Jackson Shaw HIST 254

The Chernobyl nuclear catastrophe in 1986 introduced extremely large amounts of radioactive waste into the atmosphere, which continue to have unpredicted consequences throughout the Soviet Union and Western Europe. Effects on agriculture, the environment, and health risks are three of the major unintended consequences that are a byproduct of nuclear radiation fallout. The disaster destroyed forests, contaminated water supplies and had devastating effects on wildlife. The effects the fallout had on the environment and wildlife is much more easily quantifiable than the potential excess death toll, which Chernobyl produced across Europe.

Nuclear fallout from Chernobyl took an estimated week to reach Britain, where the public was not well prepared to react to threatening intrusions of these toxic chemicals. The negative results of a nuclear meltdown could be quantified in Britain, where productivity and sanitation of livestock and crops dropped due to increased levels of radiation in consumed foods. The cycle executes itself as follows: contaminated rain fallout is absorbed into the earth, which contaminates the grass which is consumed by cows and other domesticated animals of production. This inevitably leads way to negative health impacts through consumption of impure, marketed food. Health risks manifested themselves mostly through contaminated milk, food products, and water—but also meat, which exceeded the acceptable threshold or “action level”, the acceptable level of contamination in a product before it is too toxic to be consumed in Britain in 1986. Meat became a source of public anxiety; as sheep and other livestock grazed on contaminated grass, which was subsequently absorbed into their musculature, rendering the meat too contaminated to eat. This had a negative impact on the economy, and the lives of farmers for an estimated two years after the incident.[[1]](#footnote-1) The Chernobyl incident also had immediate negative effects on the environment in its proximity.

 Groundwater, and especially plant and animal life all suffered detrimentally as a result of the nuclear meltdown. Although the effects on the drinking water were seen to be generally non-threatening in the immediate aftermath due to the insolubility of the radioactive particles in water, the accumulation of radiation in fish in the nearby areas made them too dangerous to eat. The famous “Red Forest” is a direct product of the Chernobyl meltdown, a four-kilometer area of woods that died after the incident. Due to caesium-137 particles, which were absorbed into the environment, scientists are estimating it will take roughly one hundred years to for these woods to recover.[[2]](#footnote-2) The health effects on humans that were observed in relation to the Chernobyl nuclear meltdown were roughly proportional to the proximity to the Chernobyl plant they were recorded.

 In Britain, the real heath risks have been reported to have very little long-term consequences. The amounts of radiation that was absorbed as a product of the fallout was actually hardly any higher than background radiation doses which were absorbed on average. For example, after the Chernobyl meltdown, national estimates that reflect Britain’s studies. It was found that the average adult absorbed 0.7 millisieverts of iodine-131 in their thyroid tissue and about 0.3-0.5 millisieverts for children in their thyroid tissue over the first 26 days of the incident. This was compared to the equivalent of smoking roughly half of one cigarette over a one-year span.[[3]](#footnote-3) The actual effects that Chernobyl fallout has had on the population is still a debated topic, with sources conflicting drastically. The most conservative estimates claim only four thousand cancer related deaths as a result of the Chernobyl meltdown, where as the higher estimates range up to 200,000. [[4]](#footnote-4) In contrast to The World Health Organization estimated that there were roughly four thousand cancer related deaths as a result of the accident, the Chernobyl Forum estimated that throughout Russia, Ukraine, and Belarus, radiation poisoning could have killed between 10,000-200,000 people.

1. Chris C. Park. Chernobyl: The Long Shadow (London, New York: Routledge, 97-99). [↑](#footnote-ref-1)
2. Wikipedia. “Environmental Impact of Nuclear Power”. Last modified October 16, 2013. [↑](#footnote-ref-2)
3. Park, 102-103 [↑](#footnote-ref-3)
4. Wikipedia [↑](#footnote-ref-4)