National Journal of Multidisciplinary Research and Development
ISSN: 2455-9040
Impact Factor: RJIF 5.22
www.nationaljournals.com
Volume 3; Issue 3; September 2018; Page No. 25-26

Role of United States in nuclear weapon developments and arms race

Dr. Ravin Kumar Sehrawat
Ex Student, M.D.U., Rohtak, Haryana, India

Abstract
The main content of this article is that what the role of United States in nuclear weapon development and arm race in world. For the study of present topic the investigator used the analytical methods for this article by reviewing relevant publications, primarily based on the online journals available on Internet, Wikipedia, Elsevier and Journal of the Institute for Defence Studies and Analyses and other related literature.

Keywords: Role of United States, nuclear weapon developments, arms race

Introduction

The Nuclear Age began with the World War II Manhattan Project (1942–46), which culminated in the Trinity test on July 16, 1945, of the "Gadget" and the August 1945 bombings of Hiroshima and Nagasaki. The Project was led by Gen. Leslie Groves; physicist J. Robert Oppenheimer directed the scientific research.

Less than a month later, "Little Boy" was dropped on Hiroshima, on August 6, 1945. A gun-type bomb, it had an explosive force of roughly 15 kilotons. It was relatively simple: one piece of uranium-235 was fired. When Little Boy was exploded in an airburst about 1900 feet over Hiroshima, some 80,000-140,000 people were killed instantly; another 100,000 were seriously injured. The burst's temperature was estimated to reach more than 1 million degrees Celsius. The surrounding air was ignited, resulting in an 840-foot fireball; in less than a second, it expanded to over 900 feet. The blast wave from the explosion shattered windows ten miles away and was felt 37 miles away. Over two-thirds of the buildings in Hiroshima were demolished. A few days later, on August 9, "Fat Man," a roughly 21 kiloton bomb, was exploded over Nagasaki.

The Central Role of Deterrence

The objective of deterrence is to prevent aggression and war, not necessarily to be able to fight a war. In the past, we've often thought that the ability to deter depended on the ability to fight: to be able to defend yourself and to be able to go on the offense. Whether that logic applies to nuclear deterrence has been a matter of no little contention.

The United States has attempted to deter threats against itself and against its allies and friends. It's usually clear when deterrence has failed. If the Soviets had invaded Western Europe during the Cold War, Some argue that the Iraqi invasion of Kuwait in 1990 was a deterrence failure. It's very difficult, however, to know for certain when deterrence is working. Does the fact that the USSR never invaded Western Europe mean that U.S. extended deterrence worked?

Non-deterrent Roles

Nuclear weapons have had a truncated war-fighting role. They were only used in August 1945; most of us think that's a good thing. A tradition of nonuse, which some think is sufficiently strong as to constitute a nuclear taboo, has developed over the years.

For some, nuclear weapons clearly are a status symbol, an indicator or attribute of major power status. The U.S. development of nuclear weapons was replicated by the USSR (1949), Britain (1952), France (1960), China (1964), Israel (1966/67), India (1974, 1998) and Pakistan (1998), and the DPRK (2006). Now we're concerned about Iran going nuclear. Is it a coincidence that the first five nuclear powers were the five permanent members of the UN Security Council? Of course they're also the only nuclear weapons states recognized by the Nonproliferation Treaty of 1968.

In the academic literature, an "arms race" is defined as a competitive, reciprocal, peacetime increase or improvement in armaments by two states perceiving themselves to be in an adversarial relationship. Indian and Pakistani nuclear developments are the main cause of arms race concerns. India's nuclear capability is the primary deterrent, while issues of size, readiness, and deployment are secondary issues. India's nuclear capability is a national political asset and an insurance policy against nuclear blackmail, coercion, and potential use by an adversary. These national assets are not viewed as war-fighting instruments. India continues to call for universal and on discriminatory nuclear disarmament, rejecting the partiality of the Nonproliferation Treaty (NPT) and the Comprehensive Test Ban Treaty (CTBT), which, in New Delhi's view, perpetuate inequality.

The weaponization process has, however, created obvious dilemmas for India's nuclear disarmament diplomacy. Supporters of nuclear weapons in India and Pakistan casually predicted that the 1998 tests would usher in a period of stability on the Subcontinent. Instead, India and Pakistan, like other adversarial nuclear dyads, immediately became more deeply enmeshed in crises and border clashes.

