

## **OUT OF CONTROL: FROM MINING TO WASTE URANIUM IS BAD FOR YOUR HEALTH**

### **Uranium is toxic**

Uranium is highly toxic and radioactive. Uranium has – depending on the isotope – an estimated half-life of more than 4.47 billion years. To give you an idea of this time-span: Planet Earth is estimated to be 4.6 billion years old. The uranium that is found naturally in small quantities in the earth's crust does not endanger human life or the environment. But mining it, bringing it up to the surface and making it into highly concentrated uranium poisons people, animals, plants, the earth and water beyond the foreseeable future.

### **From mining to waste – Uranium kills**

Mining rock that contains uranium - that is the extraction of natural uranium isotopes U-234, U-235 and U-238 and processing them into Triuranium octoxide („yellowcake“), uranium hexafluoride, and finally into fuel rods and weapon-grade uranium - releases toxic, radioactive particles and gases.

Even the use of uranium in of nuclear power plants during the – relatively trouble-free - normal operation is associated with risks for plant workers and inhabitants of the surrounding area and further afield. In case of accident, large tracts of land would be contaminated, as the Chernobyl meltdown demonstrated. Even waste produced by the nuclear industry makes people ill: the uncovered heaps, exposed to wind erosion; groundwater contaminated by tailings (radioactive slurry); contaminated water from nuclear installations flowing into rivers, lakes and the sea.

Uranium is also used for making nuclear weapons. To do this, the U-235 has to be enriched to about 90% concentration. If a country is able to enrich uranium, it is also potentially able to develop nuclear weapons – a weapon of mass destruction. So-called depleted uranium for armour-piercing uranium weapons is produced out of the „left-overs“ after enrichment for reactor fuel or weapons production. Whole regions have been contaminated by the use of uranium weapons in the Gulf, Chechnya, former Yugoslavia, Afghanistan and in the border country between India and Pakistan.

Studies show that uranium, and other substances released through uranium mining and processing, cause disease in mineworkers,



nuclear industry workers and inhabitants. Radon, a radioactive gas, is released as uranium decays causing, above all, lung cancer as well as other kinds of cancer, such as of the liver and stomach, lymphomas, leukemia and other blood diseases. Uranium has, as a heavy metal, a toxic effect on the kidneys and can severely damage them. It can cause birth defects in embryos, increased infant death, still births and Down Syndrome.

## **Uranium mining violates human rights**

A lack of education and inadequate protection of workers and inhabitants represent a violation of human rights. The right to life, liberty and security, to physical integrity, self-determination, the protection of human dignity, the right to clean water - these are just some of the rights that are afflicted by uranium mining and its processes.

Major economic interests and an alliance consisting of political and economic actors often block independent studies in producing countries and processing locations. Freedom of opinion through the media is massively hindered in some producing countries.

In producer countries it is the indigenous population that suffers most from the effects of uranium mining. Apart from direct effects, there are also severe cultural and religious consequences. Governments allow, for economic interests, the mining of indigenous people's sacred sites. Cultural procedures, such as the way they feed themselves, and rites are disturbed. The means of subsistence are destroyed by the contamination of land and water. These developments affect, for instance, the Tuareg in Niger, the Uraon in India, Navajos and Lakotas in the USA und Aborigines in Australia.

**For this reason, the International Physicians for the Prevention of Nuclear War (IPPNW) call for a ban on uranium mining, abandoning nuclear energy and the abolition of nuclear weapons.**