

Climate sensitive risk management - a best practice example by the city of Lienz, Tyrol, Austria

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INTRODUCTION

After decades of focusing primarily on technical mitigation measures against natural and man-made hazards, today the importance of preventive and comprehensive risk management and the integration of local knowledge has moved into the focus of disaster risk reduction on the local scale.

The changing climate causes substantial shifts in the risk landscapes and will therefore strongly affect all future decisions made by public authorities. At the same time, the number of critical infrastructure facilities keeps skyrocketing and the dependency on technologies is increasing. Hence, local governments are facing an increasing number of risk processes and face new challenges arising from changes in the hazard potential or the damage potential.

THE EXAMPLE

In 2006, the Provincial Early Warning and Emergency Management Centre of the Tyrol together with the alpS GmbH initiated the project RiMa-Comm (Risk Management and Communication on Local and Regional Level) in order to assess the risk landscape of all 279 municipalities in the province. Among others, the City of Lienz was chosen as a pilot municipality within this project. This was the starting point for a long lasting and fruitful cooperation between the City of Lienz, the Provincial Early Warning and Emergency Management Centre of the Tyrol and the alpS GmbH.

As mentioned above, the first major step was a participatory multi-hazard risk analysis carried out in the form of guided risk assessment workshops with the contribution of local and external experts. The aim of these workshops was to identify and assess all natural and man-made hazards relevant for the City of Lienz as well as to create a sense of ownership and pave the way for further risk management actions.

Within the framework of these risk assessment workshops, all relevant hazard types have been discussed and described following standardized guidelines that meet the demands of national and regional disaster management acts. In a next step, all hazards have been evaluated regarding their specific social, economic and environmental impacts as well as their probability of occurrence. To guarantee a high level acceptance and to derive a comprehensive picture of the risk situation of the City of Lienz, all relevant local stakeholders were invited to participate in the evaluation process (Figure 1). The results of these workshops have been illustrated in the form of risk maps, risk matrices and risk list and have been integrated into a web-based risk management tool called ORTIS.



Figure 1. Guided risk assessment workshop in the city of Lienz.

Based on the risk landscape, the necessary human and financial capacities for the development of organizational and technical reduction measures as well as monitoring cycles have been set up by the mayor of Lienz. To assist this process and to support these (volunteer-based) efforts, the Provincial Early Warning and Emergency Management Centre of the Tyrol and the alpS GmbH developed an education program for local emergency management teams and successfully applied it in the City of Lienz.

By the official end of the RiMaComm project, a series of trainings and exercises for the local decision makers and the local emergency management team had been successfully conducted and lead to a significantly increased level of prevention, preparedness and response in the City of Lienz. The next step towards an integrated and climate sensitive risk management was then implemented through a project called ARISE (Adaptation and Decision Support via Risk Management through Local Burning Embers), funded by the Austrian Climate Research Program (ACRP). The aim of the project was to identify, analyze and implement the impacts of climate change and socio-economic shifts on the risk landscape of the City of Lienz. The procedure included several workshops in Lienz, where, based on regional climate scenarios for the timeframe until 2050, a local socio-economic scenario has been developed in participatory manner. On the basis of these scenarios, local and external experts developed a holistic municipal picture of future changes on hazards, impacts and vulnerabilities. These indices for future changes in

the risk landscape serve as important decision support information for local actors in disaster risk reduction and future adaptation with respect to climate and socio-economic changes and will be fully integrated into current risk management routines in the City of Lienz. This detailed climate-sensitive risk assessment and management allows for an efficient and tailored adaptation to climate-related as well as socio-economic driven changes in the local risk landscape.

SUMMARY

Based on the implemented steps in the field of risk assessment, risk management and climate change adaptation, the City of Lienz is now aware of its current and future risk situation and has planned and already implemented adaption and mitigation measures.

For these efforts and achievements in creating a sustainable, local solution, the Province of the Tyrol and the City of Lienz were chosen as a role model for community-based risk assessment, management and reduction of the 2010-2015 World Disaster Reduction Campaign: Making Cities Resilient: „My city is getting ready“, run by UNISDR. The City of Lienz will continue its way towards a highly resilient city by future participation in scientific and implementation projects as well as a further inclusion of the local population across all demographic groups. The example proves that the key factors of successful disaster risk reduction on the local level are a multi-hazard-approach as well as a strong and long-term commitment of decision makers and local population.

KEYWORDS

risk assessment; risk management; disaster risk reduction; climate change

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