. In particular, the so-called 'New Year's storm' in 1992, and the flooding in Eastern Norway in April 1995 ('Vetleofsen') made an impact. Both of the aforementioned natural disasters are referred to as milestones in the shift away from a predominantly military focus in civil protection.¹⁷³ The County Governor was given a more prominent role during the 1995 flood than during previous disasters of the kind, leading to formal changes in the nature of the County Governor's role in crisis situations.¹⁷⁴ Also, these incidents may be viewed as milestones in the sense that the County Governors' attention was drawn to the problem of increased societal vulnerability to the forces of nature. Also, in the same time period saw a rising concern that key sectors, such as the supply of electrical power, were becoming more vulnerable as a result of deregulation and modernisation. Together, these processes probably paved the way for faster acceptance of the concept of climate adaptation, in the sense that it became increasingly clear that the total impact of natural disasters actually constitutes a *sum* of human conduct and natural forces.

In later years, several extreme weather events and accidents have contributed to drawing attention to the need for safe land-use planning - indirectly a responsibility held by the County Governors. On 14 September 2005, three people died as a result of a landslide in a residential area, Hatlestad terrasse in Bergen, following heavy rainfall. Two months later, during the storm 'Loke' on 14 November 2005, a building worker was killed in Bergen after the collapse of an unfinished building. The collapse of an apartment block in Ålesund on 26 March 2008, probably as a result of geological instability¹⁷⁵ further demonstrated the importance of safe land-use planning. Adding to this,

¹⁷² With the permission of Haavard Stensvand

¹⁷³ Serigstad 2006:60

¹⁷⁴ Haavard Stensvand, 18 October 2007

¹⁷⁵ <http://www.dagbladet.no/nyheter/2008/03/26/530616.html>, accessed 5 August 2008 at 2 pm.

there is a growing awareness, also at the County Governors', of the fact that precipitation levels are expected to rise, and that a higher frequency of extreme weather events is an expected result of climate change. In all, the importance of the County Governors' role in civil protection has been subject to a gradual expansion, enlarging the focus on proactiveness and sound planning at the local and regional levels. Amidst this process, the entry of climate change as a new factor in planning and civil protection has added considerably to the knowledge resources of the County Governor's civil protection staff. As such, some of the natural disasters and accidents of the 1990s and 2000s should perhaps be regarded as the most important catalysts for institutional change in the public system of civil protection.

Relational resources

By virtue of being centrally placed, between the national level (i.e. Directorates, Ministries) and the local level (i.e. municipalities), and as a result of the nature of the County Governors' tasks, the regional civil protection staff possess extensive relational resources (although the utilization of these resources may be hindered by the limited administrative capacity). In 2008, each County Governor's Office received instructions from 12 ministries and 12 directorates.¹⁷⁶ Interviewees representing the regional level demonstrate deep insight into the challenges felt by municipal staff around Norway with regard to civil protection, and also appreciate the importance of utilizing this position. As an example, the County Governor of Østfold, Anne Enger, delivered a fierce speech in defence of the County Governor at a conference on the safety and security of society in Stavanger on 7 January 2008.¹⁷⁷ In a later interview, Enger stressed the significance of the County Governors' crosscutting role in the realm of civil protection:

'Work of a *crossover* nature is the most important task of the County Governors. We constitute an intersecting point which is essential in developing a complete understanding.'

'The state needs a tool for ensuring coordination, and a way of thinking which permits the entire system to work more closely together. Today, the problem with all state activities is the great degree of fragmentation. The fact that the County Governors serve as *coordinators* has not been sufficiently communicated'.¹⁷⁸

In other words, by virtue of filling roles such as messenger, advisor and 'omnipresent' coordinator of civil protection work, the County Governor's Office has the unique opportunity to communicate both with the 'grass root' and the bureaucracy, making for an unusual insight into the public system of civil protection. This system comprehension constitutes a very valuable type of knowledge resource which may be drawn on in the implementation of measures of climate adaptation in Norwegian municipalities.

Attitudes

Successful climate adaptation work depends to some extent on the attitudes of key staff members to the issues of climate change and climate adaptation. The fact that some, perhaps also among those involved in civil protection, are not convinced of the anthropogenic aspect of climate change might potentially constitute a barrier to progress within climate adaptation, unless the people in question take a professional and responsible stance detached from their personal convictions. The general public has gradually become more preoccupied with climate change in recent years, according to the DCPEP's population surveys (DCPEP 2007a; 2007b).

¹⁷⁶ Anne Enger, 16 January 2008

¹⁷⁷ Enger's remarks were made in the context of a discussion on transferring tasks from the County Governors' Offices to administrative regions (corresponding to the current County Administration/County Council). The discussion was part of an ongoing national reform [forvaltningsreformen].

¹⁷⁸ Anne Enger, 16 January 2008

The DCPEP has also presented material which suggests that the County Governors are, in fact, quite progressive with regard to realising the need to adapt to climate change. An example of this is the aforementioned 100 per cent agreement that climate change will have consequences in the long run, while so much as 94 per cent believe these consequences are already felt (2007f:15). One might think that the 'politically correct' attitude for the County Governors, as representatives of the Norwegian Government, is to focus on the adaptive needs in various sectors. However, because national climate policy has been slow at including the climate adaptation perspective, the County Governors have not been encouraged to focus on adaptation to climate change until very recently. Rather, the County Governors, partly by virtue of interaction with municipalities and resultant insight into practical realities at the local level, have contributed to challenging the Norwegian Government in this field. This notion is demonstrated by former Prime Minister Kåre Willoch, who functioned as County Governor of Oslo and Akershus from 1989 to 1998 and as the leader of the Committee on the Vulnerability of Society from 1999-2000. Like many of the current County Governors, Willoch demonstrates this characteristic proactive and impatient attitude to climate adaptation in Norway:

'When it comes to the *need* to prepare for climate change, there is no doubt that Norway is miles behind. I am not comparing with other countries, because I know too little of their progress in this field. However, the point is that we have already experienced the insufficiency of our capacity to deal with consequences of extreme weather, like serious flooding. Drainage systems, the way roads and other infrastructure are constructed, are not up to the needs that have been observed. And what, then, when we experience more extreme weather?' ¹⁷⁹

Still, to some extent, climate adaptation still seems to be a relatively novel concept in the context of civil protection. One reason is perhaps the fact that this is traditionally a field with little focus on environmental issues, as previously mentioned. Until recently, staff working with civil protection at the County Governors' tended to be recruited from the Norwegian Defence and other non-environmental backgrounds. Today, there is greater diversity in terms of professional and educational backgrounds, such as the Police, law or political science. On the positive side, interviewees representing the County Governors' have generally expressed qualified opinions of local and region-specific consequences of climate change, in addition to having reflected on adaptation measures corresponding to these changes. As an example, the Head of Civil Protection and Emergency Planning in Troms listed several local examples of unprecedented weather phenomena believed to stem from climate change, including an increased occurrence of water-saturated soil (due to heavy precipitation), flash floods in small rivers and ditches, as well as a potentially serious incident where an ice plug occurred at a hydro power station, threatening to cut the local power supply during a cold spell in winter.¹⁸⁰ In the most essential practical matters pertaining to climate adaptation, such as encouraging Risk and Vulnerability Assessments in municipal land-use planning to avoid unsafe building projects, it seems that a majority of the County Governors are at the forefront. According to the Ministry of the Environment, eleven of the County Governors commented positively on the proposed amendments to the existing legislation (2008:76).

In conclusion, a few possible barriers related to the County Governors' civil protection work, merit attention. First, a combined lack of funding (previously referred to as 'low administrative capacity') and a heavy work load seem to constitute barriers to the integration of a focus on climate adaptation in the County Governors' civil protection work.¹⁸¹ If this situation prevails, the needed expansion of knowledge resources in the realm of climate adaptation might suffer. The Head of Civil Protection and Emergency Planning in Troms has expressed a wish for a fund for specific projects at the regional level, with the objective of allocating funding which may alleviate pressing, county-specific needs such as avalanche prevention and mitigation in the case of Troms.¹⁸² Without access to resources – be it person-hours or project funding – it is difficult for the County Governors' Offices to take on new

¹⁷⁹ Kåre Willoch, 18 January 2008

¹⁸⁰ Per Elvestad, 29 November 2007

¹⁸¹ See chapter 1 (section on administrative capacity)

¹⁸² Ibid

considerations (such as really assigning climate change with a role in land-use planning) or contributing to avalanche mitigation.

Another barrier identified by some is poor communication and a lack of clear instructions from the DCPEP and other state authorities regarding tasks or prioritisation of different tasks. Day-to-day communication between the County Governors' staff and the DCPEP is currently intended to be limited to one unit, *Strategic Crisis Management and Civil Protection*.¹⁸³ According to interviewees, it often seems more rational to contact specific officials directly, and this organisational arrangement could thus be viewed as an unnecessary brake on the information flow between the two organisations, hampering the formation of knowledge-enhancing relations between the regional and national level of the public system of civil protection.¹⁸⁴ Staff members at the County Governors' have expressed frustration with the aforementioned arrangement. The unit *Strategic Crisis Management and Civil Protection* has also been described as relatively conservative with regard to professional competence and attitudes.¹⁸⁵ Hence, there are clear indications that the transfer of relevant knowledge and competence from the DCPEP to County Governors' Offices in the realm of climate change and adaptation is not as effective as it should be. As such, considerable optimism was attached to the establishment of the NCAP secretariat, as it was expected to improve the communication between the DCPEP and the County Governors' Offices.

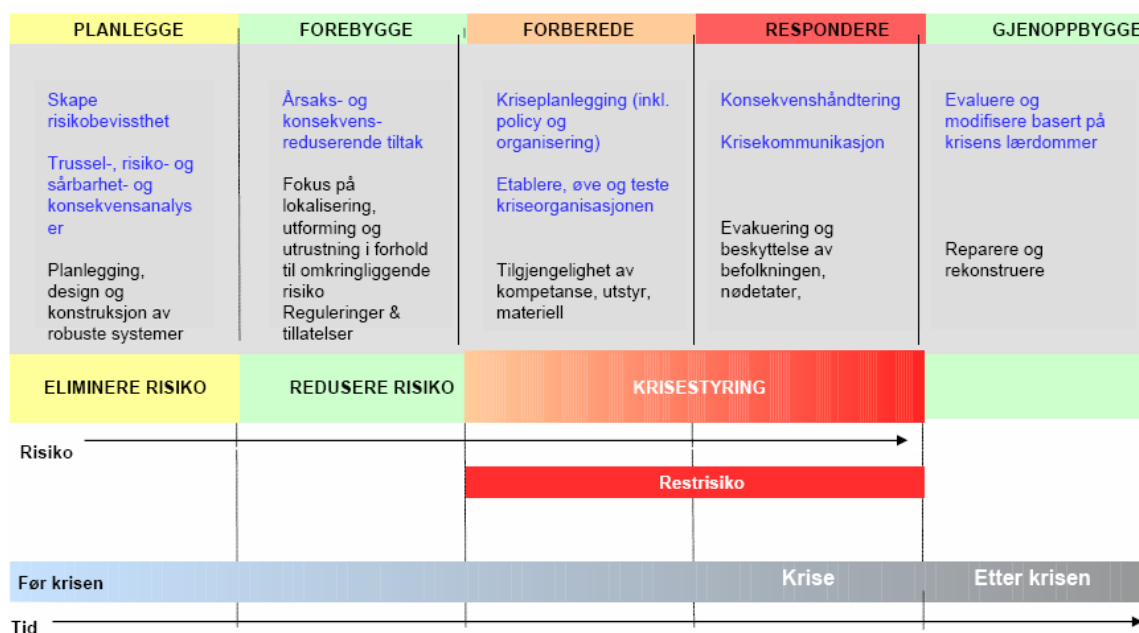


Figure 12 Table illustrating the various stages of crisis management, including planning, preventing, preparing, responding, and rebuilding. Traditionally, the institution of civil protection has mainly been geared towards the last three stages (preparing, responding, and rebuilding). The County Governor is a representative of a focus shift towards the pre-crisis stages. Source: DCPEP, 2007

