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Flood risk management in mountain regions: a policy coordination perspective

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This contribution presents preliminary findings and experiences from the project “Policy Coordination in Flood Risk Management” (PoCo-FLOOD). Funded by the Austrian Academy of Sciences (ÖAW) within the research program Earth System Sciences (Call 2018 “Water in Mountain Regions”) the project investigates the issue of policy coordination, which arises from the on-going paradigmatic shift in flood policies from flood defense to integrated flood risk management (IFRM). Specifically, the project explores interdependencies, conflicts and options for policy coordination between the sectors flood protection, hydropower (energy), agriculture and spatial planning. As these sectors play a fundamental role concerning both flood hazard prevention and flood risk mitigation in mountain areas, PoCo-FLOOD investigates the challenges and opportunities of policy coordination for these particular fields of interaction in three in-depth case studies. The first case, (“Flood Retention in the Headwaters”) focuses on hydropower dams in alpine catchments and the possibilities/limitations of coordinated policies to attenuate peak floods. The second case (“Flood Storage on Agricultural Land”) focuses on the growing need to provide agricultural areas for temporary flood storage and the possibilities/limitations of coordinated policies to provide upstream flood retention services for downstream beneficiaries. The third case (“Flood Protection and Land Development”) analyses the reciprocal relation between flood protection schemes and spatial planning policies and the possibilities/limitations of coordinated policies to mitigate the increase in damage potential in flood-protected areas.

Through the in-depth analysis of the three fields of interaction PoCo-FLOOD pursues the following objectives: (i) to improve the understanding of the sectoral interrelations, which arise from the shift towards IFRM; (ii) to broaden the knowledge and evidence base concerning the limitations and the conflicts of interest of enhancing policy coherence in IFRM, and (iii) to co-develop together with stakeholders and policy representatives options for coordinated flood policies. The project addresses these objectives through a combined research approach based on interdisciplinary research and stakeholder engagement (transdisciplinarity). The interdisciplinary research team brings together five scientific disciplines of strong relevance for the proposed research topic: spatial planning and land rearrangement, hydrology and water management, agriculture, river morphology, and political science. Through a series of stakeholder workshops the project combines knowledge from various user domains with the aim of supporting policy-making and addresses the growing need for better integration of science and decision-making.

The authors draw on several years of inter- and transdisciplinary research in the field of natural hazards in the Alpine region. With this contribution they aim to put these experiences in a policy coordination perspective to better understand the challenges in the study and implementation of integrated approaches in natural hazard risk management.