1. [intro]
2. Companies can foresee, mitigate and manage human rights risks and allegations through strong data collection, analyzed carefully, and reported in lay terms, as long as it begins during exploration and endures throughout operations and closure. That’s the entire content of my 10 minutes, but I wanted to illustrate it through an example.
3. [kayelekera fast facts] This is the Kayelekera Uranium Mine, in northern Malawi. It was commissioned in 2008 and celebrated by government as the first major foreign investment in the country. By international standards it’s actually a very small project – an 8 year mine life with an additional 3 years of processing. But Malawi is a difficult place to do business – even today only a quarter of the roads are paved, and only 9% of the population is on the electrical grid, which almost never supplies power 24 hours in a day. Top that with adult literacy rates at 60% and HIV prevalence at 11%, just assembling and maintaining a workforce is a challenge.
4. [Human rights impact assessment findings] Between 2009 and 2015, NomoGaia has assessed and monitored the human rights impacts of this mine. Paladin wasn’t fully aware of the contextual challenges when they set up shop. As such, they didn’t have any HIV policies in place, long-term power generation plans, or detailed reporting processes. But between 2009 and 2015, the Kayelekera mine’s impacts have become increasingly positive.
5. [Human rights impact assessment findings 2] Many of those positive impacts result directly from the activities of scientists – engineers, environmental scientists, health practitioners and others.
6. [human rights impact assessment findings: where science leads] But if you look just at the impacts where scientific knowledge affected rights, the impacts are distinctly mixed. This is essentially a reflection of Paladin’s failure to recognize the relationship between science and human rights. The next couple of slides just depict the ways scientists made Kayelekera a rights-respectful mine, and the later slides look at how science \*could\* have made the mine even better, from a human rights perspective.
7. [engineering] First, the engineering of this project is, if we’re being honest, excessively good. The foreground of this picture shows a rubber-lined storm water pond. These are very rarely lined – they’re just rainwater runoff – not even from the plant area, just from the vicinity. Up and to the right, you can see the tailings dam.
8. [engineering 2] Here’s a better view of it – it’s lined multiple times and wide enough for decades of tailings, even though the mine was only expected to contain 8 years worth of mined ore.
9. [engineering 3] Perhaps most notably, when the mine went on Care and Maintenance last year, citing low uranium prices and high operating costs, engineers converted the entire mill into a water treatment plant. What you’re looking at here is the recoded software to convert stormwater into drinkable water, using the facilities the mine previously used to turn ore into yellowcake. The engineers from computer science to civil works, went above and beyond. The effect is essentially a preclusion of environmental risk. In the same way that the US EPA measures agricultural erosion risk, not by sediment in water but by placement of preventive measures, this engineering aims to forestall environmental risks.
10. [environmental sciences] In addition, Kayelekera operates under a robust environmental monitoring program to track water, air and radiation impacts. There are water monitoring points in every watershed in the vicinity, tracking both community water sources and mine-affected waters.
11. [environmental sciences] All employees wear radiation monitoring badges, even now while no uranium is being processed.
12. [baseline and monitoring data collection] The company has baseline and monitoring data on dust entrainment, workforce uranium exposure and radiation content in streamwater. The dust and occupational radiation data is from 2012 to 2014. The stream water data, though, is from 2004. This is where scientific opacity begins to present human rights issues.
13. [The trouble with scientific opacity: Public Baseline without Public Monitoring] Paladin hasn’t published any of its streamwater monitoring data. Having publicly available baseline data but not publishing monitoring created a PR crisis for Paladin earlier this year, when a French scientist published research, carried out 3 years ago, from an extremely basic sampling regimen which found uranium levels at a local stream in quantities 47 times higher than baseline. Coincidentally, Paladin had been monitoring that stream and was in the process of rerouting it to its water storage pond while this sampling was ongoing. Paladin’s opacity has cost it the goodwill of a growing circle of people, even though it has rerouted the affected waters to flow into its water storage ponds, ostensibly eliminating the contamination.