In terms of priorities, *terrorism* has emerged alongside climate change as a new threat relevant to the institution of civil protection. The focus on terrorism in the County Governors' civil protection work is seen as a distraction by some of the County Governors, especially in counties without cities of any considerable size, who are often faced with having to rehearse scenarios that involve terrorism.¹⁸⁶ At a seminar attended by key persons within civil protection from some of the counties in Western and Southern Norway, the County Governor of Sogn og Fjordane, Oddvar Flæte, criticised the notion that terrorism should be considered an important priority in Norwegian civil protection work. In short, Flæte's 'heretic reflections' served as a reminder that the concept of

¹⁸³ In Norwegian: *Strategisk Kriseshåndtering og Beredskap*

¹⁸⁴ Ibid

¹⁸⁵ Haavard Stensvand, 18 October 2007

¹⁸⁶ This paragraph is based on Haavard Stensvand, 30 July 2008

terrorism was not 'invented' on 11 September 2001. The thousands of terrorist attempts carried out by the ETA, the IRA, and Palestinian organisations spanned several decades; for example, a total of 87 aircrafts were hijacked in 1969. Why, then, is terrorism granted such a lot of attention? Some representatives of the County Governors have expressed a notion that politicians and others are influenced by the Norwegian Defence, which has faced a severe decline in recent years. In this situation, the opportunity constituted by the 'terrorist threat' after 2001 was keenly grasped. Extensive resource-use related to terrorism may represent a problem should it involve the County Governors to a great extent. What is considered more serious by the County Governors critical of this prioritization, is that other parts of the system of civil protection, such as the Norwegian Home Guard, could feel justified in continuing to focus on weapon rehearsals rather than tackling natural disasters related to climate change. This discrepancy causes is a source of some frustration for the County Governor of Sogn og Fjordane. As such, the current focus on terrorism promoted by the Ministry of Justice and the Police and the DCPEP may constitute a barrier to developing relational resources with some parts of the institution of civil protection.

On the positive side, the County Governors seem capable of acting as a progressive force. There are several examples of the County Governors utilising the available tools and instruments well, in spite of a lack of resources. As an example, the County Governor of Sogn og Fjordane has been consistent with regard to objecting to General Plans to enforce the use of RVAs to uncloze natural hazards. Also, the County Governors have raised the issue of climate change in civil protection with the municipalities in 2007 and 2008, as instructed. In all, the regional level has promoted the notion that out of the various stages of crisis management (including planning, preventing, preparing, responding, and rebuilding), the early stages - eliminating and reducing risk - should be considered very important. Traditionally, the overall institution of civil protection has been geared towards the last three stages (preparing, responding, and rebuilding), and this has traditionally been the focus of seminars, which often take the form of simulation exercises. As an example, this was the case in 'Exercise Mørejarl' in March 2007.¹⁸⁷ The table below (Figure 12), proposed by the researcher observing the simulation exercise, suggests that the municipalities are characterised by a combination of a high reflection level with regard to climate change and a proactive focus in civil protection work. However, the observations and interviews that constitute the basis for this report, as well as the DCPEP's 2007 report on climate adaptation at the regional and local levels of government, suggest that only a handful of municipalities should be placed in the high/proactive category of the typology table. It is also tempting to suggest that the municipalities could be replaced by the *County Governors* in the high/proactive category, as the reflection level of the County Governors seems to be higher than in most Norwegian municipalities, with some exceptions (DCPEP 2007f).¹⁸⁸

		<i>Reflection level with regard to climate change and adaptation</i>	
		High	Low
<i>Main focus in civil protection work</i>	Reactive		<i>The institution of civil protection</i>
	Proactive	<i>Municipalities</i>	

Figure 13 Table showing a tentative placement of municipalities and the institution of civil protection at large on two axes: 'main focus in civil protection work' and 'reflection level with regard to climate change and adaptation'.

¹⁸⁷ See Appendix

¹⁸⁸ There is considerable variation between Norwegian municipalities with regard to climate awareness, with some pioneers and many 'laggards'. It has been suggested by the DCPEP (2007f:7) that municipalities with a high number of inhabitants and large municipalities with a tertiary sector dominance are generally at the forefront with regard to climate adaptation. Municipalities with few inhabitants and primary sector dominance are, as a general rule, placed at the other end of the spectrum.

Finally, perhaps by virtue of handling coordinating tasks in the context of civil protection, the County Governors often call for a standardisation of the language and communication forms relied on during exercises and crises. Organisations such as the Norwegian Home Guard are part of the military realm, as are some of the seniors all over the system of civil protection. These organisations and individuals have not fully abandoned the impenetrable NATO language of code words and abbreviations which makes little sense to outsiders. At 'Exercise Mørejarl', the regional level of civil protection described its encounter with the 'tribal language' of the world of military defence as a 'culture shock'. Needless to say, communication during crises is hampered by such remnants of the past. By repeatedly calling for a non-military, straightforward form of communication in connection with civil protection events, crises and seminars, representatives of the County Governor are contributing to driving the institution forwards, and preparing for the non-military challenges of the 21 century.

3. The County Geologist at the County Administration

As previously described, there are only a handful of County (or Regional) Geologists in Norway, their mandates being defined by the County Administration in question. Therefore, assessing institutional capacity is neither entirely straightforward nor very meaningful. Instead, this section will be based on a brief analysis of a case of involvement in civil protection by the County Geologist in Sogn og Fjordane. In the aftermath of the storm 'Loke' on 14 November 2005, the County Geologist in Sogn og Fjordane took on a somewhat new role with respect to civil protection. A few weeks after the storm, in response to a letter from the Directorate for Civil Protection and Emergency Planning, the County Geologist sent the DCPEP an assessment of the overall situation in the county.¹⁸⁹ In this letter, he estimated that heavy rainfall might cause debris flows in up to *30 percent of residential areas in the county*.¹⁹⁰ Later, the County Geologist moderated his statement somewhat, claiming that his statement only pertained to areas located *outside* of areas covered by Municipal Master Plans and Local Development plans, although there are few indications of this in the original letter.¹⁹¹

Regardless, the County Geologist's involvement is of great significance in the sense that it represents a responsible attitude to land-use planning in the light of climate change. The County Geologist was keen to point out the fact that intense precipitation could heighten the risk of debris flows in places that have previously been considered safe. As such, the letter could be seen as a statement in the discourse on safe land-use planning, and as a sign of awareness in relation to the effects of climate change. Having said this, the County Geologists interviewed seemed sceptical of the concept of anthropogenic climate change, generally preferring the term 'natural climate variation' to 'climate change'. On the one hand, the lack of 'politically correct' attitudes to climate change could be seen as a barrier to the County Geologists' work in this field, but on the other hand, this may be compensated for by the fact that the County Geologists are in possession of extensive knowledge resources within their own field of expertise, Geology. The advice offered to municipalities is probably far from flawed, unless it explicitly deviates from the currently accepted climate predictions as presented by the IPCC. Furthermore, one might boldly assume that the observed 'conservatism' or 'attitude lag' on the part of the interviewed County Geologists, could be overcome through collaboration with climate researchers and others that work on the basis of the presumption that anthropogenic climate change is actual, or by further experience with extreme weather events.¹⁹² In other words, the County Geologists might benefit from an expansion of relational resources in this field.

¹⁸⁹ According to normal procedure, the County Geologist would send the County Governor a letter, the contents of which would be drawn on by the County Governor in their reporting to the DCPEP.

¹⁹⁰ 'Sogn og Fjordane – vurdering av skredfare og status for kartlegging av og sikring mot skredfare', letter to The Directorate for Civil Defence and Emergency Planning from County Geologist Bjørn Falck Russenes, Sogn og Fjordane County Administration, 11 January 2006, case no. 25/6410-5, archive no. 353.

¹⁹¹ A minor controversy between the County Governor and the County Geologist followed, the point of difference being a statement by the County Geologist which indicated that the county was well-mapped with regard to geohazards. Haavard Stensvand, 30 July 2008.

¹⁹² It is also possible that a redefinition of the County Geologists' mandate, or increased focus on climate adaptation in the County Administration, could have a similar effect.

According to the County Geologist of Sogn og Fjordane, the storm 'Loke' triggered several small developments in the realm of geohazards, echoing Serigstad's (2003) characterisation of the realm of civil protection as largely 'reactive' and event-governed, as opposed to guided by pre-defined objectives. In the aftermath of November 2005, the County Geologist in Sogn og Fjordane surveyed several new areas, as well as highlighting the need for extensive mapping of geohazards in the county (in particular debris flows and clay slides). Moreover, the two counties Sogn og Fjordane and Møre og Romsdal jointly applied for funding (NOK 5 million) from the Norwegian National Fund for Natural Damage Assistance¹⁹³ for carrying out geological surveys. This initiative resulted in a project on rock slides with a budget of NOK 3 million. Finally, a project mapping geohazards in the Municipality of Årdal was commenced in the time following 'Loke'. In other words, the County Geologist in Sogn og Fjordane should be viewed as a case of a proactive force within civil protection. The fact that the County Geologist has made an effort to gain a better overview of geohazards in Sogn og Fjordane since 2005 should be viewed as an example of increasing knowledge resources, and, in turn, institutional capacity. There is, however, a clear potential for closer collaboration between the County Geologists and the institution of civil protection at large. It would seem logical to look to the County of Møre og Romsdal, where the County Geologist is currently part of the Department of Municipalities and Civil Protection at the County Governor's Office.¹⁹⁴ Since the merger of the County Governor's administration and the County Administration in 2004, the County Geologist has worked closely with the Head of Civil Protection and Emergency Planning.¹⁹⁵ Any institutional arrangement which brings each county's limited expertise within civil protection closer together should be viewed as highly progressive and beneficial, as confirmed by the County Governor in Sogn og Fjordane.¹⁹⁶

4. Non-governmental rescue organisations

The voluntary rescue organisations have not been subject to an in-depth study in this report. However, there are clear indications that some of these organisations have embarked on a process of preparing for the prospect that their efforts will be needed, perhaps to an even greater extent than today, in the years to come. In 2007, a report titled 'What if?' was issued by the Voluntary Organisations' Forum for Rescue, on the request of the Ministry of Justice and the Police.¹⁹⁷ The report seeks to look ahead and point out future needs, as seen by the rescue organisations in FORF. According to statistics compiled by the organisations, the number of rescue operations has increased by about ten per cent over the last few years, and the organisations seem aware that both societal change and climate change could make Norwegian society more dependent on well-functioning rescue services. As for climate change, deteriorating weather conditions will require much of the rescue services over the next twenty years (FORF 2007:19). As for societal change, a few trends have been observed by the rescue organisations which give reason to believe that society will rely more heavily on rescue organisations in the future. First, many rescue operations in recent years have involved leisure boats as well as practitioners of extreme sports, both offspring of the steadily rising affluence level in Norway. Second, the population at large is ageing and becoming less fit, which gives reason to believe that more people will need to be rescued. Third, the organisations expect that the public's demand for rapid response in the event of accidents and crises will increase even more, and that there will be a demand for equally efficient rescue services across Norway. At the same time, it is anticipated that national policies will include the encouragement of nature-based tourism in a variety of locations, that Norway will continue to have a spread-out habitation pattern, and that the Government will be promoting of outdoor activities as a countermeasure against the global obesity pandemic. Such policies place certain demands on the rescue organisations. For instance, recruitment efforts must be stepped up, and the geographically extensive network of local rescue units must be maintained (FORF 2007:10).

