



S.E.T. for socio-economic growth

National Science and Technology Forum (NSTF)

media release

Understanding the International Day Against Nuclear Testing

**** Due to a technical glitch, this release could not be circulated on the day.*

The National Science and Technology Forum (NSTF) supports the International Day Against Nuclear Testing and the Treaty for the Non-Proliferation of Nuclear Weapons, of which South Africa is a signatory. Nuclear weapons are a global security threat, not only to humanity but also to the natural environment.

History: During the World War II period 1939-1945, the first ever Atomic Bomb was developed through a United States (US) programme called the Manhattan Project in Los Alamos, New Mexico. Following the development of the first gun-type uranium weapon “Little Boy”, and in an unprecedented move by the US, it was detonated in August 1945 above Hiroshima in Japan. The second atom bomb was called “Fat Man”, an implosion-type device with a [plutonium](#) core, which was exploded shortly afterwards by the US above Nagasaki. Post the World War II period, nuclear technologies spread rapidly across the globe as countries vied to gain military power, prestige and scientific advancement. The world has since witnessed nuclear weapons proliferation that stemmed initially from the two superpowers (the Soviet Union and the US) in the historic Cold War that saw the nuclear weapons stock grow on both sides.

The Treaty to end the possibility of a nuclear war: The [Treaty on the Non-Proliferation of Nuclear Weapons](#) (NPT) of 1968 came about due to both the need to promote global peace and security cooperation, and the gruesome impact that nuclear detonation has on the natural ecology. In a bid for peace, both nuclear and non-nuclear states ratified the NPT. Subsequently, on the 29th of August 2009 at the United Nations General Assembly (64th session), the International Day Against Nuclear Tests was established. The 29th of August also marks the day when the Soviet Union’s nuclear test site was closed.

‘Now I am become death, the destroyer of worlds’: The International Day Against Nuclear Testing comes in the month following the release of the ***Oppenheimer*** blockbuster film which is screening at cinemas in South Africa and is all that many talk about right now. The film is a biopic that explores the life and times of Robert Oppenheimer, particularly his role in building the atomic bomb. He was financed and appointed by the American government to head the conducting of experiments and to lead the team developing the bomb, which would be militarily beneficial to the US and Allied Forces. It was expected that the Soviet Union and the Nazis would be developing their own nuclear weapons, and the US wanted to be first in order to prevent them from using nuclear weapons.

Oppenheimer and his team began the Trinity project, testing out the bomb in the New Mexico desert. After seeing how devastatingly potent it was, the US then detonated the bomb over Hiroshima in 1945. The other type of bomb that the US was developing was detonated over Nagasaki when the Japanese still didn't surrender. The bombs completely eviscerated these regions and it is estimated that 70,000 to 135,000 people died in Hiroshima and 60,000 to 80,000 people died in Nagasaki. Thus up to 215,000 people lost their lives. Oppenheimer greatly regretted his role in this savage crime against humanity, saying: 'Now I am become death, the destroyer of worlds'. He then dedicated the rest of his life to calling for an end to nuclear proliferation, going on to form the Atomic Energy Commission in the US. Despite all the efforts to limit the building of nuclear weapons over the years, there are about 2000 of them currently existing. None have been targeted at other countries to date, presumably because it would mean mutual destruction for all parties involved. However, due to the current Russia vs Ukraine war and the intensifying bomb production in North Korea owing to their growing hostilities towards the global West, the threat of total radioactive destruction looms over us all.

What is at stake? A nuclear war could kill more than half of the world's population, one portion perishing from the explosion and the other from the aftereffects. It could quite literally cause global temperatures to drop dramatically due to the sun being blocked by heavy clouds of ash and soot. Temperatures would be too low to sustain plant life which would make crop production near impossible resulting in large-scale famine. People would live in a radioactive wasteland, with extremely low air quality causing breathing difficulties and respiratory diseases to run rampant. Freshwater reserves would be contaminated, and people would quickly die from nuclear fallout, starvation and dehydration. Basically, life as we know it would cease to exist.

What can you do? On this day of 29 August, civil society can act by starting their own initiatives to aid in the fight against nuclear tests. Create awareness campaigns where you are and on social media, try to lobby governments or international governing bodies to ratify submissions or petitions, arguing against the production and testing of nuclear weapons.

Peaceful uses of nuclear energy: The International Atomic Energy Agency (IAEA) has an important role to play in achieving the objectives of the Treaty under Article IV to foster international cooperation in the peaceful uses of nuclear energy. Through its activities relevant to energy security, human health, food security and safety, water resource management and industrial applications, the IAEA supports its Member States in attaining their Sustainable Development Goals (SDGs).

Join the NSTF's conversations on social media:

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- Twitter: [@NSTF_SA](#)
- Instagram: [@nstf_sa](#)
- LinkedIn: [National Science and Technology Forum \(NSTF\)](#)
- YouTube: [National Science and Technology Forum \(NSTF\)](#)
- TikTok: [nstf_sa](#)

References/sources:

[Treaty on the Non-Proliferation of Nuclear Weapons \(NPT\) | IAEA](#)
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<https://discover.lanl.gov/news/0715-the-gadget/#:~:text=Little%20Boy%20is%20the%20gun,6%2C%201945>
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[https://bio.libretexts.org/Bookshelves/Ecology/Environmental_Science_\(Ha_and_Schleiger\)/05%3A](https://bio.libretexts.org/Bookshelves/Ecology/Environmental_Science_(Ha_and_Schleiger)/05%3A)

[Energy/5.04%3A Consequences of Nuclear Energy](#)

<https://history.state.gov/milestones/1961-1968/npt>

<https://www.un.org/en/observances/end-nuclear-tests-day>

<https://www.youtube.com/watchv=YVRD24Js3qo&t=1325s&pp=ygUQb3BwZW5oZWltZlIgbW9vbG%3D%3D>

[Bombing of Hiroshima and Nagasaki - Causes, Impact & Deaths | HISTORY](#)

About the NSTF

The [National Science and Technology Forum](#) (NSTF), established in 1995:

- is a broadly-representative [stakeholder body](#) for all science, engineering and technology (SET) and innovation organisations in South Africa
- gathers stakeholders around [burning issues of national and global interest](#), across the public and private sectors, including matters of public policy
- includes a [network of professional societies in SET and STEM education](#) (STEM = science, technology, engineering and mathematics) - the [NSTF proSET membership sector](#).
- recognises, awards and profiles the outstanding contributions of individuals and groups to SET and innovation through the prestigious [NSTF Awards](#)
- runs and supports collaborative projects and [youth outreach](#), including recognition of top performance in mathematics and science, role modelling, bursary and STEM career information
- runs and supports the [STEMulator.org](#) which attracts youth and educators to Explore>Discover>Learn the world of STEM including careers. (Established by NSTF proSET)

For more information

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