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Flood risk management in Ghana: gaps, opportunities, and socio-technical tools for improving resilience

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Ghana is one of the countries most prone to floods in West Africa. Its annual occurrence often leads to disasters that are mostly felt by the urban poor. Despite the existence of salient activities conducted in order to reduce the flood risk in Ghana, there are still persisting challenges. Here, we evaluate these gaps and describe opportunities for further improving flood risk management (FRM) in Ghana. A mixed-method participatory approach comprising questionnaires, workshops, interviews with key stakeholders, and a systematic literature review were employed (Almoradie et al. 2020). Existing problems, discourses, FRM practices, and opportunities to enhance flood resilience were identified. Based on that, potential research directions on how to tackle these challenges were outlined. Results showed that the stakeholders interviewed construct the effectiveness of FRM differently and even in contradictory ways, embedded in diverse storylines. Furthermore, we found that Ghana's FRM is still reactive rather than preventive and that research in the field of quantitative hazard and risk assessment is rather rudimentary. FRM policies and tools such as flood early warning systems (FEWS) are in place, but efforts should be directed towards their implementation and monitoring, investigation of socio-technical capacity aspects, and enhancement of institutions' mandates, functions, and coordination. Based on these findings, we conceptualized a research and development project, which is based on participatory research, aiming to tackle some of the identified issues. To this end, we will implement a collaborative modelling approach and will develop a socio-technical tool, which comprises: (1) a tailored decision support system, (2) a citizen science-based data collection system, (3) a flood forecasting tool, and (4) an approach for modelling cascading risks.

Almoradie, A.*, de Brito, M.M.*Evers, M., Bossa, A., Lumor, M., Norman, C., Yacouba, Y., Hounkpe, J. (2020) Current flood risk management practices in Ghana: gaps and opportunities for improving resilience. *International Journal of Flood Risk Management*, doi:10.1111/jfr3.12664.