¹⁹³ A fund governed by the Norwegian Agricultural Authority

¹⁹⁴ In Norwegian: *kommunal- og beredskapsavdelinga*

¹⁹⁵ Einar Anda, 14 November 2007

¹⁹⁶ An additional advantage might be to avoid antagonistic media appearances based on misunderstandings and a lack of dialogue, such as the debate between Haavard Stensvand and Bjørn Falck Russenes in the wake of 'Loke' in 2005. Haavard Stensvand, 30 July 2008

¹⁹⁷ http://www.speleo.no/What_If.pdf, accessed 9 October 2008 at 1 pm.

Furthermore, as extreme weather events are expected to constitute a greater challenge for rescue organisations (FORF 2007:7), the value of cooperation and joint rehearsals is fast being realised. In terms of knowledge resources and relational resources, the 'What if?' report indicates the existence of a desire to cooperate more closely. A corresponding need for working together and 'speaking the same language' during rescue operations (as opposed to relying on excluding code words and abbreviations), has also been expressed by other players in the public part of the system of civil protection.¹⁹⁸ The Ministry of Justice and the Police has recently been asked to provide an arena for meta-rescue dialogue, perhaps in the form of a 'national council' for the rescue services, and the Ministry has stated that steps will be taken to further develop an already existing forum for dialogue between rescue organisations (MoJP 2008a:59). Most likely, there will also be a need to cooperate more closely with the institution of civil protection at large, including the public system of civil protection. As an example, the municipalities may seek assistance from the voluntary rescue organisations for untraditional tasks, such as visiting and helping elderly inhabitants during a long-lasting power cut during a cold spell.¹⁹⁹ It is worth noting that the organisations present themselves as open in terms of attitudes, and eager to expand both relational resources and knowledge resources. This being said, there is a tendency that some rescue organisations, such as the Red Cross state a concern for preparing for climate change, but with almost exclusive reference to *international* disasters.²⁰⁰ It is important to implement an understanding that climate change will affect Norway as well as countries such as Bangladesh, Nicaragua and Kenya – though in less dramatic ways. As such, climate adaptation is *also* relevant for the *local* volunteers in organisations such as the Medical Corps of Norwegian People's Aid, whose main focus is rescue in Norway.

¹⁹⁸ E.g. at the annual Contact Meeting in Balestrand on 27 May 2008, by the County Governor of Sogn og Fjordane and at 'Exercise Mørejarl' in March 2007.

¹⁹⁹ Haavard Stensvand, 30 July 2008

²⁰⁰ E.g. a feature article by General Secretary of the Norwegian Red Cross, Thorvald Stoltenberg (Dagbladet 20 December 2007) <http://www.dagbladet.no/kultur/2007/12/20/521763.html>, accessed 21 July 2008 at 2 pm.

Concluding remarks and reflections

This report has attempted to shed light on the current status of climate adaptation within the public system of civil protection in Norway, as well as the roots of the inclusion of climate adaptation in the realm of civil protection. Currently, climate adaptation is becoming an issue at the national level of policy-making. At the Directorate level, a long-term national policy is being drafted on behalf of the Government. Moreover, a web portal for climate adaptation is being developed by the secretariat of the Norwegian Climate Adaptation Programme. These developments represent the ongoing breakthrough of the issue of climate adaptation in civil protection.

Chapter 1 outlined formal structures, with a focus on the tasks and responsibilities of the organisations studied in this report. In *chapter 2*, three processes of institutional change were described. First, the shift away from a predominantly military focus, was a result of geopolitical changes in the 1990s, and entailed a de-prioritization of military risks as well as a greater focus on non-military risks such as natural disasters. Second, the process by which climate adaptation rose up the agenda of the national system of civil protection was described. The issue of climate adaptation, previously the 'orphan' of Norwegian climate politics, was gradually adopted by the public system of civil protection around 2006-7, as a result of the efforts of the DCPEP. Third, the negative effects of modernisation and deregulation were examined, with a particular focus on power production.

Based on the findings of this report, a few broad conclusions can be drawn:

- The issue of climate adaptation has been addressed by all the above described organisations in Norway's public system of civil protection. The Directorate for Civil Protection and Emergency Planning first raised the issue, stimulating the Ministry of the Environment to establish the Norwegian Climate Adaptation Programme.
- Proactive, anticipatory work, such as risk mitigation through safe land-use planning, is gradually becoming more important as a result of past experience with natural disasters, increased climate awareness, and a greater focus on the preventive aspects of land-use planning. Some of the natural disasters and accidents of the 1990s and 2000s should perhaps be regarded as the most important catalysts for institutional change in the public system of civil protection.
- Although climate adaptation has risen up the agenda of the system of civil protection in recent years, the effort to encourage, plan and implement anticipatory adaptation measures is still in its early stages.
- Traditionally, reactive tasks, such as crisis management and rescue, have been a main priority in some parts of the system of civil protection. Organisations that have not been described here, such as the Norwegian Home Guard, are mainly geared towards reactive work.
- In contrast to most of the County Governors, some of the actors in civil protection view the field of terrorism as equally relevant as the realm of natural disasters and climate change, causing a divergence of priorities within the larger institution of civil protection.
- So far, the system of civil protection has placed a lot of responsibility on the local level, i.e. the municipalities. This warrants quite an effort on the part of the state to assist the municipalities in climate adaptation work in years to come.

Out of the three research questions listed in the introduction, the third²⁰¹, discussed in *chapter 3*, constitutes the core of this report. Having examined the institutional capacity of four major players in the public system of civil protection, it is clear that all of the organisations examined (the DCPEP, the County Governor, the County Geologist and the non-governmental organisations), have approached the subject of climate change in the context of civil protection work, though to different extents. While the DCPEP and the County Governors have explicitly addressed climate adaptation and implemented new practices, the County Geologists and the voluntary rescue organisations seem somewhat more distanced from the thematic. As for *knowledge resources*, there is a general potential for further expansion and visualisations of how climate change will affect Norway and what types of situations are likely to arise. *Relational resources*, a prerequisite for gaining such knowledge, are being expanded in all the organisations in question, and are likely to continue to expand as the issue of climate

²⁰¹ "What can be discerned with regard to the institutional capacity of the various organisations? In other words, how well have the organisations responded to the challenges posed by climate change?"

adaptation receives more attention in politics and in the media, and with the rise of new collaborative arenas in civil protection. In some cases, institutional rearrangements may hold a considerable potential for enhancing overall institutional capacity, a brilliant example being the merging of the County Geologist and the County Governor's civil protection staff in one county. *Attitudes* to climate change vary considerably between organisations, with 'peripheral' actors such as the County Geologists being situated at the non-aware end of the spectrum, rescue organisations somewhere the middle, and the DCPEP and County Governors at the aware and proactive end. By virtue of being placed between the national and local levels, the County Governor is also well-placed for raising awareness at the local level.

The system of civil protection is seemingly still undergoing a maturing process with regard to the issue of climate adaptation. Although it is clear that the institution of civil protection has undertaken a shift away from a military focus to non-military risks such as natural disasters, it would be premature to conclude that the issue of adaptation to climate change has risen up the agenda in all parts of the system. In other words, the second phase of the shift from a focus on military threats to natural disasters - where climate adaptation takes the centre stage - can presently be discerned, but has yet to be completed. In the longer run, however, one might expect that climate adaptation takes the centre-stage in the institution of civil protection at large. The extent to which this happens depends mostly on the nature of the future manifestations of climate change, but also on the way in which the Norwegian Government proceeds on this issue. The most urgent development of the day within civil protection is perhaps the establishment of a common national understanding of, and approach to, the expected consequences of climate change in Norway. In November 2008, the appointment of a public committee to examine Norway's vulnerability and adaptation needs deriving from the consequences of climate change, heralded the possible shaping of an actual *policy* on climate adaptation.²⁰² The official report (NOU) on climate adaptation deriving from the committee's work will be issued in 2010. One might hope that the report – rather than being a scientific compilation of climate impacts in various sectors – actually takes on the challenge of formulating a national policy, that is, a set of clear signals and guidelines aimed at practitioners at the local and regional levels of the system of civil protection. With economically strained municipalities and an approach to civil protection that rests heavily on the local level, clarifications of how climate adaptation measures should to be materialized are all but overdue - having left the institution of civil protection in limbo for far too long.

²⁰² http://www.regjeringen.no/upload/MD/Vedlegg/Kongelige_resolusjoner/kgl_res_klimatilpasning_eksperutvalg_05122008.pdf, accessed 10 December 2008 at 11 am.

References

Literature

Aall, C. and K. Groven (2003): *Institusjonell respons på klimaendringer. Gjennomgang av hvordan fire institusjonelle systemer kan bidra i arbeidet med å tilpasse samfunnet til klimaendringer*. Sogndal: VF-rapport nr. 3/03

Aall, C. and I. T. Nordland (2003): *Indikatorer for vurdering av local klimasårbarhet*. VF-rapport nr. 15/03.

County Governor of Sogn og Fjordane (2007): *Strategiplan 2007-2010*. http://fylkesmannen.no/strategiplan-brosjyre_88qhY.pdf.file

County Governor of Sogn og Fjordane (2007): *Fylkes-ROS for Sogn og Fjordane*
http://fylkesmannen.no/Rapport_VII_-_endeleg_llvjp.pdf.file

Directorate for Civil Protection and Emergency Planning (DCPEP) (2008): *Brann i kabelkulvert – Oslo sentralstasjon 27.11. 2007*.
http://www.dsb.no/File.asp?File=PDF/Publikasjonsliste\Rapporter/oslosrapport_web.pdf

Directorate for Civil Protection and Emergency Planning (DCPEP) (2007a): *Befolkningsundersøkelse om klimatilpasning 2007*. <http://www.dsb.no/File.asp?File=Publikasjoner/befolkningsundersokelseweb.pdf>

Directorate for Civil Protection and Emergency Planning (DCPEP) (2007b): *Nasjonalt beredskapsbarometer 2007*.
<http://www.DCPEP.no/File.asp?File=Publikasjoner/beredskapsbarometer2007.pdf>

Directorate for Civil Protection and Emergency Planning (DCPEP) (2007c): *Kommuneundersøkelsen 2007. Status for samfunnssikkerhets- og beredskapsarbeidet i kommunene*.
<http://www.dsb.no/File.asp?File=PDF/Publikasjonsliste/Rapporter/Kommuneunders2007.pdf>

Directorate for Civil Protection and Emergency Planning (DCPEP) (2007d): *Klimatilpasning Norge. Rapport 2007*. Internt dokument.

Directorate for Civil Protection and Emergency Planning (DCPEP) (2007e): *Situasjonsrapportering fra fylkesmennene og varsel om revisjon av Retningslinjer for varsling og rapportering på samordningskanal*. Brev til fylkesmennene 09.05. 2007.

Directorate for Civil Protection and Emergency Planning (DCPEP) (2007f): *Klimatilpasning 2007. Klimatilpasning i kommuner, fylkeskommuner og blant fylkesmenn*.

