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HUMANITARIAN IMPACTS AND RISKS OF NUCLEAR WEAPON

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Abstract:
Among the most deadly explosives on the earth are nuclear bombs. They are extremely capable of causing harm to an entire nation or city. The use of nuclear weapons would have disastrous results, as radiation exposure would kill and injure people years after the first blast. Nuclear weapons are the most horrifying weapon ever created since they are the most destructive, cause unimaginable human agony, and have no control over the extent of radioactive fallout or the duration of their effects. Tens of thousands of people would be instantly killed if a nuclear bomb went off in a metropolis, and tens of thousands more would be horribly injured and eventually perish from radiation exposure. A nuclear bomb detonated in a city would immediately kill tens of thousands of people, and tens of thousands more would suffer horrific injuries and later die from radiation exposure. In addition to the immense short-term loss of life, a nuclear war could cause long-term damage to our planet. It could severely disrupt the earth's ecosystem and reduce global temperatures, resulting in food shortages around the world. The most destructive displays of nuclear weapon were on Hiroshima and Nagasaki provinces of Japan in World War Two and their effects are still visible. There have been many negotiations between powerful countries to draw down all the nuclear weapons facilities worldwide, hence until date, there has not been any progress on this matter.

Introduction

A nuclear weapon, nuclear bomb or a nuke is a weapon that suddenly releases the energy in the nucleus of certain types of atoms. When triggered, the device releases a huge amount of energy in the form of a nuclear explosion. Nuclear explosions can destroy a city and kill most of its people.[1] They also make nuclear fallout. This radioactive material can make people ill. Nuclear weapons are the most damaging weapons mankind has created. The first nuclear weapons were built by the United States during World War II.

Two nuclear weapons were used to attack cities in Japan. They were the only times nuclear weapons were used in war.

(i).**The catastrophic humanitarian consequences of nuclear weapons**- The horrific devastation and suffering witnessed in Hiroshima and Nagasaki in 1945 by Japanese Red Cross and ICRC medical staff, as they attempted to help tens of thousands of dying and wounded people, have left an enduring mark on the entire International Red Cross and Red Crescent Movement and have driven its advocacy of the prohibition and elimination of nuclear weapons over the last 75 years.[2] A few weeks after the atomic bombings of Hiroshima and Nagasaki in 1945, the ICRC and other organizations began documenting the effects of the nuclear explosions on human health, the environment and medical infrastructure.[3] Evidence of the immediate and longer-term impacts of the use and testing of nuclear weapons has been the subject of scientific investigation ever since. In a major 1987 report, the World Health Organization (WHO) summarized existing research into the impacts on health and health services of nuclear detonations.[4] The report noted *inter alia* that the blast wave, thermal wave, radiation and radioactive fallout generated by nuclear explosions have devastating short- and long-term effects on the human body, and that existing health services are not equipped to alleviate these effects in any significant way.[5] Since then, the body of evidence of the immediate and longer-term humanitarian impacts of nuclear weapons use and testing, and of the preparedness and capacity of national and international organizations and health systems to provide assistance to the victims of such events, has been growing steadily. A nuclear weapon detonation in or near a populated area would -as a result of the blast wave, intense heat, and radiation and radioactive fallout-cause massive death and destruction, trigger large-scale displacement and cause long-term harm to human health and well-

being, as well as long-term damage to the environment, infrastructure, socioeconomic development andsocialorder.[6] The immediate and longer-term humanitarian and environmental consequences of nuclear weapons use and testing continue to be subject to scientific scrutiny, with emerging evidence and analysis *inter alia* of the sex- and age-differentiated impacts of ionizing radiation on human health, the long-term impacts of nuclear weapons testing on the environment, including on mortality and infant mortality rates, the consequences of a nuclear war on the global climate, food security, ocean acidification, as well as evidence and analysis of regional preparedness and response measures to nuclear testing.[7] While there are some aspects of these impacts that are not fully understood and require further study, these scientific studies reveal new and compelling evidence of long-term harm to human health and the environment from the use and testing of nuclear weapons.

(ii) The risk of the use of nuclear weapons- Evidence of the foreseeable impacts of a nuclear detonation is an integral part of a nuclear weapons risk assessment.[8] Although nuclear weapons have not been used in armed conflict since 1945, there have been a disturbingly high number of close calls in which nuclear weapons were nearly used inadvertently as a result of miscalculation or error.[9] During the three conferences on the humanitarian impacts of nuclear weapons in 2013 and 2014, it was demonstrated that the risks of a nuclear weapon detonation, whether by accident, miscalculation or design, stem notably from: the vulnerability of nuclear weapon command-and-control networks to human error and cyber attacks, the maintaining of nuclear arsenals on high levels of alert, with thousands of weapons ready to be launched within minutes, the dangers of access to nuclear weapons and related materials by non-state actors.[10-13] The conferences furthermore observed that international and regional tensions between nuclear-armed states, coupled with existing military doctrines and security policies that give a prominent role to nuclear weapons, increase the risk of nuclear weapons being used, and concluded that, given the catastrophic consequences of a nuclear weapon detonation, the risk of nuclear weapons being used is unacceptable, *even if* the probability of such an event were considered low.[14] Since the three conferences on the humanitarian impacts of nuclear weapons, the risk that nuclear weapons may be used has increased. When assessing the risks arising from technological developments, it is important to consider these technologies both individually and in combination.[15-19]

