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PASSAGE 9

Hundreds of millions of people might die as a direct result of a major nuclear war, but the indirect results, including environmental effects could kill billions. The scientific evidence is now conclusive that a major nuclear war would entail the high risk of a global environmental disruption. The direct effects of a major nuclear exchange could kill hundreds of millions; the indirect effects could kill billions.

According to a study titled "Study on the Climatic and other Global Effects of Nuclear War", the risk of environmental disruption "would be the greatest if large cities and industrial centres in the northern hemisphere were to be targeted in the summer months." The term "nuclear winter" is often used to describe the altering of weather and climate by the blocking of sunlight through the injection into the atmosphere of large quantities of light-absorbing smoke particles from fires ignited by nuclear explosions. But the panel said it had chosen to minimise the use of that term because it "does not do justice to the nature, extent and complexity of the circumstances involved."

While temperature reductions would not extend frozen conditions over most of the planet's surface in the event of a nuclear war, the cumulative global effects of a major nuclear exchange involving the large urban and industrial centres and taking place in the northern hemisphere, summer would be severe and extensive. During the first month after a nuclear exchange, solar energy reaching the surface of the earth in mid-latitudes of the Northern Hemisphere could be reduced by 80 per cent or more. This would result in a decrease of continental averaged temperatures in mid-latitudes of between 5 and 20°C below normal within two weeks after the injection of smoke during summer months. In central continental areas individual temperature decreases could be substantially greater.

Recent studies showed these effects might be compounded by a decrease in rainfall of as much as 80 per cent over land in temperate and tropical latitudes. Beyond one month, agricultural production and the survival of natural ecosystems would be threatened by a considerable reduction in sunlight, temperature depressions of several degrees below normal and suppression of precipitation and summer monsoons. In addition, these effects would be aggravated by chemical pollutants, an increase in ultraviolet radiation associated with depletion of ozone, and the likely persistence of radioactive hot spots.

The sensitivity of agricultural systems and natural ecosystems to variations in temperature, precipitation and light leads to the conclusion that the widespread impact of a nuclear exchange on climate would constitute a severe threat to world food production. "The prospect of widespread starvation as a consequence of a nuclear war would confront both targeted and non-targeted nations, and there could be disruption of communications, transportation, trade and commerce." The human impact would be exacerbated by an almost complete breakdown of health care in targeted countries and the likelihood of an increase in damaging ultraviolet radiation.

The severe physical damage from blast, fire and radiation in targeted countries would preclude the type of support that made recovery possible after World War II. (509 words)

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The scientific research concludes that the indirect effects, that are environmental disruptions, might be more horrific than direct effects of a nuclear war. It is stipulated in a study that if industrial sector of northern hemisphere was attacked in summer, it would result in nuclear winter. This may result in higher risk of environmental damage. However, the term was not preferred to use commonly. Moreover, it was also deduced that temperature decrease would in different regions of the world. Consequently, there might be a decrease in rainfall, which would ultimately affect agricultural production too. Therefore, the indirect effect would include environmental disruptions, food insecurity, health issues, global warming, and infrastructural damage. However, the physical damage would be recovered as it was recovered after WWII.

(160 words)