Directorate for Civil Protection and Emergency Planning (DCPEP), 2006a: *Tilsynsaktiviteter i 2006 - samlet tilsynsvirksomhet på samfunnssikkerhets- og beredskapsområdet*.
http://www.dsb.no/File.asp?File=PDF/2007/Tilsynsaktiviteter_2006.pdf

Directorate for Civil Protection and Emergency Planning (DCPEP) (2006b): *Kommuneundersøkelsen 2006. Status for samfunnssikkerhets- og beredskapsarbeidet i kommunene*.
<http://www.dsb.no/File.asp?File=PDF/2007/Kommuneundersokelsen2006.pdf>

Directorate for Civil Protection and Emergency Planning (DCPEP) (2006c): *Samfunnssikkerhet og beredskap på regionalt nivå. Sammenstilling og vurdering av fylkesmennenes årsrapportering for 2005*.

Directorate for Civil Protection and Emergency Planning (DCPEP) (2005a): *Kommuneundersøkelsen 2005. Status for samfunnssikkerhet og beredskap i kommunene.*

<http://www.dsb.no/File.asp?File=Publikasjoner/kommuneundersokelse2005.pdf>

Directorate for Civil Protection and Emergency Planning (DCPEP) (2005b): *Nasjonal sårbarhets- og beredskapsrapport for 2005. NSBR-05. Håndtering av store hendelser og potensiell aldring i kritiske infrastrukturer.* <http://www.dsb.no/File.asp?File=Publikasjoner/nsbr05.pdf>

Directorate for Civil Protection and Emergency Planning (DCPEP) (2001a): *Rundskriv om fylkesmennenes praktisering av innsigelsesinstituttet på beredskapsområdet* (Rundskriv GS-1/01).

www.fylkesmannen.no/Rundskriv_GS_1-01_7IW9eG3746801.pdf.file

Directorate for Civil Protection and Emergency Planning (DCPEP) (2001b): *Varsling og rapportering på samordningskanal. Retningslinjer for varslings- og rapporteringsprosedyrer i fredstid* (Rundskriv 1.juli 2001).

www.fylkesmannen.no/Retningslinjer_varsling_og_rapportering_r5JOI628212ng.doc.file

Directorate for Civil Protection (DCP) (1997): *Retningslinjer for Fylkesmannens bruk av innsigelser i plansaker etter plan- og bygningsloven. Sikkerhets- og beredskapsmessige hensyn i den kommunale planleggingen.*

www.fylkesmannen.no/Retningslinjer_for_fylkesmannens_bruk_av_innsigelse_TJEHCA37467se.pdf.file

Directorate for Civil Protection (DCP) (1994): *Veileder for kommunale risiko- og sårbarhetsanalyser.*

http://www.dsb.no/File.asp?File=Publikasjoner/risiko_saarb-analyse_150.pdf&Framework=normalt

Healey Patsy, Magalhaes, Claudio de and Madanipour Ali (1999): "Institutional Capacity-Building, Urban Planning and Urban Regeneration Projects". *Futura. Magazine of Finnish Society for Future Studies* 18 (3/1999), pp. 117–137.

Langdal, B. I., A. O. Eggen (2003): "Storskala nettforvaltning". *Energi* (2/2003)

Leivestad, H. H. (2008). *Naturskade og kommunens ansvar. Om status for kommunens rolle og ansvarsområder i forhold til sikring og forebygging mot naturskade.* VF-notat nr. 9/2008.

Ministry of Culture and Church Affairs (2007): *Report no. 39 to the Storting (2006-2007). Frivillighet for alle*

Ministry of Defence (1994): *Report no. 48 to the Storting (1993-94). Langtidsplan for det sivile beredskap 1995-98*

Ministry of Justice and the Police (MoJP) (2008a): *Report no.22 to the Storting (2007-2008). Samfunnssikkerhet. Samvirke og samordning*

Ministry of Justice and the Police (MoJP) (2008b): *Kongelig resolusjon: Instruks for samfunnssikkerhets- og beredskapsarbeidet til Fylkesmannen og Sysselmannen på Svalbard.* <http://www.lovdato.no/for/sf/in/xd-20080418-0388.html>

Ministry of Justice and the Police (MoJP) (2006): *NOU 2006:6. Når sikkerheten er viktigst*

Ministry of Justice and the Police (MoJP) (2004): *Report no. 39 to the Storting (2003–2004). Samfunnssikkerhet og sivil-militært samarbeid*

Ministry of Justice and the Police (MoJP) (2002): *Report no. 17 to the Storting (2001–2002), Samfunnssikkerhet – veien til et mindre sårbart samfunn*

Ministry of Justice and the Police (MoJP) (2001): *NOU 2001:31. Når ulykken er ute*

Ministry of Justice and the Police (MoJP) (1998): *Report no. 25 to the Storting (1997–98) Hovedretningslinjer for det sivile beredskaps virksomhet og utvikling i tiden 1999–2002*

Ministry of the Environment (MoE) (2008): *Ot.prp. nr. 32 (2007–2008) "Om lov om planlegging og byggesaksbehandling (plan- og bygningsloven) (plandelen)"*.

Ministry of the Environment (MoE) (2006): *Statsbudsjettet 2007 – opprettelse av sekretariat for styringsgruppen som skal utarbeidetilpasningsstrategi til klimaendringer – belastningsfullmakt*. Oslo: 30.05.2006

Ministry of the Environment (MoE) (2005): *Rapport om sårbarhet for og tilpasning til klimaendringer i sektorer i Norge – En oppfølging av interdepartementalt seminar 31. august 2005 om tilpasning til klimaendringer*.
<http://www.regjeringen.no/Upload/MD/Vedlegg/Rapporter/Rapportomsarbarhetogklimaendringer.pdf>

Ministry of the Environment (MoE) (1998): *Miljøverndepartementets Rundskriv T-2/98 Nasjonale mål og interesser i fylkes- og kommuneplanleggingen*. <http://www.regjeringen.no/nb/dep/md/dok/rundskriv/1998/T-298-B-Fylkes-og-kommuneplanleggingen.html?id=108218>

Nilsen, A. S. (2007): *Municipal Risk Management. Implications of the Use of Different Risk Tools*. PhD Thesis UiS no.35 – May 2007

Norwegian People's Aid (2006): *Annual Report 2006*. <http://www.folkehjelp.no/filestore/folkehjelp.pdf>

Norwegian Climate Adaptation Programme (2008): *Klimatilpasning i Norge. Regjeringens arbeid med tilpasning til klimaendringene*.

Serigstad, S. (2003): *Samordning og samfunnstryggleik. Ein studie av omorganiseringa av den sentrale tryggleiks- og beredskapsforvaltninga i Noreg i perioden 1999-2002*. Rapport 16 2003. Bergen: Rokkansenteret.
<https://bora.uib.no/bitstream/1956/1609/1/Masteroppgave-serigstad.pdf>

Sogn og Fjordane County Administration (2006): *Sogn og Fjordane – vurdering av skredfare og status for kartlegging av og sikring mot skredfare*. Brev datert 11.01.06 til DSB frå fylkesgeolog Bjørn Falck Russenes. Arkivnr. 353.

Steen, R. (2003): "Klimaendringer – er beredskapen på plass?". *Plan* 5/2003, pp. 18-23.

Sydkraft Nät (2005): *Orkanen 'Gudrun'*. PDF, 17 p., 02.03. 2005.

Office of the Auditor General (2008a): *Riksrevisjonens undersøkelse om statlig virkemiddelbruk for sikker og pålitelig overføring av kraft i distribusjonsnett*. Oslo: Dokument nr. 3:15 (2007-2008).
http://www.riksrevisjonen.no/NR/rdonlyres/56B36EA6-254F-4DAB-A42F-EE2EA945A26D/0/Dok_3_15_2007_2008.pdf

Office of the Auditor General (2008b): *Riksrevisjonens undersøkelse av Justisdepartementets samordningsansvar for samfunnssikkerhet*. Oslo: Dokument nr. 3:4 (2007–2008).

http://www.riksrevisjonen.no/NR/rdonlyres/1692FE21-6511-4231-8D6F-268725DC8446/0/Dok_3_4_2007_2008.pdf

Office of the Auditor General (2007): *Riksrevisjonens undersøkelse av måloppnåelse og effektivitet ved fylkesmannsembetene*. Oslo: Dokument nr. 3:14 (2006–2007).

http://www.riksrevisjonen.no/NR/rdonlyres/0C8D0AA0-0F78-4F76-A3DE-0673BD8B648E/0/Dok_3_14_2006_2007.pdf

Voluntary Organisations' Forum for Rescue (FORF) (2007): *What if – hva om ingen gjorde noe? Status, utfordringer og tiltak for den frivillige redningstjenesten*. En bestilling fra Det Kgl Justis- og politidepartementet.

http://www.speleo.no/What_if.pdf

List of interviews

Date	Name	Position
18 October 2007 and 30 July 2008	Haavard Stensvand	Head of Civil Protection and Emergency Planning, County Governor of Sogn og Fjordane
24 October 2007	Bjørn Falck Russenes	County Geologist, Sogn og Fjordane County Administration
14 November 2007	Einar Anda	County Geologist, Møre og Romsdal County
29 November	Per Elvestad	Head of Civil Protection and Emergency Planning, County Governor of Troms
30 November 2007	Anonymous	3 years of professional experience with civil protection at the national level
5 December 2007	Anonymous	Researcher
6 December 2007	Nils Ivar Larsen	DCPEP (Deputy Director, Section for Preventive Public Measures), <i>member of resource group for the NCAP secretariat</i>
6 December 2007 (and 21 February 2008)	Ørjan Steen	DCPEP (Head Engineer, Electrical Installations), <i>member of resource group for the NCAP secretariat</i>
6 December 2007	Bente Tornsjø and Vibeke Henden Nilssen	DCPEP (Senior Engineer, Products and Consumer Services and Senior Engineer, Risk Objects and Enterprises, respectively), <i>members of resource group for the NCAP secretariat</i>
7 December 2007	Marianne Karlsen and Cathrine Andersen	DCPEP (Senior Advisors, Section for Analysis and Research), <i>the NCAP secretariat</i>
7 December 2007	Tone D. Bergan	DCPEP (former Head of Department, Section for Analysis and Research)
16 January 2008	Anne Enger	County Governor of Østfold, former Minister of Culture (also acting Minister of Energy and Prime Minister), former Secretary General of the Norwegian Society for Sea Rescue
18 January 2008	Kåre Willoch	Chair of the Committee on the Vulnerability of Society (<i>Sårbarhetsutvalget</i>) 1999-2000, County Governor of Oslo og Akershus 1989-98, Prime Minister of Norway 1981-6
6 February 2008	Roger Steen	DCPEP (former Head of Research, Analysis and Research)

List of observations

Date	Location	Event	Participants
March 2007	Åndalsnes	Regional simulation exercise (Mørejarl). Described in the appendix. ²⁰³	The Norwegian Civil Defence, the Norwegian Red Cross, the County Governor of Sogn og Fjordane, the Police, the Municipality of Eid, the Norwegian Home Guard (HV 11), and ambulance personnel (Helse Midt-Norge and AMK)
31 October – 1 November 2007	Ask (Gjerdrum)	Seminar on land-use planning and natural hazards	The Norwegian Association of Local and Regional Authorities (KS), municipalities
7 November 2007	Skei (Jølster)	Seminar on emergency planning	The County Governor of Sogn og Fjordane; municipalities in Sogn og Fjordane
14 November 2007	Loen (Stryn)	Seminar on large rockslides	The DCPEP; the County Governor of Sogn og Fjordane, municipalities in Møre og Romsdal, Troms, and Sogn og Fjordane; the County Geologist in Møre og Romsdal, Troms and Sogn og Fjordane
27-29 November 2007	Stranda	National simulation exercise on rockslides (Øvelse Skred)	The DCPEP; the County Governor of Sogn og Fjordane, Troms and Møre og Romsdal; the County Geologist in Møre og Romsdal; municipalities; non-governmental rescue organisations
7 January 2008	Stavanger	Samfunnssikkerhets-konferansen	The DCPEP, University of Stavanger
10-11 January 2008	Førde	Workshop on the development of a climate plan for the County of Sogn og Fjordane	Sogn og Fjordane County Administration, County Governor of Sogn og Fjordane
27 May 2008	Balestrand	Annual dialogue seminar	Representatives of the Police, Norwegian Home Guard, Norwegian Civil Defence, and County Governors in Western and Southern Norway

²⁰³ This observation was carried out by Hogne L. Sataøen at WNRI.

