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Developing local level resilience through experimental knowledge building: an interdisciplinary approach to coping with drought in rural Southern Africa

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Many developing countries suffer unprecedented droughts with devastating impacts on livelihoods and water and food security. The effects of these droughts can be compounded by a lack of community-based resilience mechanisms. Communities need improved resilience against droughts due to the projection of future drought events being more severe than those currently experienced. This resilience will be most effective if built in a two-way interaction between scientific and indigenous knowledge systems. Although science has developed significantly in the simulation of future drought events, it still needs to inform and be informed by indigenous knowledge systems. If indigenous knowledge about past droughts is packaged and synchronised with scientific knowledge, communities can build resilience to future droughts more effectively. This paper discusses the effectiveness of interdisciplinary methods for risk reduction in improving knowledge building and communication on extreme events, thereby developing local level resilience. The Vhembe District in Limpopo Province of South Africa was the focus area of this study because of its vulnerability to drought hazards. The study objectives were achieved by gathering existing drought narratives from the communities, developing hypothetical future drought scenarios (by hydrological modelling) and experimenting with communities constructing future drought narratives based on these scenarios. Through this experimentation, communities can build up experience of dealing with droughts that are outside the range of previous drought events. This way of increasing resilience to drought is robust because it uses scientific methods, is culturally embedded and is bottom-up. It also ensures that the perspectives of different members of the community are heard and incorporated in local authorities' drought preparedness plans and decision-making processes.