



A Sulawesi Adventure

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Dusk comes early at the northern tip of Sulawesi. After all, it's only a little more than one degree from the equator, so there's 12 hours of daylight and 12 hours of darkness all year. At the end of a long cleanup day at the Minahasa Raya gold extraction plant I climbed to the top of 5 flights of scaffolding holding up a confusing array of reactors, tanks, piping and pumps and looked over the village to the Molucca Sea. It was so beautiful. And I thought that within my lifetime I've had a lot of adventures and a bloody good time.

It seems like all flights from the west to the far east go through Singapore. Perhaps they do. After a brief stopover there my flight landed in Sulawesi and I was disgorged into the frenzy of the Manado airport. There he was in the middle of the bustle; a man holding a card with my name on it. The Greeter, and one other passenger who was traveling to the mine with me piled into the car and we set off on the 62-mile journey south through the jungle to the northeast coast of Indonesia. I sat in the back seat and



absorbed the sights and snapped pictures; the rice plantations, the taxi carts drawn by diminutive horses, ox-drawn carts and even a wedding parade with the bride and groom leading the column of relatives and guests. It was all so special.

The Australian project manager, Max Porter from our Sydney office, met me at the mine gate as the sun was setting and took me to the

guest quarters. Max was there leading the team for the plant demolition. The production activities had closed the previous year in 2004 and the reclamation work was underway. My contribution, as it had

been at other sites in other places, was to develop and implement the treatment and disposal of contaminated waste, in this case the water stored in the reactors and tanks of the Boliden Norzink unit that scrubbed contaminants, principally mercury, from the roaster gas emission from oxidizing the ore for leaching. It was an assignment I was well suited to because of my extractive metallurgy background at the mines in Zambia and Peru.

But this job had some unsettling elements. The cleanup had to be performed at a remote location in 4 weeks or less when the demolition crew would arrive from Australia, so there was little room for error. It was also a time of violence between Muslims and Christians. There were 3 beheadings of Christians about 50 miles from the mine while I was there, and we had hired standby helicopter emergency evacuation service for a quick departure if it was needed. Also, there had been some local police action and arrests at the mine including the Plant Manager based on claims that the practice of dumping depleted tailings at sea though a pipeline had adverse health impacts on the local population. The combination of these factors encouraged me to stay within the monitored mine area when I would otherwise be scouring the jungle searching for the hornbills the plant manager said were nesting nearby.





In fact, the local community were some of the friendliest people I've ever met. Whilst Northern Indonesia is 85% Muslim and 0.7% Christian, the Ratatatok population is 68% Christian (Wikipedia supplied the numbers). Once before, when I was on another assignment in the eastern part of the Czech Republic, a client employee asked me my opinion of Muslims. I was taken aback at first but said that I had Muslim colleagues at work who were my friends and I had never encountered such discrimination. Being largely agnostic that has never changed in spite of recent events.

There was no obvious division between the Muslim and Christian communities in Ratatatok and I never thought of it being an issue. But the nearby violence was unsettling nevertheless, with a large contingent of "westerners" all in one place and the proximity to the violence in the southern Philippines to the north. The Australian demolition team from Collex had none of my concerns about safety because of their warm reception in Ratatatok and chided me for having them, probably rightly so.





The cleanup work itself required some on-the-ground decisions. The problem was moving the water in the tanks to a location where it could be treated. The equipment and piping we had brought in was way too small to achieve the needed transfer rates and the 4-week deadline was looming. We got around the problem by raiding the scrap pile for 4-inch diameter piping; batch draining the tanks by gravity into a tank at the ground level of the B/N unit; rebuilding a high capacity centrifugal pump to transfer the water to the tank at the top of the unit; and dropping it by gravity into a reaction tank that

was already fitted with an agitator. The treatment chemicals to precipitate mercury and other heavy metals were added on the way. Treated batches of slurry were discharged into a thickener to settle out the solids which were stabilized for disposal. A tent was built over the thickener to keep out the monsoon rains since all the treated water was being evaporated.

We were then comfortably inside the schedule, so we could spend some time



at the beach with the residents on the weekend and I could capture some of the way of life on film: the pony carts, the motorcycle taxis, the colorful Sulawesi fishing boats; the children splashing about in the sea; the shops and the people going about their everyday lives. That was an adventure by itself.



Max had organized a celebration when the water treatment was completed the night before I left. The next morning, I climbed into the car and began the bumpy trip back to Manado. It was market day in Bitung and the limousine slowed to a crawl behind crowds

and animals. We drew a great deal of attention, not necessarily friendly, with the mine closure and friction with Newmont going on, but we made it through without people banging on the car.

Rooms in Singapore were in short supply when I arrived, but I managed to get one squeezed between the pipes before catching the flight home the following day.

Postscript

I worked in two mining camps at the beginning of my career, one in the Copperbelt in Zambia, then Northern Rhodesia, and the other in La Oroya in the Peruvian Andes. Everyday life is very different for the expatriates who live in these camps. Many came for a variety of reasons: better pay, more advancement opportunities, enhanced professional growth, long leave being some of the major perks, and in my case also a chance to see the world. On the downside, there may be violence, pollution, family

breakups and more on a much larger scale than at home. A successful mine is a major benefit to the local economy as long it lasts, but it will eventually close when the ore runs out often leaving a giant hole in the ground, mountains of waste, contamination, an economic vacuum and a ghost town. The smelter in La Oroya operated for decades and left heavy metal pollution that likely will never be cleaned up.



I wondered what would happen to the people of Ratatatok now that the gold mine had closed. Mining only lasted for 5 years and gold extraction operations for another three. The area would likely return to the agricultural-based economy if the mine reclamation actions were successful. In fact, the area appears to be on that path.

The children I photographed on the beach that day are grown up now. Some may have stayed, some may have moved on. Wherever they are, I hope they remember the happy times they had in Ratatatok as I do.

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