Figures, tables, and images

Figures

Figure number	Title	Source
1	Chart illustrating the formal organisation of the Directorate for Civil Protection and Emergency Planning	DCPEP (Cathrine Andersen)
2	Formal organisational placement of civil protection work at the County Governor's Office in Hordaland. Civil protection is placed in a separate Unit of Civil Protection ('Beredskapsavdeling') (circled).	www.fylkesmannen.no
3	Formal organisational placement of civil protection work at the County Governor's Office in Sogn og Fjordane. Civil protection is integrated in the Department of Administration ('Administrasjonavdeling') (circled).	www.fylkesmannen.no
4	Unofficial chart showing the possible future division of work between the County Governor and the County Administration in the county of Sogn og Fjordane with regard to climate-related tasks at the municipal and regional level.	County Governor of Sogn og Fjordane (Haavard Stensvand)
5	Proportion of the population which considers the probability for different types of crises occurring in the next 5-10 years 'high' or 'relatively high'. N=1000.	DCPEP 2007b
6	Proportion of respondents stating that they fear climate change will lead to undesirable consequences for society (first column), that climate change will have no special consequences (second column), and that they are not sure (third column). N=2000.	DCPEP 2007a
7	Level of investment in new power infrastructure in Statnett/the Norwegian State 1963-2002. Reported figures from Statnett and NVE. Columns represent costs in NOK (year 2000); the dotted line represents consumption.	DCPEP 2005b
8	The number of network owners as a function of the number of end users. In 1996, the total number of network owners in Norway was 180. In 2003, the figure was down to 143.	DCPEP 2005b
9	Chart indicating the departments at the DCPEP working with climate adaptation (Section for Analysis and Research and	www.dcpep.no

	Section for Preventive Public Measures). In addition, the resource group includes members from each department, as well as from the senior staff.	
10	Chart by the DCPEP outlining the structure of the national effort in the field of climate adaptation.	http://www.tekna.no/iKnowBase/Content/20611/(01)%20Marianne%20Karlsen.pdf
11	Chart illustrating the focus shift in civil protection work at the regional level, as perceived by the County Governor of Sogn og Fjordane. The timeline at the top of the chart shows some of the milestones in the development away from a predominantly military focus. The tasks listed on the left constitute the bulk of civil protection work until 1990, whereas the tasks listed on the right are current	County Governor of Sogn og Fjordane (Haavard Stensvand)
12	Table illustrating the various stages of crisis management, including planning, preventing, preparing, responding, and rebuilding. Traditionally, the institution of civil protection has mainly been geared towards the last three stages (preparing, responding, and rebuilding). The County Governor is a representative of a focus shift towards the pre-crisis stages.	DCPEP
13	Table showing a tentative placement of municipalities and the institution of civil protection at large on two axes: 'main focus in civil protection work' and 'reflection level with regard to climate change and adaptation'	Appendix - Sataøen 2007

Tables

Table number	Text	Source
1	Share of total work time devoted to geohazards in counties with a County or Regional Geologist.	Interviews
2	Overview of the tasks assigned to the secretariat for the Norwegian Climate Adaptation Programme and the work reported for 2007	DCPEP 2007d

Images

Image number	Caption	Source
1	Members of the administrative staff in Luster Municipality (Sogn og Fjordane County) explain their approach to assessing risks and vulnerability in land-use planning.	Idun A. Husabø
3	'We must plan for the future despite the fact that we are unsure what it will bring'. Headline in web article on climate adaptation targeting municipal planners, published by the Head of Civil Protection and Emergency Planning at the County Governor of Sogn og Fjordane's Office. The web article explains the background for the high frequency of formal objections raised by the County Governor in 2007.	http://fylkesmannen.no/fagom.aspx?m=600&amid=1814393
4-6	Examples of aging in technical components, a high-voltage power mast on the left and two low-voltage power masts on the right. The age of these two types of masts generally being the same, the DCPEP assume that high-voltage masts are in an equally poor condition as the depicted low-voltage masts. These particular masts have now undergone repairs.	DCPEP (Ørjan Steen)

Appendix: Exercise Mørejarl

Summary in English

The appendix summarizes 'Øvelse Mørejarl', a regional simulation exercise taking place in Åndalsnes in March 2007. The discussion-based exercise was starting out with a scenario of rapid snow melting and high risk of floods due to an unfortunate combination of snow, precipitation, and high temperatures. The exercise was led by the County Governor of Møre og Romsdal, and had been planned by the Norwegian Home Guard (HV 11). Participants included several organisations that form part of the public system of civil protection, including the Norwegian Civil Defence, the Norwegian Red Cross, the County Governor of Sogn og Fjordane, the Police, the Municipality of Eid, the Norwegian Home Guard (HV 11), and ambulance personnel (Helse Midt-Noreg and AMK). A researcher from Western Norway Research Institute (WNRI) was present throughout the exercise as an observer. The following conclusions were drawn with regard to the climate change and adaptation aspect of civil protection:

- The simulation exercise did not focus much on prevention and ways of avoiding that situations arise.²⁰⁴
- The exercise did not stress learning in relation to prevention, i.e. not 'what could have been done differently to *avoid* the situation'. Rather, the focus was 'what could have been done differently in the *handling* of the situation'.
- Climate change and adaptation to changing climate conditions was not a topic at the exercise.
- The exercise did not raise issues of adaptation and civil protection in relation to 'new hazards' or other types of climate-related events.
- The thematic of climate change and adaptation/preparedness in relation to uncertainty in climate models

*Reflection level with regard to
climate change and adaptation*

*Main focus in civil
protection work*

	High	Low
Reactive		<i>The institution of civil protection</i>
Proactive	<i>Municipalities</i>	

The above figure is proposed on the basis of reflections on the links between climate change, climate adaptation and civil protection, as well as observation from Mørejarl. The Municipality of Eid, which was represented in the exercise, was constantly asked to provide explanations for aspects of the municipality's civil protection work. On the other hand, several participants in the exercise stressed the fact that municipalities are not primarily organisations of civil protection. Norwegian municipalities are more concerned with proactive tasks, such as planning and prevention, than reactive tasks (the main focus of other organisations of civil protection in Norway). The focus on preparation and proactiveness is present in land-use planning and in emergency planning (Risk and Vulnerability Assessments), which includes 'new' hazards. At the same time, the awareness level with regard to climate change is relatively high in some municipalities. As for other players in the simulation exercise, (organisations such as the Police, the Norwegian Civil Defence, AMK, the Red Cross, and the Norwegian Home Guard), the reactive part of civil protection work seems to dominate – i.e. reactive measures, and mainly against traditional, well-known hazards. Most likely, attaching the different fields of the above table constitutes a major challenge – i.e. merging the world of municipalities (with their special expertise) with the rest of the institution of civil protection, which includes other strong points.

²⁰⁴ One might, however, argue that given the particular focus of Øvelse Mørejarl ('information strategies, routines for alerting the public, resource lists, care for victims and their families, collaboration and coordination'), a focus on planning and proactive measures should not to be expected in this case.

Referat frå Øvelse Mørejarl

av Hogne L. Sataøen, Vestlandsforskning



Det følgjande referatet oppsummerar Øvelse Mørejarl som fann stad i Åndalsnes medio mars 2007. Vestlandsforskning hadde ei observatørrolle i øvinga som vart leia av Fylkesmannen i Møre og Romsdal. Øvinga var planlagt av HV11.

Desse aktørar deltok:

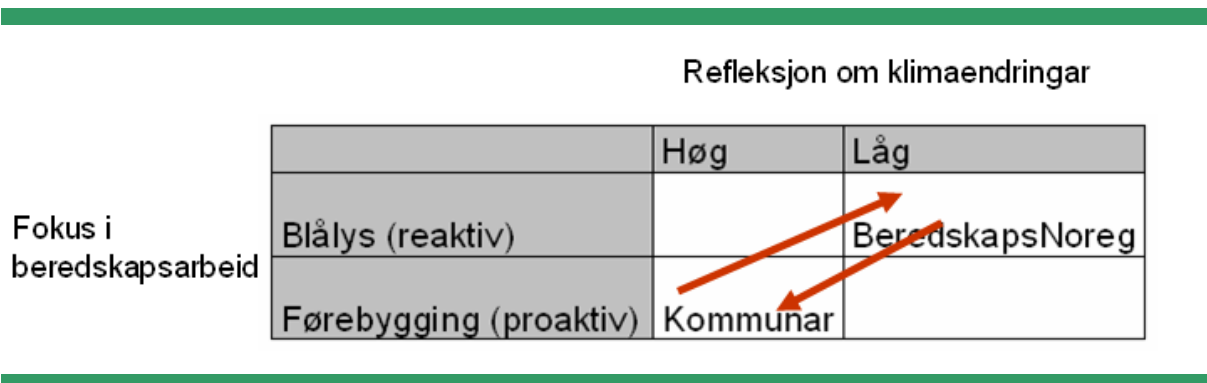
- Sivilforsvaret
- Raude krossen
- FM Sogn og Fjordane
- "Helse" (AMK, Helse Midt-Noreg)
- Politiet
- Eid kommune
- HV 11

Referatet summerer opp innspela og diskusjonane som fann stad på øvinga. Framstillinga følgjer kronologien i øvinga. Slik blir også "gangen" i øvinga presentert. Dei fleste plenumsdiskusjonane er referert i den rekkjefølgja og samanhengen dei kom. På denne måten gjev referatet innblikk i kva som har blitt diskutert og kva som *ikkje* har blitt diskutert.

Basert på vår inngang til klimaendring og beredskap ser det ut til at:

- Øvinga hadde lite fokus på førebygging (t.d. kva kartleggingsarbeid ligg til grunn, kva har vore gjort i kommuneplanen om dette temaet/området (Eid), utsleppsreduksjonar)²⁰⁵.
- Øvinga hadde lite fokus på læring i forhold til førebygging – ikkje "kva kunne vi gjort annleis for å hindre situasjonen," meir refleksjonar kring "kva kunne vi gjort annleis i *handteringa* av situasjonen."
- Øvinga tematiserte ikkje eit endra klimaregime.
- Øvinga tok ikkje opp spørsmål om tilpassing og beredskap i forhold til "nye farar" / andre typar klimarelaterte hendingar.
- Øving gjekk ikkje inn i tematikken klimaendringar og usikkerheit → tilpassing og beredskap i forhold til usikkerheit.

