

Groundwater Management and Governance: Science is Necessary but Insufficient

Tuesday, 24 September 2019 11:45 (15)

As long as humans have existed on planet Earth groundwater has been inextricably linked with people and the world we live in. It is front and centre in critical contemporary issues about our environment, food and water security, coal seam gas and fracking, mining, energy and nuclear waste disposal. Groundwater supplies half of the world's drinking water and nearly half of the water used for growing food. Groundwater depletion and pollution are major global problems. In its Global Risks 2015 Report, the World Economic Forum ranks water crises as the number one risk in terms of impact to society – ahead of weapons of mass destruction, spread of infectious disease, failure of climate change adaptation and fiscal crises. Climate change and population growth will place additional stress on already stretched groundwater resources.

Groundwater management and governance are vital for humans and humanity. Groundwater is a divisive, contentious, controversial and emotive issue. Tensions between farmers, mining companies, and the environment are at an all-time high. The community is alarmed by fracking in shale gas production and the possibility it could contaminate groundwater. Managing groundwater – scientifically, environmentally, economically and socially – is a grand challenge.

Humans are fundamentally social animals. We often hear about a social license to operate for mining or even a social license for a new government policy. But what does that really mean and what does it take to gain such a license? We, as scientists, often think and act as if science is enough and that having 'found' a solution it is someone else's problem to 'make it happen'. However, science is necessary but insufficient for effective, socially acceptable groundwater management and governance. There are extraordinary political, psychosocial and socioeconomic factors at play that must be understood. There is public misinformation and disinformation, understanding and misunderstanding, interest and disinterest, unconscious bias, emotion, perceptions and the like. There are critical, complex and complicated social, economic and environmental drivers and interests. We ignore these at our peril. Groundwater is a science. Groundwater is also fundamentally and crucially a social science. This talk explores critical psychosocial factors that underpin groundwater and its role in humanity and the future of our planet.

Recent global events have proven that science alone is not enough. The success of future groundwater management and governance hinges critically upon both scientific knowledge and social sensibility. These are enormous challenges and opportunities for groundwater; but we must rise to these challenges. We owe it to current and future generations; and our profession.

Primary author(s) : SIMMONS, Craig T. (Flinders University & National Centre for Groundwater Research and Training (Australia))

Presenter(s) : SIMMONS, Craig T. (Flinders University & National Centre for Groundwater Research and Training (Australia))

Session Classification : Parallel

Track Classification : Topic 3 - Groundwater sustainability and governance