The wider impact: long term effects on health, environment and development

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Long-term and wider impact

• Impact of a nuclear weapons explosion on the environment, economy, and development

• The impact of the broader use of nuclear weapons: climate change and nuclear famine
Environmental impact

• Impact will vary depending on the specific local conditions
• Widespread radioactive contamination affecting housing, food and water supplies
• Clean-up process will be extremely expensive and generate more radioactive waste
Economic Cost

• Direct Property Damage $50 – 500 Billion
• Trade Disruption $100 – 200 Billion
• Indirect Costs $300 – 1,400 Billion (1.4 Trillion)
• Ongoing disruption of economic activity

Abt Associates 2003
Impact on development

• Diversion of funds from development to emergency relief and reconstruction
• Refugees from attack zone would cause economic and social instability
• Disproportionate long-term affects on poor and vulnerable populations such as women and children
The specific impact of a regional nuclear war
The dangers of nuclear weapons today

Nuclear war in South Asia

• 100 Hiroshima sized nuclear weapons used against urban targets
• 20 million deaths in major cities in India and Pakistan
• Radioactive contamination throughout the region
• Global climate disruption from smoke and soot
Climate Disruption from Limited Nuclear War

• Nuclear explosions burn large areas of cities that are attacked
• 5 million tons of soot lofted high into the atmosphere absorbs incoming sunlight
• Large, rapid drop in surface temperature —1.3 degrees C.
GISS Global Average Temperature Anomaly
+ 5 Tg smoke in 2006
NH Change in Growing Season (days) Year 1

SH Change in Growing Season (days) Year 1–2
Per Cent Decline in US Corn Production over Time

![Graph showing per cent decline in US corn production over time. The x-axis represents years after a nuclear war, ranging from 1 to 10. The y-axis represents relative yield change in percentage. The graph indicates a decline starting around the third year after a nuclear war and continuing through the 10th year, with the magnitude of the decline varying.](image_url)
Decline in Chinese Rice Production Over Time

Figure 5: Reduction of rice production with whiskers showing one standard deviation for each nuclear war year. The gray area shows ±1 standard deviation from the control runs, illustrating the effect of interannual weather variations.
Chronic Malnutrition Today

870 Million People
1 billion dead from starvation alone?
Surface Air Temperatures 2 years after 150 million tons of smoke enters
• This is not the future that must be, but it is the future that will be, if we do not eliminate nuclear weapons