Basert på refleksjonar knytt til koplinga mellom klimaendring, klimatilpassing og beredskap, samt observasjonar frå Mørejarl, kan ein driste seg til følgjande figur:



Kommunen som deltok på øvinga (Eid kommune) vart stadig pressa på beredskapsarbeidet. Samstundes presiserte fleire av øvingsdeltakarane – både i og utanfor kommunen – at kommunar ikkje er beredskapsorganisasjonar. (No kan ein sjølv sagt seie at både ansvarsprinsippet og nærleiksprinsippet bygger opp under at kommunen har nettopp ei *sentral* rolle i beredskapssamanheng). At kommunar ikkje er beredskapsorganisasjonar handlar nok i denne samanhengen om at fokuset kanskje i større grad enn resten av beredskaps-Norge er retta mot den proaktive delen (heller enn den reaktive). Det er såleis innanfor planlegging og førebygging kommunar har mest kompetanse, i alle fall samanlikna med resten av beredskaps-Norge. Fokus på førebygging og proaktivitet skjer til dømes gjennom arealplanlegging og gjennom prosessar der ein bur seg på krisehendingar (ROS-arbeid?) – dette inkluderer også arbeid mot "nye" farar. Samstundes ser vi at refleksjonen kring klimaendringar er relativt stor i ein del kommunar. Når det gjeld dei andre aktørane på øvinga ("beredskaps-Noreg" t.d. politi, sivilforsvar, AMK, Røde kors, heimevernet) ser det ut til at desse (framleis) er mest orientert mot blålysfasen i beredskapsarbeidet – altså dei reaktive tiltaka og da i størst grad mot kjente "farar."

Truleg ligg det ei vesentleg utfordring i å kople saman dei ulike felta i denne tabellen – altså korleis ein kan knytte saman kommuneverda (det kommunene er god på) og resten av beredskapssystemet – og det som dei er gode på.

²⁰⁵ Her kan det sjølv sagt invendast at gitt Mørejarl sitt fokus (særleg nemnt er "info-strategiar, varslingsrutinar, ressuroversikter, omsorg for råka og pårørande, samt samordning og koordinering) så er ikkje nødvendigvis fokus på og refleksjon kring planlegging og proaktive tiltak sentralt.

Dag I: Presentasjon av øvinga og første spelscenario

Samtalar i forkant av øvinga²⁰⁶

Beredskapsavdelinga har gått frå krigsorganisasjon til meir sivil orientering. Døme på dette er at fylkesmannens beredskapssjef og hans stab oftast hadde militær bakgrunn. Dette er i endring, fylkesberedskapssjef i Sogn og Fjordane – Håvard Stensvand – har til dømes bakgrunn frå politiet. Likevel slit beredskapsavdelinga til dels med å få andre/nye oppgåver etter at "krigsoppgåvene" er mindre relevante. Brannvern er døme på eit felt der ein ønskjer å utvide. Klimatilpassing kan vere eit anna.

Dette er "papir"-delen av ein praktisk øving som skal skje neste år. Generalinspektøren for heimevernet meiner det skal vere ei papirøving, ei feltøving og eitt år med øvingsfri kvart tredje år. "Problemet" neste år er at HV gjerne vil øve med våpen. Men korleis gjere det realistisk dersom klimahending? Og – politiet vil i ein slik situasjon ha øvste myndigheit – og dei er kanskje mindre interessert i at HV spring rundt med AG3. Det måtte i så fall vere sikring av eigedom i tilfelle plyndring.

Nordfjordeid vart valt som speleksempel og scenario av fleire grunnar; (a) det låg bra til i forhold til S&F og M&R. (b) det er mykje infrastruktur som går gjennom kommunen.

Presentasjon av Mørejarl ved HV 11

Øvinga blir innleia av **Kjell Olav Myhre NK i HV11**, han fortel om historia til HV i forhold til (krise)beredskap.

Før var det 18 HV-distrikt, der primæroppgåvene var styrkeproduksjon, dvs. levere styrkar til andre. No er det 13 distrikt, og fokus er på operativ verksemd og styrkeleiing, pluss at ein framleis har noko styrkeutdanning.

Det territorielle ansvaret består av (a) militært-militært samarbeid (t.d. dersom hæren støttar HV) og (b) militært-sivilt samarbeid (t.d. dersom HV støttar politiet i redningsaksjon). Det er nettopp det militært-sivile samarbeidet som blir prøvd ut på øvelse Mørejarl.

Det kan verke som om forholdet mellom militær og sivil orientering i Heimevernet er ei spenning (til dømes stor skilnad på utsegnene; "HV vil bli bedre til å lede og planlegge innan freds- og krisehandtering" og "Ledestjernen vår er fortsatt hedersmannen Linge – og det forplikter.")

²⁰⁶ Blant anna FM Sogn og Fjordane og FM Møre og Romsdal



(John Kvåle (sivilforsvaret), ved sida av bysta til HV11s ledestjerne kpt. Linge)

Presentasjon av øvinga ved Fолldal beredskapssjef i M&R.

Beredskapssjefen fortel om øvinga i sitt innlegg. Han fokuserer på korleis øvinga blei til og kva element som vil vere i fokus. Viktige punkt frå dette innlegget er oppsummert under:

- HV11 tok initiativ til øvinga, som Fолldal sa ja til å ha ansvar for å leie
- Fолldal takkar særskilt politidistriktet (Flora) for å stille med eit sterkt lag. Tydar på at dette blir prioritert
- Mørejarl tok 10 mnd. å planlegge
- DSB sin rettleiar for øvingar blei lagt til grunn
- Kva er ei krise, spør han, og skil mellom tre typar; 1. naturkatastrofar, 2. vald terror, 3. dårleg styring osv.

- Det vart tidleg avklart, sa han, at denne øvinga skulle baserast på "ei naturbasert hending"
- "Krisetid er jakttid." Fokus vil vere på årsak, skuld og konsekvens. Difor er også eit viktig moment i øvinga handtering av media for dei ulike aktørane
- Ei pragmatisk innstilling i forhold til denne øvinga blir lagt til grunn; "det å ha delteke på denne øvinga betyr at spørsmålet om at ein *ikkje* har øvd på samhandling ikkje kan reisast"

Kva er fokus på i denne øvinga?

- "Ansvar, oppgåver og roller"
- Særleg leiarrolla
- Info-strategiar
- Varslingsrutinar
- Ressursoversikter
- Omsorg for råka og pårørande
- Samordning og koordinering

Folldal karakteriserer dei "Mørejarl-spesifikke" utfordringane slik;

- Den største diskusjonsøvinga Folldal har sett
- Diskusjonsformatet vart tidleg valt
- Øvingar går føre seg langs eit kontinuum frå seminar (dette er nesten seminar) til fullskala (der grisar brenn inne for å simulere brannskadde).
- Hendingar som engasjerer flest mogleg er valt (går det ut over realismen?, Går det ut over høvet til å gå i djupna?)
- Det er viktigare å diskutere enn å løyse problem – betre å finne problemstillingar.

Samtale med Folldal, beredskapssjef i Møre og Romsdal

Det er ingen kopling mellom Møretrim og Mørejarl, "utover dei første fire bokstavane." Folldal hadde inntrykk av at ein i Møre og Romsdal "var lei av å øve på orkan og dårleg vær" Møretrim framstår i følge Folldal som ei øving i sjølvransaking fordi ting hadde gått så til hundane under orkanen. Mørejarl er initiert av HV, og det var i utgangspunktet opent kva type "hending" som det skulle øvast på. Det var relativt tilfeldig at det vart ei verending.

Presentasjon av scenarioet

Scenariet for øvinga blir presentert. Utgangspunktet er at det har vore kaldt lenge og at det samstundes er store snømengder i fjellet. Førre helg fekk aktuelle aktørar beskjed om at det kom til å bli regn opp til 1200 meter og NVE sendte ut varsel om stor flaumfare.

Spelet er vidare at aktørane i plenum vil få ulike meldingar. Desse meldingane må dei forholde seg til – og ta avgjerder på bakgrunn av. Aktørane må kontakte andre og orientere undervegs. Det er òg meininga at ulike aspekt skal blir diskutert undervegs i øvinga. Altså at aktørane skal diskutere informasjonen som kjem og korleis det har blitt handtert, både gruppevis og i plenum.



Resten av kvelden består av oppsummeringar av korleis kvar enkelt aktør/organisasjon har handtert meldingane om flaum og ekstremnedbør. Denne oppsummeringa er referert under;

Håvard Stensvand –Fylkesmannen i Sogn og Fjordane.

For FM sin del, starta øvinga med e-post med varsel og info om ekstremvêr og flaum.

"Dette er ei kjempeoppgåve å formilde info til kommunane. Vi er ingen beredskapsorganisasjon og kommunen er ikkje ein beredskapsorganisasjon"

Utfordringa til FM når dei får slike meldingar er kor mange regionale vurderingar kan dei gjere? Det er vanskeleg basert på infoen frå NVE å seie kvar det blir "verst". Derfor sender dei same varsel til alle kommunar, men med atterhald om at "ikkje alle blir råka like hardt."

Tidlegare har slike meldingar (frå NVE, MET.NO) komme til FM pr. telefaks, men ein oppdagar ikkje alltid at faksen har komme fram. Nytt system (frå i år) der varsling til kommunar skjer pr. SMS og e-post. Kommunane har evt. vakttelefon og beredskaps e-postsadresser.

Problemet er at SMS-varslings sviktar dersom ein vidarekoplar telefonen - noko mange kommunar gjer.

Meldinga inn til FM er også ei utfordring, fordi FM ikkje har nokon vaktfunksjon og ein operativ sentral.

Met.no og NVE (andre?) varslar gjennom to kanalar: (a) FM og (b) politi. Her er det og kontrollrutinar med at desse to skal varsle kvarandre - såkalla "kontrollvarslings". Denne kontrollvarslings fungerer ikkje alltid, Stensvand meiner at politiet i mindre grad enn FM gjer dette.

I tillegg er det lokal "kontrollvarslings" og "kryssvarslings" mellom lokalt politi og kommune.

FM har ikkje kvitteringsordning ved varslings, pga. masse retur-SMS. (FM i hedemark arbeider med betre system for dette.)

Det er også ein evig diskusjon om at FM ropar for mykje "ulv ulv."

Met.no og NVE er edruelege og sender ut varsel berre viss viktig. (Antal varsel pr. år er om 3-4 flaumvarsel, 3-4 varsel om høg vass-stand og 3-4 varsel om ekstremvêr (FM - røft anslag).

Politiet

Alle meldingar til politiet går til operasjonssentral. "Så blir det ført i P.O. og så blir det satt ressursar på saka." "Men er det snakk om 40 cm høgare vass-stand så er det ikkje sikkert at vi gjer noko." [Altså; ligg det i nokon grad vurderingar i botnen her]

I situasjonen her ville vi ha kontakta den lokale lensmannen. "Lokale vurderingar viktig å innhente." Her er det ein viss diskrepans med Stensvand si vurdering om regionale vurderingar.

Ang. kontrollvarslings mellom politi og FM; det eksisterer ein skriftleg avtale mellom politimeisteren og FM. Kontrollvarslings er ikkje ein del av dette. Men det er ein munnleg avtale.

"Vi eig situasjonen når det er ført i P.O. Då er det vårt oppdrag – til eventuelt andre overtek."

Eid kommune

Fekk melding på e-post, men meiner SMS-varslings er vegen å gå. Dersom krise i Eid utanfor opningstid er det ingen vaktordning, men dei "er mottaklege for varslings".

Leiaren for krisestaben fekk i dette tilfellet melding, og vurderte at nedsetting av krisestab var nødvendig. Men han vurderte det slik at ekstra beredskap til sikring av infrastruktur var smart.

Har ikkje skriftlege rutinar for varslings av mottaksmelding. "Men folk kjenner rutinane."

"Vi mottek eit høgt tal varsel, derfor blir ikkje alt arkivert i postjournalar."

Men dersom kriseleiing blir satt så har Eid rutinar for skriftlege system.

