

Report

Jaduguda fallout

Despite the December leak of radioactive material into the rivers and rice paddies of Jharkhand, Indian officials are unwilling to admit that their uranium facilities pose a danger to anyone – least of all the affected local communities.

BY I LINA KRISHNAN

For the past four decades, the indigenous Santhals of Jaduguda, in Jharkhand's Singhbhum District, have lived in the massive shadow of the Uranium Corporation of India Limited (UCIL). India's ambitious and much-discussed nuclear programme is based on uranium mined in this area. In the villages of Jaduguda, most families have at least one member working in either the UCIL mill or the mines. As a result, people in Jaduguda enjoy a degree of prosperity unusual in this impoverished Indian state.



But it is hard to say that this relationship has been a positive one. Ill health is widespread, and accidents can occur anytime. Indeed, on 24 December 2006, in Dungridih village near Jaduguda, a pipe burst, discharging radioactive waste into a nearby rivulet. The pipe was being used to move the waste from a UCIL plant to a storage dam. No alarms went off at the plant, nor did anyone from the mill bother to warn the village people about the leak – although some Dungridih villagers did quickly alert UCIL officials. Lethal sludge continued to leach into the water for nine hours, killing fish and affecting nearby and downstream communities that depend on the watershed for both fishing and irrigation. Anil Kakodkar, the head of the Indian Department of Atomic Energy, when he visited Jaduguda in early February, noted only that there had been a "small" leak in the pipeline, and hastened to say that it was of no risk to anyone.

In the wake of the disaster, the Jharkhand Organisation against Radiation (JOAR), a local resistance group set up in the 1990s, has demanded that UCIL decontaminate the soil and water. According to Shri Prakash, a local documentarian and activist, the company has removed some of the sludge, but much of it remains on the banks, covered by mud.

It is still not clear why the pipe burst. Nor did UCIL make any effort, then or later, to provide an alternative supply of water to the affected community. But all this does not surprise the people here. They have a long history of battling UCIL fallout from its uranium mining. Although it is something of a monopoly employer and has an overwhelming political influence, official probes have found that UCIL does not observe even routine precautions when it comes to the lives and health of local people. Workers, for instance, regularly take their uniforms home, to wash them casually at local water sources, not so much due to workers being unaware, but because UCIL provides them with no washing facility on site.

Over the last decade, the local and national press has regularly reported the unusually high incidence of ill health in the area, particularly that of congenital deformities in children. Local groups such as JOAR have also attempted to increase public knowledge of the situation in Jaduguda. In 1999, Shri Prakash made a film titled Buddha Weeps in Jaduguda, which documented diseases in the community, including congenital defects in newborns, sterility in young women, and ill health in mine and mill workers.

Although UCIL management has denied any link between uranium mining and ill health in the area, in December 2006 the Bihar Legislative Council (Jharkhand at that time was still a part of Bihar) sent its environment committee to investigate the situation. The subsequent report laid blame for the ill health of people in the area squarely on UCIL operations. Following this, the council ordered the evacuation of 46 families to a minimum of five kilometers away from the site, and recommended putting up notice boards highlighting the site's hazards.

Dirty business

What makes uranium mining so hazardous? In a typical extraction process, usable uranium is extracted from the ore-bearing rock, which is ground and then leached

with sulphuric acid. The acid picks up the required elements, leaving behind various radioactive waste products, known as tailings. As in similar operations around the world, open ponds are used in Jaduguda to store these tailings. (Dungridih, the site of the recent leak, is occupied by families originally displaced by the construction of such ponds.) Once the pond is created, liquids from the leaching process are left to evaporate; in Jaduguda, these liquids have seeped out and contaminated the area's groundwater. Furthermore, during the monsoon the radioactive slurry regularly overflows the ponds into nearby rice fields. Finally, as the tailings do dry up, a lung cancer-causing gas called radon is released. Being airborne, the radon can be transmitted for many miles, affecting a multitude of people.



In 2000, Sampurna Kranti Vidyalaya and local grassroots groups conducted a health survey in Jaduguda. The aim was to record the actual public and occupational health status of the uranium mining and milling operations. The survey was conducted in the villages near the tailings ponds as well as in 'control' villages further away. The survey team found a discernible rise in congenital deformities among children born after the start of mining operations in 1967. In the villages near the UCIL facility, of the nine children who were born in the year of birth, eight had congenital deformities. In the control areas, on the other hand, of the six recorded premature births, all were due to reasons such as diarrhoea, fever and premature birth. In the nearby villages, 52 men and 34 women had congenital deformities, in contrast to just seven of each in the control areas. The team also recorded extremely high levels of lung disease in UCIL's miners and millers.

None of this should take anyone in power by surprise – neither the UCIL management nor government officials. It is not an isolated story in the realm of uranium mining, either regionally or internationally. Indeed, it is not even unique to the poor industrial regulations of a developing country. In Canada, for instance, two decades of uranium mining in the area contaminated 80 kilometres of the Serpent River system, including as many as 10 lakes. In the United States, uranium mills, now abandoned, have left behind an estimated 25 million tonnes of tailings in mostly unregulated areas. In these areas, too, uranium mining and milling has been linked to high rates of birth defects. Apart from contamination and storage and recycling of tailings, the experience of these countries has also highlighted the danger of mishaps. In the US, there have been 30 breaches from tailings dams in the Elliot Lake area alone. The US Nuclear Regulatory Commission admits to at least 15 instances wherein radioactive liquid has been accidentally spilled. In a span of 18 years, there have been two floods, six pipeline failures and seven dam breaks in the US alone.

Following the Dungridih leak, JOAR and other groups have called for the implementation of inspection mechanisms and procedures to routinely monitor the quality and safety of UCIL's facility, its equipment and working procedures. They also recommended periodic monitoring of the exposure of local communities to radioactive and hazardous contaminants. Of course, the uranium that originates in Jaduguda retains its risks even after it leaves the area. In the case of energy plants, in India's weapons stockpiles, or in tests that endanger unwary communities that inhabit the adjacent areas as in Pokhran. For its part, the Indian Department of Atomic Energy denies even the possibility of radiation leaks from that all of its establishments strictly follow procedure, and are monitored regularly.

UCIL is now ready to start mining operations in other areas – Mohuldih, Banduhurang and Baghjanta in Jharkhand and Kapada in Andhra Pradesh, and in the West Khasi Hills of Meghalaya. Huge deposits of uranium ore have been discovered in these areas, and UCIL hopes cumulatively to extract up to 3000 tonnes of ore per day. In each of these areas, local communities are protesting the requisition of their land and the dangers of its use for uranium mining. Despite the situation in Jaduguda, the uranium-mining industry is bullish in India, and the Ministry of Environment and Forests has given a conditional clearance to the Nalgonda project. As with projects from the 'green revolution' to large dams, uranium mining seems to be another arena where local communities pay the price for national 'progress'.

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