

MEDIA RELEASE

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Green Cross Switzerland, in cooperation with Prof. Jonathan M. Samet, Director of the Institute for Global Health at the University of Southern California (USC), presents the first comprehensive report regarding the costs of the Chernobyl nuclear disaster.

The costs of the Chernobyl nuclear disaster amount to USD 700 billion

The Chernobyl cost report shows the findings of an extensive review of existing literature to obtain a more precise estimate of the financial value of all the negative effects of the Chernobyl reactor accident. This advances the understanding of society's awareness of the effective costs of nuclear energy, reflecting not only the construction, operation and shutdown of a plant, but also the broader costs of nuclear disasters.

The new report provides an overview of the financial costs of the Chernobyl reactor accident over the past 30 years. There is a wide variety of direct and indirect processes by which society is incurring economic costs due to accidents in nuclear power plants. Although they cannot be strictly separated, direct costs include the damages to the power plant itself and to its environment, the loss of goods and the immediate effects on health. Indirect costs include, among others, the withdrawal from the contaminated area and the consequences of the stigmatization of adults and children who were exposed to radiation.

The approximate costs of the reactor accident in the Chernobyl power plant were assessed according to the above classification. The national estimate of the damages incurred by Belarus is USD 235 billion for the period 1986 to 2015; and for Ukraine, there is an estimate of the "entire economic loss" over 25 years in the amount of USD 198 billion. Thirty-year projections of the estimated costs for Ukraine are approximately USD 240 billion, similar to that of Belarus. According to the 2013 Chernobyl study about long-term health effects, 10 million people were exposed to radiation due to the disaster, about one-third each from Russia, Ukraine and Belarus. To cover the total population exposed to radiation, the costs are tripled and as a result, the total costs of the Chernobyl reactor accident during the last 30 years are estimated as approximately USD 700 billion.

The roughly USD 700 billion are divided among key stakeholders, including the organization responsible for the nuclear power plant, currently Mintopenergo of Ukraine - Ministry of Fuel And Energy of Ukraine; the injured and deceased; local land owners; the population driven out of their homes; the governments of the countries affected by the radiation and the resulting economic and health costs, and the population as a whole. In the case of the Chernobyl disaster, there was great concern in Europe and even in the rest of the world about the large amount of radiation that was released and spread. The costs of securing, decontaminating and maintaining the nuclear power plant and the current costs for the new sarcophagus are assumed by the governments of the affected nations, supported by the European Union, the USA and other countries.

For those displaced from their homes, some compensation was provided, social programs were initiated, and medical care was made available. However, on a personal level, the losses caused by the collapse of the economy and permanent neuropsychological after-effects were probably considerably more significant. In the opinion of the economists, such compensation payments represent a transfer not an accountable cost of the disaster. Nevertheless, the previously conducted focus groups among those affected by the Chernobyl disaster suggest that many still view themselves and their children to be harmed and not sufficiently compensated or supported, even decades after the accident.

Neuropsychological long-term effects are the most expensive

The information compiled in the study clearly shows that the indirect and long-term costs greatly exceed the immediate and direct costs. First, the health costs represent the largest proportion of the indirect costs because of the long timeframe in which they will last – they will continue through the entire lifespan of those affected and probably extend to the next generation. Second, although the costs of clean-up and maintenance are the most certain and substantial, they are considerably lower than the indirect costs. Third, projections of some of the estimates over the entire 30 year-period after the accident lead to remarkably high figures. The neuropsychological effects are the most widespread and expensive of the long-term consequences of the Chernobyl disaster. Depression, in particular, will most likely be one of the primary health burdens in the future.

Continuous data records required for nuclear disasters

According to the authors, the lack of comprehensive cost estimates for a 30-year time period deserves a special mention. Although various government authorities and other organizations have developed estimates over time, none has assumed responsibility for continuous data collection, which would be necessary for a cost estimate. While this would have been a tremendous challenge considering the situation following the accident in Chernobyl, the necessary information should have been collected to the extent possible to ensure that the best possible understanding of the costs of the disaster is obtained. This information gap is an important lesson and applicable to the accident in Fukushima which occurred about five years ago.

Methodology

A systematic approach was followed to search for information on the economic costs of the Chernobyl disaster. Initially, the databases of PubMed, LexisNexis and Google Scholar were used to search for scientific studies and government and agency reports. Numerous searches were conducted with a wide variety of keywords. Because of the quantity of search results at Google Scholar, only the first one hundred were examined for their usefulness. The titles of the publications were first checked for their relevance, followed by a selection of abstracts for further review. Reference lists of selected articles and author knowledge were used to search for additional sources. In order to be included in the study, the sources had to be published in a government or agency report, a book, or a peer-reviewed journal article; in English; and provided as a complete article. All the costs indicated in the report are in US dollars. Information in rubles was converted to US dollars at the average exchange rate at the end of the year of the time period covered in the estimate.

The Chernobyl cost report is available in English at greencross.ch.

About 42 million people are affected for life by radioactive contamination from the nuclear accidents in the Chernobyl and Fukushima Daiichi power plants. The permanent low-level radiation entering the human body through daily food has a particular impact. Green Cross Switzerland is committed to the worldwide withdrawal from nuclear energy and is concerned with the effects of the military use of nuclear materials on health and environment. With the international programs Social and Medical Care and Legacy of the Cold War Green Cross Switzerland is engaged in overcoming the effects of industrial and military disasters and the clean-up of contaminated sites from the period of the Cold War. The primary goal is to improve the quality of life of the people affected by chemical, radioactive and other types of contamination, as well as the promotion of sustainable developments in the spirit of cooperation instead of confrontation. The goals of the ZEWÖ-certified environmental organization are supported by the parliamentary Green Cross group.

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