

NUCLEAR FAMINE: ~~A~~ BILLION PEOPLE TWO AT RISK?

Global Impacts of Limited Nuclear War
on Agriculture, Food Supplies, and Human Nutrition

SECOND EDITION



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Executive Summary

Over the last several years, a number of studies have shown that a limited, regional nuclear war between India and Pakistan would cause significant climate disruption worldwide. Two studies published in 2012 examined the impact on agricultural output that would result from this climate disruption.

In the US, corn production would decline by an average of 10% for an entire decade, with the most severe decline, about 20%, in year 5. There would be a similar decline in soybean production, with the most severe loss, again about 20%, in year 5.

A second study found a significant decline in Chinese middle season rice production. During the first 4 years, rice production would decline by an average of 21%; over the next 6 years the decline would average 10%.

A third study, completed in the fall of 2013, showed that there would be even larger declines in Chinese winter wheat production. Production would fall 50% in the first year, and, averaged over the entire decade after the war, it would be 31% below baseline.

The decline in available food would be exacerbated by increases in food prices which would make food inaccessible to hundreds of millions of the world's poorest. Even if agricultural markets continued to function normally, 215 million people would be added to the rolls of the malnourished over the course of a decade.

However, markets would not function normally. Significant, sustained agricultural shortfalls over an extended period would almost certainly lead to panic and hoarding on an international scale as food exporting nations suspended exports in order to assure adequate food supplies for their own populations. This turmoil in the agricultural markets would further reduce accessible food.

The 870 million people in the world who are chronically malnourished today have a baseline consumption of 1,750 calories or less per day. Even a 10% decline in their food consumption would put this entire group at risk. In addition, the anticipated suspension of exports from grain growing countries would threaten the food supplies of several hundred million additional people who have adequate nutrition today, but who live in countries that are highly dependent on food imports.

Finally, more than a billion people in China would also face severe food insecurity. The number of people threatened by nuclear-war induced famine would be well over two billion.

These studies demonstrate the need for additional research and underscore the urgent need to move with all possible speed to the negotiation of a global agreement to outlaw and eliminate nuclear weapons and the danger of nuclear war.



Conclusions and Recommendations

The newly generated data on the decline in agricultural production that would follow a limited, regional nuclear war in South Asia support the concern that more than two billion people would be in danger of starvation. Epidemic disease and further conflict spawned by such a famine would put additional hundreds of millions at risk. These findings support the following recommendations:

- 1) There is an urgent need for further study to confirm the declines in corn and rice production predicted by Ozdogan and Xia, and to examine the effect on other key crops, such as wheat, and in other important food producing countries.
- 2) There is a need to explore in more detail the subsequent effects that these shortfalls would have on human nutrition including both the extent of the decline in caloric intake that would result from these crop losses and the extent of micronutrient deficiencies that would, in turn, result from this decline in caloric intake.
- 3) The need for further study notwithstanding, the preliminary data in these studies raises a giant red flag about the threat to humanity posed not only by the nuclear arms race in South Asia but also by the larger and more dangerous nuclear arsenals possessed by the other nuclear weapons states. These studies demonstrate the need for additional research and underscore the urgent need to move with all possible speed to the negotiation of a global agreement to outlaw and eliminate nuclear weapons and the danger of nuclear war.



About the Author



Ira Helfand, a physician from Northampton, Massachusetts, has been writing and speaking about the medical consequences of nuclear war on behalf of IPPNW and its US affiliate, Physicians for Social Responsibility, since the 1980s. For the past five years, he has been working with climate scientists Alan Robock, O. B. Toon, and others to help document the health and environmental disaster that would ensue from a range of possible nuclear wars.

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International Physicians for the Prevention of Nuclear War (IPPNW) is a federation of national medical organizations in 62 countries, representing doctors, medical students, other health workers, and concerned citizens who share the common goal of creating a more peaceful and secure world freed from the threat of nuclear annihilation. IPPNW received the 1985 Nobel Peace Prize.

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PSR

Founded in 1961, **Physicians for Social Responsibility** (PSR), the US affiliate of IPPNW, is a non-profit organization that is the medical and public health voice for policies to prevent nuclear war and proliferation and to slow, stop and reverse global warming and toxic degradation of the environment.

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