



Jadugoda: Four decades of nuclear exposure

By Lina Krishnan

Earlier this year there was yet another leak of radioactive sludge from UCIL's uranium plant in Jadugoda, Jharkhand. The accident and the dismissive official response to it clearly show the low priority the nuclear establishment accords to the safety of Jadugoda's people

About 17 months ago, on Christmas Eve in 2006, in Dungridih village near Jadugoda, Jharkhand, waste produced by the uranium processing plant operated by the Uranium Corporation of India Limited (UCIL) was flowing down a pipe to a storage dam when the pipe burst, discharging waste into the local rivulet. It was not until the villagers told the plant officials about the incident that they even came to know about the leakage. Nor did these officials take action for nine hours, during which time radioactive sludge continued to leach into the rivulet, affecting both nearby and downstream communities that depend on it for fishing and irrigation. No alternative water source was provided, and there was certainly no attempt then or later to monitor the level of radiation exposure that could have occurred due to this leak.

At the time, the Jharkhand Organisation against Radiation (JOAR), which has long campaigned against the ill effects of uranium mining in the region, had demanded that UCIL decontaminate the soil and water. The company however, did not take the incident seriously, and even Anil Kakodkar, the head of the Department of Atomic Energy (DAE), under which all India's nuclear facilities operate, called it a small leak in the pipeline, of no risk to anyone. The sequel seemed almost inevitable. On February 21, 2008, a new pipeline ruptured, and the tailings spill reached the homes of mine workers.

This time round, however, Shriprakash, an activist filmmaker working with JOAR, was determined to elicit some response. He used the Right to Information Act 2005, to demand information regarding the new leakage. UCIL's reply to Shriprakash stated that it was a minor seepage due to a crack in the disposal pipe, and that even the clean-up operation, which lasted for a day, created insignificant internal radiation for the workers. Although photographs taken at the site show that a considerable amount

of slime slurry clearly spilled over and spread outwards, UCIL claimed that the earthen bund near the pipes was able to contain it. The accident and the official response to it clearly show the low priority the nuclear establishment accords to this community's safety. It is hard to imagine that the bursting of a waste pipe (leave alone a highly toxic one) around people's homes in the heart of Delhi could be ignored as easily.

In a way, you could say that risk is embedded in the landscape here. For four decades, Jadugoda in Jharkhand, has provided the uranium for India's ambitious nuclear programme. The indigenous Santhali and Ho communities who live here form the workforce at the mines and the processing plant. Open ponds store leftover uranium tailings that contain toxic heavy metals and radioactive materials. Liquids from the tailings are expected to evaporate; more often, they leach and contaminate the groundwater. During the monsoon, this radioactive slurry overflows into the rice fields, and thereby enters the food chain. Uranium mill tailings have also been used to build homes and roads and the authorities have not warned the public that these emit radioactive radon and are therefore harmful to health. Indeed, plant workers wear their uniforms home, endangering families, while casual labour, without protective gear, load yellow cake into open trucks and trains that carry them to the Nuclear Fuel Complex in Hyderabad to make fuel for nuclear reactors and sometimes to the Bhabha Atomic Research Centre for use in weapons after processing.

JOAR's is perhaps the most strident voice, but over time many others' particularly from the local press -- have stressed the close linkages between uranium mining and health impact on the local community. As a result, in December 1998 the Bihar Legislative Council, the state of Jharkhand not having been formed at that time, sent its environment committee, with a medical team, to Jadugoda. The committee's report blamed UCIL operations for the local ill health. The council then ordered 46 families to be evacuated, and recommended notice boards to highlight site hazards. In 1999, ***Buddha Weeps in Jadugoda***, a film by Shriprakash, highlighted the incidence of congenital defects in the region. In 2000, Surendra Gadekar, Shreekumar and Sanghamitra Gadekar of the Sampurna Kranti Vidyalaya, along with local grassroots groups, conducted a health survey to record the public and occupational health status of the uranium mining and milling operations. The survey not only showed up an excess of congenital deformities among those born after the start of mining operations in 1967, but also extremely high levels of chronic lung disease, quite likely to be silicosis or lung cancer, in the company's mill and mine workers. In the villages near the UCIL facility, nine children had died before they were a year old; eight of them had congenital deformities. While there were six recorded premature deaths in the control villages, these were all due to more common causes like fever, diarrhoea, and premature birth. Similarly, while seven men and seven women in the control areas had deformities, the nearby villages revealed as many as 52 men and 34 women with

deformities.

Besides the contamination in the environment, the more frequent accidents also make it imperative to put more preventive mechanisms in place. Not much can be done post-accidents to atone, with impacts often hard to ascertain and perhaps lingering far beyond what one could imagine. Even today, Welsh sheep are routinely culled in areas contaminated by the Chernobyl disaster that occurred 20 years ago, an accident again notable for the secrecy under which it was handled. In India, DAE's interest in maintaining safety at its facilities is debatable. For instance, an accident in 2003 in the Kalpakkam Reprocessing Plant (KARP) caused extremely high radiation exposures (280 -420 mSv) to its workers. The cause is said to be a valve failure, due to which highly radioactive waste entered a tank containing waste of lower radioactivity. No monitors had been installed to check for radiation levels in that area; there were also no mechanisms in place to detect the valve failure. Workers went in as usual to collect the sample, without realising that they were being exposed to high levels of radiation. Yet, the management blamed the workers for entering the room, and also ignored their demand for a full-time safety officer. Despite the employees union pointing out two previous incidents where workers were exposed to high levels of radiation in the past two years, and a safety committee now recommending that the plant be shut down, KARP continued to operate the plant.

Despite grave safety hazards and high economic costs, the drive for nuclear energy seems unabated. So far, Jadugoda has sent all the uranium required for India's ten Pressurised Heavy Water Reactors. But with a number of new plants in the pipeline, the region's mines are no longer enough to feed the new thrust. Consequently, UCIL has been trying to start mining operations in Meghalaya and Andhra Pradesh. If this thrust is not opposed, the hazards undergone by the Santhal community in Jharkhand seem destined to be replicated in these states.

(Lina Krishnan works with the Centre for Interdisciplinary Studies in Environment and Development (CISED), Bangalore. CISED is an autonomous centre promoted by the Institute for Social and Economic Change for bridging the social and natural sciences.)

InfoChange News & Features, June 2008