Emergency Response in Rural Areas

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ABSTRACT

In this study, security and safety in rural parts of Sweden are investigated. New ways of organizing for efficient response can be found in the extended collaboration between societal sectors and in the utilization of local social capital. New categories of first responders and their requirements are identified and technical and non-technical solutions as support are proposed. The solutions include e.g. mobile applications and a technical infrastructure making it possible for volunteers to obtain information about events requiring emergency response. Emergency management in rural areas shows several similarities to large-scale crises, e.g. in terms of insufficient infrastructure available and the need to use local resources in the immediate aftermath of the event. Therefore, the results of the study can be transferable to large-scale crises.

Keywords: Emergency Management, First Responders, Information Technology, Rural Areas, Social Capital

INTRODUCTION

In large parts of our society the demographic structure of rural areas is in continuous change. People moving into or closer to large cities results in increasingly sparsely populated rural areas. In these areas it may not be possible to maintain the same level of security and safety for the population as in urban areas using traditional resources such as fire and rescue services, police and emergency medical services. The needs of the population may be different as well as the requirements on response organizations, corresponding information systems and other technical solutions.

More than half the geographic area of Sweden can be considered rural, i.e. sparsely populated and taking more than 45 minutes by car to a town with more than 3000 inhabitants. The Swedish government considers it a challenge to respond to emergencies properly and effectively in these areas. The Swedish Govern-
ment has therefore assigned The Swedish Civil Contingencies Agency (MSB) to propose trial activities in three counties primarily based on new ways of collaboration between existing emergency response organizations and by integrating new actors into the response system. New forms of collaboration will bring entirely new issues about responsibility, rights and duties in emergency management to the fore.

This study addresses the needs for security and emergency management in rural areas. The handling of everyday emergencies in sparsely populated areas shows several substantial similarities to large-scale crises in cities and other affected areas. The similarities include e.g. an insufficient basic infrastructure (including electricity, food, gas, water) the need to quickly mobilize and organize an immediate response using local resources in combined and innovative ways (Pilemalm, Andersson, & Hallberg, 2008) and the need to rely on voluntary organizations and individuals. The results outlined by the study should therefore, to a great extent, be applicable to large-scale crises and catastrophes.

**Aim and Objectives**

The aim of this study is to investigate the current situation and existing resources for emergency management in rural areas, and to identify future needs and solutions. Specifically, the study addresses the following research questions:

1. How do the rural population perceive needs for safety, security and emergency management?
2. What technical and non-technical solutions can be developed to meet the identified needs?

Based on the results, a number of trial activities are suggested aimed at improving the response to emergencies, implementing new solutions, and addressing issues about about responsibility, rights and duties. The results’ implications for large-scale crisis management are discussed throughout the paper.

**BACKGROUND**

This section describes the general background for the study, a brief theoretical framework and the study setting.

**Security and Emergency Management in Rural Areas**

There is a need to manage the ever decreasing population issue in rural areas from a security and safety perspective (e.g. Halseth et al., 2002). However, few studies actually focus on rural needs and solutions to emergency management. The studies identified mainly consider trust in public authorities (e.g. Lidström, 2009), communication management and technical development (Stenberg et al., 2010b). There also exist a few studies on health care and emergency medical services in rural areas (e.g. Lee & Winters, 2004) which consider the special conditions in sparsely populated areas (e.g. distance, time, weather, terrain) and how they can be handled. Solutions include the development of new functions, including increased collaboration or integration of health care and emergency management with other functions. Examples include multifunctional centers, self-help, voluntary contributions and increased responsibility and knowledge for the individual citizen (Halseth et al., 2002; Stenberg et al., 2010a; the Finnish Ministry of the Interior, 2006).

**Social Capital**

Sparsely populated areas can be described in terms of density, functional scarcity and critical mass where problems of scalability arise because the number of citizens is too low in relation to how our current western societal systems are built (Wihlborg & Assmo, 2012). Drawing on thoughts from Schumpeter (1934) about resource creation in terms of combinations and exchange, and the absence of functions can be seen as absence of structural capital. Structural capital or the supportive infrastructure (Edvinsson & Malone, 1997) denotes all things, functions, routines, rules and templates.
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