HV reiser spørsmål om robustheit i SMS-varslings. Dersom straumen går blir bakkestasjonar slått ut og dei har eit ekstrasystem på 3 kvarter. FM Sogn og Fjordane repliserer med at kommunen ikkje er ein beredskapsorganisasjon, og at SMS er det beste ein har. Politiet meiner ein bør ha fleire løysingar, ikkje bare SMS. DSB viser til Steigen der mobilnettet fungerte ca. 2 timar pr. dag – "så det vil kunne funke delvis." St. Olavs hospital spør om DSB vil gå i dialog med teleselskap for å gje nokre aktørar prioritet ved straumbrot. DSB seier at

det er sett ned eit prosjekt som har jobba med dette. Forslaget ligg hjå justisdept. Forslaget har blinka ut 5000 viktige brukarar som vil bli gitt prioritet i ein slik situasjon.

Sivilforsvaret

Gitt situasjonen som skissert, ville Sivilforsvaret gitt UMS²⁰⁷ varsling til Eid-avdelinga.

UMS blir nytta til informasjon – ikkje til utkalling. Sivilforsvaret kallar ut pr. telefon

Sivilforsvaret har nedfelt skriftlege rutinar for varsling.

Distriktet har som det einaste i landet ikkje vakt. DSB har nedfelt mål om døgnopen sivilforsvar. Alle alarmer går til kontortelefon og vil bli vidarekopla "Vi er idealistar."

HV

HV ville normalt ikkje blitt involvert i ein slik samanheng.

HV står ikkje på e-postlister for ekstremvarsel.

Eigentleg har ikkje HV beredskap etter arbeidstid (dette blir delvis forklart gjennom nye krav til HV, blant anna gjennom arbeidsmiljølova). Likevel eksisterer det ein vakttelefon hjå FOMK i Stavanger.

Etter eventuelle meldingar til FOMK i Stavanger blir det gjort ei intern vurdering:

- (a) skal det gå rett til området?
- (b) Skal det bli ein liaison?
- (c) Skal ein sette stab?

HV ber om å bli konsultert tidlegast mogleg. Dei vil heller ha beskjed om "kanskje" enn for seint. Dei blir ikkje sure for det.

"Erkjenn-varslingar" er vanlig i forsvaret. Det impliserer både mottatt og forstått.

Innlegget til HV blir avslutta med eit punkt om kva dei *må* *vi* *ha* *fra* *dere* *for* *å* *gjøre* *en* *god* *jobb*

- (a) Tid og sted
- (b) Hva vil dere ha
- (c) Hvilket utstyr trenger dere
- (d) Administrative bestemmelser

Beredskapstid for innsatsstyrken: er 1 døgn, men uformelt gjeld følgjande: 75 % av innsatsstyrken i løpet av 4 timer.

Paragraf 13 er sentral, seier Heimevernet, grovt går dette ut på at HV stiller og hjelper sivile instansar.

Helsevesenet

²⁰⁷ UMS: systemvarsling som både raudekrossen, amk og sivilforsvaret brukar. Har hatt dette systemet i ca 3 år. Betalar ca 25000 kr pr. år for konsesjon (r.k). Problemet er at det er lettare å seie nei til ein automatisk generert syntese enn til ein som ringjer fysisk. Sivilforsvaret brukar UMS lite til innkallingar, men meir til info og liknande. Men gode avdelingar går det an å varsle med UMS – fordi dei er meir motiverte og ikkje seier nei til ein talebeskjed. Fordelen er at ein får oppdaterte lister på kven som stiller. Sivilforsvaret seier at dei ofte får ei varslingsmelding på ums om kvelden, slik at ein kan mobiltelefonen liggande klar på nattbordet.

Mottar vanlegvis ikkje "klima- eller flomvarsel." Og har derfor heller ikkje rutinar for slike meldingar. "Vi har heller ikkje behov for slike meldingar."

Brann, politi og helse har et trekant-varslingsystem.

Helse nyttar ikkje e-post eller SMS, dei får faks først, og deretter munnleg melding, som må bekreftast moteke.

Raude krossen

Varslar nærliggande korps til dei korpsa som allereie er i sving – slik kan desse nærliggande korpsa settast i beredskap.

UMS varsling er vanleg.

Raude krossen sit i krisegruppene kring om i kommunane.

"Viss eit lokalt korps er i aksjon eig dei situasjonen."

Samtale med Molvær (i Sivilforsvaret, tidlegare beredskapssjef hos Fylkesmannen i Sogn og Fjordane)

Molvær understrekar at det er lite planverk og manglande analytisk tilnærming til akuttberedskap i Noreg. Nemner eit døme der alle lokalavdelingar skal ha så og så mange lenser, men at scenarioet i Sogn og Fjordane dreier seg om ras a la Loen, kombinert med lågt skydekke, slik at fly ikkje kan lande. Tykkjer arbeidet til FM Sogn og Fjordane med fylkes-ROS er veldig bra, men for Sivilforsvaret sin del handlar det mest om det akutte – "det er meir redning enn langsiktig førebygging." Staben i Sogndal har i hovudsak militær bakgrunn – leiaren, Bergheim, har derimot "gått gradene".

Dag II: Spillfase 2

Scenariet blir no presentert slik; "Måndag kveld og tysdag har det kome om lag ein halv meter tung nysnø på Nordfjordeid. Det er no neste to meter på flatmark. I låglandet er nedbøren i ferd med å gå over til regn. Det er ekstremt stor snøskredfare, og fleire snøskred har gått. Riksveg 15 er stengt både på Skredestranda og mellom Stårheim og Bryggja. E39 er stengt av ras mellom Lote og Lotetunnelen. Fylkesvegane til Navelsaker og Torheim er også stengde. [...] Vidare har AMK Førde fått melding om at deler av taket på idrettshallen på Nordfjordeid har rasa saman."

Dag II tek til med at det blir spelt av to radiointervju gjort med hhv. Stensvand og lensmannen i Eid kommune.

I intervjuet gjer FM Sogn og Fjordane det veldig klart at dei har motteke ei melding om ekstremvær frå NVE og sendt denne vidare til kommunen. Dei er meldingsmottakar og meldingsformidlar. Dei går ikkje inn og tolkar meldinga. FM Sogn og Fjordane viser til kommunen for meir informasjon

Diskusjon i plenum om politilovens paragraf 27 – at lensmannen kan pålegge kommunen å gjennomføre tiltak.



"HV-moment"

Scenariet seier at 30 HV-mannskap er vêrfaste på ei øving i Remmedalen. HV-staben må handtere situasjonen som grovt handlar om (a) evakuere mannskap gjennom ein svært rasfarleg dal eller (b) la dei ligge vêrfaste i dårlege vintertelt. HV-folka understrekar i sine diskusjonar at "sluttsituasjonen" er å få folk trygt ut. Det er denne situasjonen dei jobbar mot. HV-staben anbefalar derfor ei alternativ rute ut.

I etterkant av dette scenariet blir det diskusjonar omkring spørsmålet "kven eig situasjonen?" Politiet legg vekt på at dei ville blitt varsla sjølv om det dreier seg om HV-mannskap. Kva med hytter i terrenget? HV – på si side – meiner dette ikkje er ein redningsaksjon, men forflytting.

Informasjon generer ansvar – dersom politiet blir varsla – må dei også ta ansvar.

Eskalering av situasjonen

Snøvêret held fram og det har snødd nok ein halvmeter. Deler av taket på idrettshallen i Eid har rasa saman. Ein har òg fått melding om at ein skuleklasse er involvert.

Diskusjonar blant FM Sogn og fjordane

FM har inga konkret rolle slik situasjonen er no. Men FM understrekar at det er eit krav om kanalar "oppover" m.a. til departement og til DSB. Det er eit sterkt behov for informasjon sentralt – og FM kan levere slik informasjon.

FM meiner at kommunen sitt improvisasjonselement er viktig. Dei ser og kjenner det lokale best. Dei er tettast på og kjenner behovet. Jf. Stad og gyllevogner.

Samtale med Gammelsæter (Helse Midt-Norge, St. Olavs Hospital)

HV si rolle i det sivile samfunn er alt for lite diskutert og problematisert, meiner han. Gammelsæter meiner også at det er ein problem at ein har gått vekk frå den tradisjonelle krigsorganiseringa, fordi ein då sitt at med ein mindre operativ einig "med snøspader, men uten telt og feltsykehus." Han meiner også at det klart er ulike kulturar involvert, for eksempel sivilforvaret og HV med veldig militær og formelle strukturar – noko helse faktisk saknar i krisesituasjonar.

Gammelsæter meiner øvinga er urealistisk fordi det blir tatt alt for lett på viktige ting, for eksempel informasjon mellom etatar. For eksempel blir det sagt med ei setning at "vi har hatt kontakt med politi og AMK." I realiteten er ein slik kontakt og samordning mykje meir komplisert.

Samtale med Molvær

Tidlegare var det mykje større problem med roller og sjølvforståing, hevdar han. Veldig forskjell på helse ("som no er eit føretak") og Raudekrossen ("som er ein politisk organisasjon"). Legg vekt på at kulturforskjellane har blitt mindre.

Politiet

Fått melding via trippelvarsling, AMK – helse, brann og politi.

Situasjonen er no ei redningsteneste og det er per definisjon politiets ansvar.

"Viktig å få ut ressursar fortast mulig."

Det blir peika ut operativ uteleiar på staden og det er hennar ansvar å organisere og lede arbeidet på skadestaden. Dei andre nødetatane må forhalde seg til ho. Ho skal også rask melde tilbake status og behov.

Kommunen blir varsla via lensmann.

Andre aktørar som blir varsla; helse, røde kors, FIG, norske redningshundar, HV.

Kommunale bygg – kommunens ansvar.

Ikkje ein vanlig redning; Sikring, redning, søk i usikre områder, utstyr (kranbil).

Pårørande er viktig her fordi situasjonen er at dette vil ta tid.

AMK

Koplar trippelvarsling med andre med ein gong.

Ansaret er å supplere kommunehelsetenesta. Kommunehelsetenesta har ansvar for det akutte. "Men å supplere kan bety å forstyrre."

Diskusjonar med politiet om ferjebruken

Etterspør eit nasjonalt nummer som folk kan ringe for å få informasjon.

Eid kommune

Kommunen blir informert frå politiet og innser at kriseleiinga i kommunen må bli etablert.

Kontaktar lokal redningssentral for å få vite mest mogleg.

Opprettar ei teneste på sentralbordet.

Skulen må informere foreldra i klassen.

Usikre på kor mykje ressursar dei har fordi politiet i teorien kan "rake dei rein for ressursar."

Oppfattar ikkje at det er akutte behov for rydding av tak på andre bygg.

FM Sogn og Fjordane: "Kven har ansaret for pårørande? Politi eller kommune? Må samkøyrast."

Grensesnittet mellom kommune og politi er kanskje litt uavklart. T.d. viss det var ei skuleklasse frå Volda (og ikkje Eid) som var involvert?

Innspel frå media; Ha same informasjon til alle – både dei som ringer, internett og til media. Same melding; dette har skjedd, dette er situasjonen osv.

AMK: Har kommunen alternativ til mobil?

Kva tid skal ein seie at det er 9c som er ramma?

Sivilforsvaret

Sivilforsvaret er enno ikkje i aksjon. Men kartelegg tidsaspekt og personelloversikt. Kontaktar kollegaer på Møre.

I starten tilbyr ein hjelp frå FIG-en på Eid med 18 personar. 20 personar frå Måløy, men pga. vegstenging tek det tre timar. Ørsta-Volda FIG-en tek 3 timar.

Materiell og utstyr; lysutstyr, redningsmateriell, løftepute, samband (satellitt-telefonar).

"FIG-leiar er vårt talerør der ute. Og det er han politiet skal forholde seg til."

Kva skjer om vi må ta tak andre stader?

Politiet må vurdere korleis ressursane skal brukast.

