



Credit: Masami Nakagawa

Trust in sustainable natural resource development

There has been a divide between scientists making recommendations for sustainable natural resource development and the community living around those resources. Masami Nakagawa argues that the community should be considered first, as the successful development of sustainable natural resources requires their cooperation and trust.

Scientists have long recognized the need for using scientific data to inform developments in sustainable natural resources. However, communication about these facts with the community living around the natural resource is often suboptimal. Researchers need to be encouraged to transparently communicate the benefits of sustainable natural resource development in order for people to unite in building a more sustainable future.

Communities have a large influence on whether or not natural resource development projects come to fruition. For example, many natural resource development projects in South American countries have had to be stopped due to strong opposition by the community. In the last 8 years in Peru alone, over 50 people have been killed and 1,500 injured in social conflicts related to extractive industry. Bolivia has seen numerous conflicts between the police and “guerreros del agua” (water warriors) over privatization of water, and in early 2000, these hostilities escalated to the point that they were declared a national state of siege. On the other side of the world, Japan has been facing similar situations: Keidanren (Japan Business Federation), one of the most powerful economic organizations in Japan, has not been able to reopen nuclear power plants that were shut down after the infamous Fukushima nuclear accident due to strong community concerns. A geothermal project in Soultz, France, was shut down due to strong community opposition sparked by a minor earthquake caused by water injection during the drilling.

Traditionally, cost mitigation has been considered a top priority for natural resource development projects. Recently, however, social acceptance by the community has become a very important factor. This change in the landscape of community acceptance needs to be reflected in the way classes are taught at universities, teaching researchers to communicate effectively with the community when they embark on a project.

I have been working on a geothermal project in a small town, Rico, in southern Colorado (USA), which has provided me

with a valuable opportunity to learn how to communicate with the community to ensure responsible geophysical exploration. When we began working in Rico, we discovered that the community had never been satisfactorily informed about the technical aspects of such exploration and that they wanted to know more.

Rico has been a mining town since the late 1800s and has experienced both the booms and busts of the mining industry. My relationship with the town of Rico began when a small group of Rico residents joined a geothermal workshop held at the Colorado School of Mines in 2009. After a series of meetings with the Rico residents, I decided first to focus on building trust between the university researchers and students and the residents of Rico, and to talk about the technical processes of geothermal resource development only after this trust had been established. We therefore devoted these meetings to discussing a shared vision of Rico as a sustainable mountain community.

Rico is in the fortunate position of having both mineral deposits and geothermal resources; we provided this information to the residents of Rico so that they could decide how their community would move toward the future they envisioned. A mining option would likely subject the town to another boom, which then would bust; on the other hand, a geothermal option could potentially encourage and stimulate local economic development. As a scientist, I limited my role to acting as a facilitator in these discussions, providing the information necessary for the citizens of the community to make their own choice.

Over the following years, I invited members of the Rico community to engage with the students that were taking classes on sustainable natural resources development at the Colorado School of Mines. Hearing the excitement and concerns about future developments coming directly from the community was extremely stimulating for the students. It was also the first time that the students came to realize that, just because geothermal resources are renewable, it did not mean that everybody would be supportive of their development. For the residents of Rico, this partnership

provided an equally beneficial learning and engagement opportunity as they could directly impact how the university taught sustainable development of natural resources in the field during exploration. I took this partnership as an opportunity to invite faculty members from other disciplines related to sustainability to be a part of class projects, so that they too could see the benefits on focusing on building trust and social acceptance within the community by communicating transparently about their options.

My project in Rico evolved from a resource development project to a community building project. I believe that one of its biggest impacts was that it reached numerous communities and faculty members from disciplines concerned with the practice of natural resources development, teaching us all the importance of transparent communication and social acceptance.

Scientists at universities should no longer be satisfied with just teaching exploration methods, but rather should include the importance of community acceptance and trust, as without it, exploration often cannot occur. We must remember, however, that a trust relationship cannot be built overnight. Such discussions must, therefore, include an explanation of potential risks or unintended consequences of the field activities. Similarly, scientists must report their findings back to the community with sincerity, as this is the only way in which the community can become part of development process, thereby working towards a shared goal. A community that trusts scientists is more likely to become a strong supporter of sustainable natural resources development. □

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