South Asia's rollercoaster ride provided little time or space to

put in place nuclear risk reduction measures like those employed by Washington and Moscow to stabilize their Cold War pursuits. Instead, nuclear dangers remained intertwined with the Kashmir dispute. Crises became more frequent, and more dangerous.

Deterrence theorists in the West have a name for this phenomenon: the "stability-instability paradox." The essence of this paradox is that, while offsetting nuclear capabilities might foreclose a central strategic exchange, they might also increase provocations and risk taking at lower levels — whether to remedy perceived weaknesses or to press territorial claims. Nuclear weapons can generate risk taking because they presumably provide an insurance policy against escalation. The most dangerous time to control escalation usually comes in the years immediately after both adversaries initially possess nuclear capabilities.

The Nuclear Tests (1998): On May 11, 1998, India conducted an underground test of three nuclear explosive devices and followed it two days later with claims of two more. On May 28, Pakistan claimed that it had set off five nuclear devices, followed by a further test on May 30. Although some Western analysts have cast doubts on whether the two countries actually carried out the number and size of tests they claimed, it is nevertheless clear that India and Pakistan did conduct some nuclear testing.

According to a report by the Council on Foreign Relations, for the US, both Indian and Pakistani tests were "as much a long-term policy failure as a near-term intelligence failure." Nevertheless, what was important was what Washington learned from the tests and how its policy was adjusted accordingly. Since India and Pakistan had become *de facto* nuclear states, the US had to change the focus of its non-proliferation policy from one of one-size-fits-all to one of nuclear risk reduction and non-deployment. In addition, Washington began to turn its focus from functional non-proliferation goals to broad regional interests which included: preventing possible all-out or nuclear war; promoting democracy and internal stability; expanding economic growth, trade and investment; and developing political and—where applicable—military cooperation on a host of regional and global *US Security Policy towards South Asia after September 11* challenges including, but not limited to, those posed by terrorism, drug trafficking and environmental degradation.

Indian and Pakistani independence has been marked by three wars, conventional arms race, and the determined development of nuclear weapons and missiles. Now both states have openly tested nuclear weapons and have announced their capacity to deploy them. The decades of conflict and enmity have ensured that policy makers in India and Pakistan—and significant sections of public opinion—are unwilling to compromise over the supposed differences between the two states. Thinking themselves safe behind their "nuclear shield," their practice of intervening in the violent conflicts in each other's countries may continue and possibly escalate. A hard line Hindu nationalist government, in power in India for the first time, and a Pakistani government struggling with a collapsing society and economy make even détente unlikely in the near term.

The nuclear revolution had greater strategic than operational or tactical war-fighting implications. It has been about deterrence and how we think about deterrence rather than war-fighting. Deterrence became nuclear weapons' central role. Some, such as Bernard Brodie in 1946, recognized that very early on. Over time, a very high level of strategic interdependence developed among the states that possessed nuclear weapons, at least among those that possessed large quantities of them—the U.S. and USSR were very sensitive to each other's nuclear moves. Some argue that nuclear weapons are responsible for what historian John Lewis Gaddis called the "long peace" of the Cold War. We have not seen a major power war since August 1945. Gaddis and other analysts argue that this is a direct result of the nuclear revolution. So we have seen a revolution in *strategic*, not merely military, affairs. Repeated US interventions in third world countries, its presence in the Indian Ocean, and especially its military support for Pakistan, including the dispatch of the aircraft carrier Enterprise into the Bay of Bengal during the 1971 war, have combined to establish a sense that India must be prepared to look after itself. Against this background the nuclear arms race in South Asia cannot be understood simply as analogous to the bilateral superpower arms race, with India and Pakistan standing in for the US and the USSR respectively.

People say that the agreement brings fourteen of India's twenty-two power reactors under international safeguards. Actually, it only brings eight new reactors under safeguards, which is much less than present. Next, the agreement gives the Indians the discretion to decide which of their reactors is "civilian" and which is "military." There is nothing to prevent India to get assistance for a civilian reactor and switch it over to military use at any time. Also, the agreement only specifies that thermal reactors are civilian, and says nothing about breeder reactors. The administration is glossing over this fact.

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