

Adaptation to climate change in small municipalities in Bavaria/Germany

Policy Memoⁱ

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Understanding local adaptation in Europe is critical for the success of anticipatory adaptation on the ground, which becomes more urgent by the day. Nevertheless, the literature says little about adaptation in small municipalities. In our paper, we explored whether municipal adaptation frontrunners are in fact overlooked by city-focussed local adaptation research, or whether they are indeed rather sparse and inactive. Based on a large quantitative survey among Bavarian municipalities (section 4), we conducted 11 qualitative case studies (section 3) to analyse why and how a few small municipalities in Bavaria/Germany implement adaptation measures and what we can learn from their experience. Our key answers and conclusions are as follows.

It is difficult to find out how active small municipalities are in terms of adaptation for at least two reasons: first, we had problems with identifying and accessing the frontrunners in the field because little is known about them, and they are scarce. Second, when a survey helped us to identify and analyse a few small Bavarian municipalities active in adaptation, we soon learned that they either implement measures of disaster prevention but do not recognize them as adaptation, or that many of them cannot distinguish systematically between adaptation and mitigation.

Although this makes it difficult to analyse local adaptation policies, our findings confirm that small municipalities are generally reluctant to adaptation. If they adapt to climate change at all, their measures are reactive, incremental, and usually water-related. Thus, small municipalities usually adapt to immediate threats with small-scale measures that usually do not cost much and do not stir political conflicts. Surprisingly, and in contradiction to the literature on local adaptation, our case study municipalities neither regard uncertainties nor a lack of guidance as important constraints, mainly because they limit their actions to already obvious threats. Since small municipalities usually lack problem awareness for anticipatory adaptation as well as respective adaptive capacities, they frame adaptation pragmatically as an occasional necessity of daily administrative business. Although these pragmatic approaches to adaptation can have positive effects, the long-term transformative potential

of anticipatory adaptation (Allen et al. 2018: 73, de Coninck et al. 2018: 322, Pelling et al. 2015, O'Brien 2012) currently remain untapped.

Regarding lessons learned and recommendations, the diversity of local contexts renders one-size-fits-all solutions as inadequate. Nevertheless, among the most promising approaches are the following two, both targeting local adaptation capacities. First, national funding for municipal adaptation coordinators is a promising way to improve expert capacities at the local level. Second, sub-regional municipal networks on adaptation can counterbalance the lack of adaptive capacity through mutual learning. In the best case, local networking helps to tailor standardized adaptation approaches to local contexts.

Our findings are representative for small Bavarian municipalities active in climate change adaptation. Since we selected frontrunners in adaptation, based on a quantitative survey, it is reasonable to assume that most other municipalities do even less, inter alia because they don't think they are affected by climate change. While we don't see how researching them would lead to interesting findings, it would be interesting to explore how small municipalities address adaptation in direct comparison with larger cities on the one hand, and in comparison with municipalities from other countries. Since local adaptation is mostly reactive, we recommend focussing future research on countries and regions that are already experiencing more serious climate change impacts than those in Bavaria.

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