14. [the trouble with scientific opacity 2] These Google Earth images show that by 2013 Paladin had dammed the Champanji stream so that no pit water could drain into it, but even this effort hasn’t been publicized by Paladin. It’s also worth noting that no one drinks from the Champanji stream, and by the time its waters reach the Sere River, where people do bathe and swim, Uranium is diluted to safe levels. This data is only available through the work of an anti-mine NGO, EJOLT. Paladin has it, though – they just don’t publish it. I mentioned that this was a PR disaster, but it is also a human rights catastrophe, because it has generated significant public fear.
15. [the trouble with scientific opacity 3] By failing to publish data on matters of community welfare, the company has lost the opportunity to prove its impacts on local residents are neutral or positive. There is significant distrust when accidents occur. The truck above was carrying lime to site. Another truck spilled sulfur into a stream. Sulfur wasn’t bioavailable, but it made the stream and irrigated crops smell like rotten eggs… the people believed they were being poisoned (affecting freedom from fear) and also lost revenues on malodorous produce they couldn’t sell at market (affecting the right to an adequate standard of living). In the three bottom pictures, a French scientist and activist is taking soil samples, hosting community meetings and pointing out dust entrainment from mine blasting. As the tiny photo shows, he had enormous buy-in. Activists from Citizens for Justice, an internationally funded local NGO, have managed to generate steady negative press accusing the mine of causing chronic radiation poisoning and lying to the Malawian public, because the company doesn’t produce data to counter the claims.
16. [hria findings, revisited] Yet the data that \*is\* available indicates that there are no long-term significant environmental problems that would affect human rights. So looking back at the human rights impact scores Kayelekera received over time, a couple of things become clear.
17. [right to water] Paladin’s water and health interventions have worked. The company installed a reverse-osmosis water treatment facility in the regional capital, which it continues to maintain even while the mine isn’t operating. Scientific interventions are ensuring that the Right to Water is respected for thousands of residents.
18. [right to health] Paladin established an HIV policy and procedure that was so robust that when the country ran out of HIV treatment, people accessing care through the mine policy, including the local clinician who is HIV positive, were unaffected. The company continues to malaria fog, eliminating malaria in the area. The Right to Health is respected through the interventions of health practitioners and the sociologists who have contributed cultural dimensions to HIV education programs. (the picture here is of a drama group presenting on HIV to the workforce).
19. [right to food] Engineers developed an irrigation system, lining essential elements with concrete and then leaving fields open for local farmers to carve out rows for various crops, improving access to food.
20. [right to clean environment, public participation, security of person] But in the absence of data proving environmental management is effective, the company does not score at all for the right to clean environment, and these data gaps have direct bearing on the right of local residents to participate in public life (they have no agency to protect themselves from perceived risks), while also creating fear for their safety and welfare (affecting their security of person). This photo was presented in a tiny format a few slides back, but I wanted to blow it up to show that Kayelekera residents jammed themselves into the community hall (built, by the way, by Paladin), to receive information about environmental risks from the French researcher from EJOLT. Community members may not be scientifically sophisticated, but they are absolutely capable of and interested in understanding impacts on their welfare.
21. [translating science to lay terms] I’m glad that Sol (Soledad Mills, from Equitable Origin) has spoken already about the importance of engaging directly with affected people, because that is so central. Translating the science into meaningful terms for local communities is part of what builds trust between a high tech company and a rural community. This is a picture of a meeting NomoGaia held with men from Kayelekera. It’s held at night, when they’re home from work, in the center of town, where people commonly congregate. The aim was to cross-check our human rights findings with their perceptions. At one point, we had to tell them that we had no evidence that the environment was being negatively impacted. They mentioned the sulfur spill and dust clouds – without data, when the word of the company was perpetually contradicted by the word of NGOs, essentially the community members just picked a side. When NomoGaia was back in Malawi last month, the schoolteacher asked our staff if we could find out what the dust monitoring stations said about air quality. “They monitor the air we breathe but never tell us what they find.” Now that the mine is on Care and Maintenance, and fewer people hold jobs, there are fewer people picking the company’s side. This is a major corporate risk, which could be addressed by ongoing communication of scientific findings.
22. I’d like to wrap this up so we have time for discussion. Thanks very much for your time.