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EDITORIAL

Climate Change: Impact of War is Conspicuously Absent

The Climate Change Conference-2015 ended in Paris. Various heads of the states went back home contended and satisfied, with a sense of achievement. The world experienced an intense surge of information about almost every aspect of climate change. Scientific, technological, social, cultural, legal, economic, national and international political issues related to climate change were discussed in media. For a science communicator it was heartening to see that so much of scientific and technological information was communicated in such a short period of time. Remarkably, even at the core of political discourse it was scientific information that constituted the bedrock of dialogue. The passionate speeches delivered by world leaders highlighted two major areas of contestations — economic and international relations. However, in most cases the structure of argument was built around anthropogenic activities that contribute adversely to climate change. The debate has surely raised human consciousness about dangers of climate change and could be cited as one of the most successful campaigns.

During the past two decades or so, the most important contribution of the scientific community was to conclusively prove the fact that average global temperature is rising. It also established causal relationship between carbon footprint and climate change. Finally, scientists established a positive correlation between increasing greenhouse effect and human activities. Subsequently, the fear of disastrous consequences of individual and collective human activities that contribute to greenhouse effect has been at the heart of the media campaign. The assertion that climate change will necessarily cause 'extreme weather conditions' reinforced the anxiety.

This fear makes the common citizen a 'willing partner' in the campaign. Every occurrence of natural disaster — excessive rain, floods, drought, hurricane, cyclone, landslide, cloudburst, depletion of ice caps, melting of glaciers, etc. — irrespective of scale is easily related to climate change. The modern time devil 'climate change' can be held responsible for every visitation. The discourse helps those who constitute the lowest strata of the economic pyramid in their struggle for existence, it also helps the civil society to organize various groups around different issues, it helps developing nations to seek monetary assistance and bargain for latest technologies and therefore creates a very wide base for 'willing partners'. From the point of view of science communication the 'campaign climate change' has enormous elasticity and inclusiveness.

The result of the campaign was that a common citizen started looking at every chimney that spitted smoke, every quarry that dug the earth, every vehicle on the road, with concern. However, the entire media was conspicuously silent about the impact of war and armed conflict on climate change. The root of this complete and deliberate insensitivity goes deep into the antipathy towards the issue, shown by the political, economic and civil society leadership across the globe. There is enough evidence that even low potential armed conflicts, intra or inter country in any part of the earth, cause intense and long duration adverse impact on the global climate.

It is easy to find literature that paints bleak pictures of the after effects of nuclear explosions. A remarkable study published by Owen B. Toon, Alan Robock and Richard P. Turco, once again warns the humanity. They write 'More than 25 years ago, three independent research groups made valuable contributions to elaborating the consequences of nuclear warfare. Paul Crutzen and John Birks proposed that massive fires and smoke emissions in the lower atmosphere after a global nuclear exchange would create severe short-term environmental aftereffects. Extending their work, two of us (Toon and Turco) and colleagues discovered 'nuclear winter' would cause agricultural collapse that threatened the majority of the human population with starvation. Vladimir Aleksandrov and Georgiy Stenchikov conducted the first general circulation model simulations in the

USSR. When the cold war ended in 1992, the likelihood of a superpower nuclear conflict greatly decreased. Significant arsenals remain, however, and proliferation has led to several new nuclear states. Recent work by our colleagues and us shows that even small arsenals threaten people far removed from the sites of conflict because of environmental changes triggered by smoke from firestorms. Meanwhile, modern climate models confirm that the 1980s predictions of nuclear winter effects were, if anything, underestimates.'[1]

The same group in a paper published in 2007, shows that consequences of a limited regional nuclear war when simulated through a 'modern climate model' suggests 'while the climate changes are less dramatic than found in previous "nuclear winter" simulations of a massive nuclear exchange between the super-powers, because less smoke is emitted, the changes are more long-lasting because the older models did not adequately represent the stratospheric plume rise.'[2]

Jeffrey Masters argues that 'the intense heat generated by the burning cities in the models' simulations lofted black smoke high into the stratosphere, where there is no rain to rain out the particles.' As a result the 'cooling would bring about the coldest temperatures observed on the globe in over 1000 years'[3].

Recently a study analysis published by Robock and Toon paints a bleak scenario, "even a 'small' nuclear war between India and Pakistan, with each country detonating 50 Hiroshima-size atom bombs only about 0.03 percent of the global nuclear arsenal's explosive power as air bursts in urban areas, could produce so much smoke that temperatures would fall below those of the Little Ice Age of the fourteenth to nineteenth centuries"[4].

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[1] http://scitation.aip.org/content/aip/magazine/physicstoday/article/61/12/10.1063/1.3047679

[2] Robock_A, et al, (2007) Climatic Consequences of Regional Nuclear Conflicts Atmospheric Chemistry and Physics, April 2007, p. 2003.

[3] http://www.wunderground.com/resources/climate/nuke.asp?MR=1

[4] Robock A, Toon OB, (2012) Self-assured destruction: The climate impacts of nuclear war, Bulletin of the Atomic Scientists pp. 66-74.

The eighties and early nineties saw a fairly large plethora of scientific studies carried out on consequences of nuclear war on climate change and life on earth. The legacy of studying likely impact of nuclear conflict continues. However, even during that period the impact of conventional war was never studied properly.

Predictive issues have helped in building consensus around anti-nuclear issues, but actual conflicts have never been the subject matter of the debate on climate change. The world has witnessed big and small hot spots of conflicts, using conventional weapons, which have huge impact on environment, since World War I and II. The Korean War, the Vietnam War, the Indo-Pak Wars, the Rwandan Civil War, the Kosovo War and the Gulf War are but few examples of wide spread use of conventional weapons. The studies on media reporting of environmental degradation and climate change do not even have a category 'war and climate change'. The war declared by any country against the other is also the war against the self, for environmental degradation does not recognize geopolitical boundaries. The silence around the issue of continuing wars and climate change is deafening.

GAUHAR RAZA
Science Communication through Multi-Media
CSIR-NISCAIR, New Delhi
E-mail: gauhar_raza@yahoo.com