Sivilforsvaret er ikkje infokanal. Politiet må ta den biten. Men nettsida www.sivilforsvaret.no blir oppdatert heile tida under aksjonar.

HV

Har tørka opp etter gårsdagens moment.

"Vi er selvforsynt og har feltspade. Og vi har telt."

Utstyr: lysutstyr og aggregat.

Ein del områdesjefar har fått varslingsanmodning.

Ein del av mannskapet kan vere direkte råka av ulykka.

Den lokale leiinga kan uttale seg om det som skjer innan hans organisasjon. Uttaler seg om egne kapasitetar, men politiet "eig" situasjonen.

Raudekrossen

Kan stille i løpet av ½ time. FIG-en har utstyr, så RK treng ikkje så mykje

FM beredskap

Vil ikkje ta ein aktiv rolle i situasjonen. Meir bakteppet om at dette er Nordfjord som er råka, og at det fører til store problem for fleire kommunar. Det ville ha råka mange, og dermed hadde FM måtte ta tak og engasjert seg.

Vidare nemner beredskapssjef Stensvand at det finst ein relevant reiskap i fylkesberedskapsrådet. Dette blei brukt i samband med LOKE. Og det var veldig nyttig for alle involverte etatar. Det handlar om å utveksle informasjon mellom nivå og etatar og å skape ein felles situasjonsforståing / eit felles bilete av situasjonen. Rådet tek også stilling til kven som bør gjere kva. Aktuelle spørsmål er til dømes kva som skjer med ambulanseberedskapen i Årdal når vegen er stengt og fjellet stengt. Det å plassere ein brøytebil i Årdal i løpet av natta blei avklart i dette rådet. Diskuterer aspekt ved situasjonen som ikkje spesifikt høyrer til den eine eller andre etaten.

Men får oftare og oftare får spørsmål frå statsadministrasjon om skildring av situasjonen.

DSB: Nivået for krav om info oppover i systemet er på veg nedover – vil ha tidligare informasjon og meir strukturert informasjon. Har gått ut i skrifs form frå statsministerens kontor. Slik at ein på det øvste nivået vil ha ein breiare situasjonsforståing. Av interesse for det politiske nivået. Og FM er det verktøyet som justisdepartementet og DSB har i slike situasjonar.

Eskalering av situasjon

Situasjonen er no at eit byggefelt i Eid står i fare for å måtte evakuerast.

Diskusjon FM

Samordningsinstruksen – gjev FM ein del fullmakter der ein overtek myndigheitsansvar. Eit av kriteria er at ein av etatane "har kastar korta." Spørsmålet er om kommunen her er ein etat som har kasta korta her. FM kan bidra med å hente ressursar utanfrå. Nærmast det seg ei nasjonal krisehending?

Kanskje er det FM si rolle å skjere gjennom her for å handtere og eventuelt rekvirere eit hurtigruteskip. Og informere oppover i systemet for å sjekke kroner og øre.

Koplingspunkt frå fiskeflåten inn på e-verket for å levere straum var eit tema etter nyttårsorkanen.

Fylkesberedskapsrådet må i alle fall samlast her. Telefonmøte. Kallar inn aktuelle medlemer, dvs. ikkje mattilsynet når det handlar om ras.

Liaison-offiser i HV (Fagerli) er knutepunktet mellom HV og FM sine beredskapsfolk.

Samordningsinstruksen vart laga etter flaumen på Austlandet. Men i ettertid har den berre blitt brukt ein gang i Troms i forhold til mange ras interkommunalt. Ved å bruke samordningsinstruksen så stiller FM seg over politimeisteren. Politiet har liv og helse, men FM har ansvaret for samfunnet som sådan, mat og el. osv.

FM seier at "vi koordinerer men ikkje samordnar. Vi bringer dei saman."

Under Loke orienterte FM aktivt om det breie biletet, blant anna gjennom føremiddagssendingane på NRK. Det var uvant at Fylkesmannen hadde eit slikt samla informasjonsbilete.

Helse

Reservesjukehus i Folkehøgskolen blir vurdert.

Bortfall av infrastruktur er kritisk, vatn kloakk, brann.

Sivilforsvaret

Personell er den største ressursen til sivilforsvaret - lite utstyr å stille opp med.

Helse har store forventingar til kva sivilforsvaret kan bidra med.

Poengterer samordning og koordinering

HV

Brifar om ressursar:

Sosialpatruljar

Vaktordning i fråflytta områder

"våpen"; varmesøkande kamera – night vision etc. (krigsmateriell til sivil bruk)

Skredpost

Samband

Sandsekkar

Politi

Råd frå NGI om evakuering

Har kalla inn redningsleiinga som rådgjevarar for staben.
Bestemt å sett i verk evakuering av området.

Korleis kommuniserer operativ uteleiar? Direkte mot stab i Florø. Operativ uteleiar har ein organisasjon rundt seg der alle etatar som er nemnt er knytt til han. Det er frå operativ uteleiar alle ordre utover blir gitt.

"Vi har ikkje politifolk til å leie all innsats her." Derfor bra at andre etatar deltek. Helse vil få prioritet. Men her er så mange oppdrag at andre må ta i; trafikk, registrering, evakuering, vakt etc.

Viktig å ha einingar som er sjølvberande (t.d. HV).

Basestasjonane kjem til bli overbelasta. Det viser all erfaring.

FM

Samordningsinstruks frå 1997 gjev FM ein del plikter.

I Noreg er det sjeldan diskusjon om økonomi om det står om liv og helse. For kommunen er dette likevel avgjerder som betyr noko for økonomien. Det å evakuere eit bustadfelt tappar ressursar og tøyser strikken langt. Får FM eit signal om at FM må inn og støtte så ligg det føre ein samordningssituasjon. Det vanlege er nærleiks- og ansvarsprinsippet, men samordningsprinsippet kan komme inn her.

Dømet: lynnbrann på stadt; kommunen fortvilt ringte FM om dei kunne bidra med privat helikopter. Staten tok 500.000 fylket tok 500.000 kroner.

Kva rolle skal FM spele? Jo, dersom det er mange kommunar og ein må prioritere ressursar etc. Pluss informasjon oppover i systemet (departement og direktorat). Sentrale myndigheiter er interesserte i verifiserte opplysningar frå FM.

Avrunding dag II: Foredrag om sjukehusevakuering

Innlegg om evakuering av sjukehus – kva er mogleg, kva type pasientar er til ein kvar tid tilstades på eit sjukehus etc. slike spørsmål vart diskutert.

DSB opplyser at det er lett å skaffe kapasitet i masseskadesituasjonar. St. Olavs hospital stadfestar at det går relativt raskt. Utfordringa er transportkapasitet og drift vidare etter det.

Dag III: Debriefing / "hot washup" /evaluering av Mørejarl

I grove trekk vart dagen via debriefing og tilbakemeldingar frå etatane på korleis dei opplevde øvinga – både substans og form.

FM M&R

Bakgrunnen for øvinga er at kvart HV-hovuddistrikt skal ha ei hovudøving. Det skal vere ei sivil-militær samarbeidsøving. Dette blei ei diskusjonsøving med eit freds-krisescenario. Feltøvinga skal gjennomførast kvart tredje år. Fokus: liaisonering mot samarbeidspartnarar og koordinering av planverk. Auke kjennskap til andre etatars ansvarsområde. Etatane skal kjenne dei andre etatane.

Sluttsituasjon: Forståing for eit koordinert beredskapsplanverk for freds- og krisehandtering

Politiet

Fokus er på at stabsfunksjonen skal bli gode på redningsteneste. Har derfor sendt mange frå Fellesoperativ Eining (FOE).

Skal være det koordinerande ledd og treng godt samarbeid.

Positivt;

Viktig å bli kjent med andre etatar: fått innblikk i heilskapen.

Media viktig å ha med.

Viktig for politiet har blitt kjent med de respektive org. sine kapasitetar.

Etatar og organisasjonar må samordne materiellinvesteringar (NARRE; oversikt over ressursar)

Minst positiv;

Muligheit for bruk av tabletop? Å plassere ut styrker etc.)

Bør oppdraget eskalerast endå meir?

Utfordring:

Vi ønskjer å bruke redningsleinga meir aktivt.

FM

Minst positivt:

Kultursjokk å møte HVs øvingsdirektiv – natodirektiv som er veldig omstendeleg.

Stammespråket til forsvaret bør ikkje nyttast i sivile samanhengar.

Utfordringar

Kommunen er eit sjølvstendig forvaltningsorgan og er ikkje underlagt FM, slik det ser ut på HVs plansje.

Eid kommune

Kommunen arbeider ikkje med beredskap til dagen – vankeleg å sette av tid og ressursar til planlegging av ein slik øving.

Sivilforsvaret

Legg vekt på nettverksbygging

Avdekka behovet for å koordinere ressursar i innsats.

HV har synt vilje til å tilpasse øvingsmåla etter naudetatane.

NATO-mal ned på vårt nivå kan vere ei utfordring.

Utfordring

Feltøving opp mot det scenarioet ein har hatt i dag.

Ungt distrikt etablert i 2004 og har ein enkelt og midlertidig plan. Meir ein etableringsplan enn ein beredskapsplan.

I det daglige etablerer vi ikkje stab. Har ikkje satt stab ein gong. Men har fått gode innspel i øvinga.

Helse

Korleis utnytte militære scenario på sivil-side? Det har fungert godt.

Har i mindre grad fått innsikt i andre kvalitetar og kvantitetar.

Vil vite meir om korleis politiet tenker når dei sit i stab? Meir liasons.

Fint å øve på tvers av regionsgrenser.

Blålysfasen trener dei nok på – stabssamarbeid er kanskje det dei treng mest.

Nyttig å høre for eksempel politiets vurderingar, å ta det med vidare inn i eigen planlegging. Men vidareutvikling av konseptet er å sette saman grupper med representantar frå ulike etatar.

Positivt nettverksbygging.

HV11

Koordinering av kapasitetar er det som blir understreka

Utfordring

Øvinga slutta der HV sin innsats kunne ha starta

Sjøheimevernet burde vore med.

Vil ha eit breiare scenario som engasjerer fleire HV-område

Vil øve meir i praksis.

Spelstab

Tverrfaglig samvirke, betre kjent med roller og kapasitetar.

Sivilt-militært samvirke er det som har stått sentralt her.

"Vegen vidare"

DSB orienterer om kva øvingar som er på trappene:

- Øvelse skred 2007,
- Nidaros 2007
- Bjørgvin uke 43 2007,
- Hustadvika 2008,
- Mørejarl uke 38 2008,
- LS/Førde 2008,
- Tall Ships' Races 2008,
- Nordland 2009

Det er vidare to øvingar som blir understreka. Dette er Øvelse Snø 07 ("sivil nasjonal øvelse") og Øvelse Skred 07.

SNØ er ein øving for departementet. SKRED har same scenario som SNØ, men med fleire aktørar på lægre nivå.

Målsetjinga med snø er å øve dei øvste organa – regjeringas kriseråd, departement etc.

Scenariet: Ras med 50 mill m3 stein, flodbølge, 20.00 menneske som blir råka. Her skal det fokuserast både på før og etter. Før: kva avgjerder kan ein ta, evt. tør ein ikkje ta. Etter: kva skjer etter blålysfasen?

Øvingsmoment i snø 07

Ansvar og roller – kva dept tar ansvar?

Bodskap til befolkning: info-beredskap

Konsekvensutgreiingar

Konsekvenshandtering

Øvingsmoment skred 07

Mykje det same som snø, men lægre nivå.

Øvelsesfase SNØ Varsling uke 47 og 48 øvelse; 6/12 -0900-1600

Øvelsesfase Skred varsling uke 44-45, øvelse 14.11