

Progress and prospect for *action data* in people centred disaster risk reduction

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The role of data in risk reduction related practices, such as early warning, forecasting and gaming of future disaster events has limitations due to increasingly recognised complexity of natural and human systems in generating risk environments. Further, in an era of exponentially more data being generated, speeded up processes of data management, artificial intelligence for data application, together with the threat of misrepresentation or fake data, will data initiatives sufficiently achieve disaster risk reduction and resilience?

In this presentation I will explore how and why data has often been more actionable for disaster risk reduction and response through shifts towards people centric approaches. Examples are drawn from some of the work I have been a part of for many years, aimed at enabling solution design for risk reduction in society, where data is a part of what is needed. This is generally grounded research that has attempted to increase focus on hazard and vulnerability mitigation through, for example, health and well-being and educational drivers of community engagement in early warning, risk and recovery management. The confluence of this work confirms that even in conditions of marginalisation people can control ecological and socio-economic risks where these are better understood within local context, and whereby self-organisation is supported by appropriate risk governance. DRR progresses or deteriorates without knowing all parameters of disaster risk.

Use of action data as part of multilateral forms of DRR includes engaging in emergency conservation and enhancement of environmental, economic and social care. However, this requires transitions from linear supply driven versions of understanding risk towards ongoing discovery of unique solutions for unique times, places and people who urgently need sustainable DRR solutions. The findings from this work therefore emphasises the need for a broad definition of data information in actionable DRR. Addressing DRR to achieve planetary sustainability necessitates ongoing reconceptualization of appropriate engagements with: i) data lacunas associated with the uncertainty of everyday lives of at risk people, ii) nuances of representation, communication and interpretation, iii) the effects of disengagement with critical data based information, and iv) the manipulated data of hegemony, where these are contrary to the principles of equity, self-reliance and prevention that are needed in DRR and response.

Whilst much progress in DRR science and technology can be referred to in our current era, it is suggested through this presentation that we are yet to witness the breakthrough needed across the range of interconnected sectors that greater emphasis on 'action data' could facilitate. Some suggestions for ways forward are offered for enhanced data engagement awareness and application in disaster risk reduction. With no limits to multiple types of further investment, there is the possibility to use the opportunity of action data and associated approaches to orientate and drive more impactful DRR science, policy and practice at all levels.