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Climate Changes and Flood Management Policy in Local Areas

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Abstract

Numerous studies on the nature of past and future climate change have ranged in scope from the worldwide work through regional to local studies involving a combination of observation and modelling. the challenges of peripherally on climate change adaptation using examples from communities in the Northwest periphery of Europe.

Keywords: CoastAdapt • Outer Hebrides PTST

Introduction

Numerous studies on the nature of past and future climate change have ranged in scope from the worldwide work through regional to local studies involving a combination of observation and modelling, the challenges of peripherally on climate change adaptation using examples from communities in the Northwest periphery of Europe.

A variety of adaptation strategies and tools were investigated and demonstrated as part of the international EU Project "CoastAdapt," which was partially funded by the Northern Periphery Interreg Programme. The goal was to help residents of northern coastal communities prepare for upcoming climate change-related challenges. A methodical framework for improving local capacity for climate adaptation was developed by CoastAdapt [1-3].

This featured a first step that was centred on raising awareness and assessing vulnerabilities, then finding and evaluating adaptation alternatives and activities in connection to the resources available, and finally providing assistance on how to incorporate or mainstream adaptation efforts. It is possible to identify vulnerabilities to effects unique to a particular area by planning local adaptation to climate change.

This information can be understood in light of the signals revealed by analyses conducted at the international, national, and local levels. Coastal communities in Europe's northern periphery are exposed to a variety of effects associated with climate change including sea level rise, changing weather patterns, potential changes in intensity of storms and precipitation, within the constraints of existing infrastructure.

While many climate change effects were common throughout the Coast Adapt research sites, there are notable variances in the nature and scope of the predicted changes. In each of the study sites, a common methodology was used including community workshops, surveys, interviews, and focus groups that represented the project's bottom-up approach of involving locals to assess community susceptibility to the effects of climate change [4].

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Literature Review

Iceland adopted a distinct strategy. There, the emphasis was on experiences of environmental changes and natural disasters and response to them rather than on the expectation of climate change as it was in the other study sites

This made it possible to examine how locals perceive climate change in connection to other potential causes while also highlighting their memories of previous environmental shifts. Below we firstly present the climate change issues identified at each site through community workshops [5].

We then describe (i) the socio-economic context and (ii) the legislative/ administrative context within which adaptation decisions are made. These form the basis of the subsequent discussion. Representatives from Scottish Natural Heritage were present, as well as Development Services and Technical Services. Perceptions of change associated with climate were primarily associated with flooding and rates of coastal erosion. However, opinions varied as to how much of this impact was attributable to climate change or a result of questionable decision-making and regulations for planning and development.

Impending volcanic hazards

Even though most attendees were from the local authorities and included representatives from the same agencies as well as an officer from the emergency preparedness department, the session in Stornoway saw a solid turnout. In general, the private sector was underrepresented, with the exception of a few crofters (small-scale farmers). Two representatives from the aquaculture industry, which has a considerable socioeconomic impact on the Outer Hebrides' economy, were there. Later, focus groups and one-on-one interviews were used to further involve important sectors [6].

The workshops highlighted the importance of recent exposure to severe weather events on community perception of climate change. Participants in the workshop mentioned severe storm, sea level rising, coastal erosion and loss of land as important consequences of climate change. Of particular concern to residents were damage to properties and communications systems due to strong winds. Regarding a changing climate and more extreme weather, it was noted that travel disruption was one of the Outer Hebrides' greatest challenges.

Five members of the same family died in 2005 while attempting to flee coastal floods, thus the locals were likewise concerned about potential life losses. Extreme weather has a detrimental impact on community confidence, all participants agreed, and residents of the Outer Hebrides generally link climate change with negative effects and risks to their well-being and way of life. However, some opportunities were found, such as the potential for greater tourism during the summer due to the warmer and drier circumstances that are predicted by climate models, as well as the possibility of a midge population drop under such climatic conditions. Another potential source of renewable energy for the area was thought to be marine sources. This was done because

the Outer Hebrides, which have a lot of potential for renewable energy production, may benefit greatly from the top-down policies of the Scottish Government regarding the mitigation of climate change.

Conclusion

Emergency Planning Co-ordinating Group also notifies the public of flood warnings. Anyone can register to get free advance warning messages delivered to their landline or mobile phone, alerting them when a flood warning notice has been issued for their neighbourhood. SEPA collaborates closely with a variety of agencies that deal with floods, including the police, fire and rescue services, local governments, the Scottish Government, and the Met Office for flood projections. The public is also informed of flood warnings through the media, and the Outer Hebrides Emergency Planning Co-ordinating Group uses Facebook and Twitter to notify people about weather, flooding, and other emergencies.

Conflict of Interest

The authors declare that there was no conflict of interest in the present study.

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