New technologies may interrelate and depend on each other, thus affecting decision-making systems in unpredictable ways. For example, increased reliance on digital technologies in decision-making processes may create new sources of error that may be difficult to detect, potentially leading to a misplaced overconfidence in the ability of these technologies to deliver accurate information.[19-22]

The introduction and use of new technologies may also lead a state to misinterpret or misunderstand the behavior of another state, thereby increasing the likelihood of unnecessary escalation. It is important to note that offering an objective and meaningful quantification of these risks may not be possible and engaging in such quantification may create a sense of overconfidence.[23] Objective probability estimates are based on experience and exclude new and unprecedented paths to nuclear catastrophe.[24] Using the language of risk may therefore create a false sense of controllability and manageability by creating an illusion that all the possible paths to disaster have been anticipated and accounted for.

(iii) Environmental and socio-economic impact of nuclear weapons- The existence of nuclear weapons has a strong impact on the environment. Nuclear war would mean a climate disruption with devastating consequences.[25] the world would fall under a nuclear winter, be subject to a deadly global famine and exacerbated effects of global warming. The socio-economic impacts would also be terrible, with developing countries and marginalized groups the ones that will suffer the most.[26] Nuclear weapons are also a vacuum for financial support: in their development, maintenance and dismantlement. This is money that could be better spent funding assets such as green technologies and health facilities.

(iv) They cause a lot of destruction and death- A single nuclear weapon can destroy a city and kill most of its people. The bombings of Hiroshima and Nagasaki are prime examples of the fatality caused

by an atomic bomb. Several nuclear explosions over modern cities would kill tens of millions of people. Casualties from a major nuclear war between the US and Russia would reach hundreds of millions**.**

(v).Civilians are the main victims- The extreme destruction caused by nuclear weapons cannot be limited to military targets or to combatants. Civilians are more often the majority of casualties from a nuclear attack; those within range are either killed or suffer long-term health implications from a nuclear blast and resulting radiation. Even those in neighbouring cities or countries would suffer from the impact of a nuclear detonation.[27-28] Due to the inability of nuclear weapons to distinguish between civilians and militants, and the lack of control we have over nuclear blasts makes them a prime example of inhumane weaponry that needs to be outlawed. **(vi)They could lead to climate disruption and worldwide famine -**Use of less than one percent of the nuclear weapons in the world could disrupt the global climate and threaten as many as two billion people with starvation in a nuclear famine. The thousands of nuclear weapons possessed by the US and Russia could bring about a nuclear winter, destroying the essential ecosystems on which all life depends.[29]

(**vii) They lead to high levels of radiation**- Nuclear weapons produce ionizing radiation, which kills or sickens those exposed, contaminates the environment, and has long-term health consequences, including cancer and genetic damage. The legacy of nuclear testing means that up to 2.4 million people worldwide will die from illnesses linked to nuclear testing in the twentieth century. Even the production of nuclear weapons has an effect on the environment. Producing the explosive materials used in nuclear weapons leads to long-lasting radioactive pollution.

(viii) Humanitarian aid wouldn't be provided to victims- There would be no humanitarian response. Physicians and first responders would be unable to work in devastated, radioactively contaminated areas.[30] Even a single nuclear detonation in a modern city would strain existing disaster relief resources to the breaking point; a nuclear war would overwhelm any relief system we could build in advance. Displaced populations from a nuclear war will produce a refugee crisis that is orders of magnitude larger than any we have ever experienced**.**[31-33]

(ix) Widespread implications to health and the environment- Whether or not they are detonated, nuclear weapons cause widespread harm to health and to the environment. Those that have nuclear weapons are unable to fully control them, making them a constant liability.

(x) Misuse of public funds-Spending on nuclear weapons detracts limited resources away from vital social services. Currently states that are armed with nuclear weapons spend close to US $225 million a day on nuclear forces.[34-35]

Conclusions

The evidence of harm caused by the use and testing of nuclear weapons takes on a renewed importance in a world in which the risk of nuclear weapons being used is increasing. From a humanitarian perspective, any measure to reduce the risk of nuclear weapons being used is to be welcomed. Indeed, preventing the use of nuclear weapons is of the utmost urgency. At the same time, nuclear risk reduction cannot become a substitute for the implementation of states' legally binding obligations to achieve nuclear disarmament, notably those under the Treaty on the Non-Proliferation of Nuclear Weapons. The only way to guarantee that nuclear weapons are never used again is by prohibiting and eliminating them. Research into the various immediate and long-term impacts of nuclear weapons use and testing is important in itself because it informs us of the unique characteristics of these weapons. Such research also provides a crucial basis for humanitarian preparedness and response, and is important in upholding the rights of the individuals and communities affected. The evidence of the humanitarian impacts of nuclear weapons is essential to assess the legality of their use under international humanitarian law (IHL) and it gives a fact-based entry point for discussions about nuclear disarmament and nuclear non-proliferation, more broadly. Although much is already known about the humanitarian and environmental impacts of nuclear weapons, there is a need for more research in certain areas. In particular, we need to understand more about the long-term humanitarian and

environmental effects of nuclear weapons testing, as well as the sex- and age-differentiated and, potentially, intergenerational consequences of ionizing radiation.

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