

*Commentary*

## **Agni-III**

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On July 9, 2006, the long awaited Agni-III ballistic missiles test finally took place. This was the first test of this version of Agni designed with a range of 3,000 km. This missile used two-stage solid propellant. It took off successfully but failed to cover its determined course completely. Apparently, the missile developed a snag while entering into its second stage. Admitting the snag the Indian minister of defence said that it was not a major failure. Scientists are quite confident that the error will be rectified, and the missile would be ready for testing in the near future. The Indian strategic community is also supportive of the idea of testing the current version of Agni in quick succession. The general understanding is that a series of tests would help develop missiles properly.

This test seemingly aimed at refining the guidance/navigation of the missile among some other technologies. India began testing of the Agni series of missiles since 1989. On May 22, 1989, the first test of Agni took place in which Indian scientists demonstrated re-entry vehicle technology. In May 1992, the second test of Agni failed, but the third test was successful in February 1994. The 1994 test achieved its vital mission objectives such as “re-entry, maneuvering range, control, guidance, 2-stage propulsion and stage separation.” However, for a long period, Agni had the status of technology demonstrator or experimental flight.

After the 1998 nuclear device tests, a series of tests of Agni took place. On April 11, 1999, Agni-II surface-to-surface missile with a range of 2500 km plus was tested. In this test, multi-staging, control and guidance and re-entry technology were further refined. Again, on January 17, 2001, Agni-II with a range of 2000 km and payload of one ton using two-stage solid fuel was launched from a mobile launcher. Later, the government tested Agni but reduced its missile and named it Agni-I. On July 25, 2002 and January 9, 2003, Agni-I with a range of 800 km and using single-stage

solid propellant was test fired. However, in July-August 2004, both Agni-I and Agni-II were tested. Currently, Agni-I and Agni-II are inducted into Indian Armed forces.

Failure is not something strange to missile development programmes in the world. The history of missile development or for that matter weapon development is full of instances of failures during tests. Recently, the international media, though in a different context, reported the failure of the Atlas missile. Although in 1958 its test was successful, it must be remembered that the tests of this missile failed at least five times until 1959. In 1959, finally, the missile was inducted into the US arsenal. China and other countries also had to face several failed tests of their missiles programme. However, they succeeded only after repeated efforts.

Other weapon systems have also faced similar failures. Almost all American Ballistic Missile Development systems as well as the joint US-Israel Programme experienced technical snags during tests. Now, programmes such as Patriot-2 and Patriot-3 are not only successful but also being marketed abroad. F-22 had similar fate. Now, the aircraft is ready for induction and deployment. The US is also considering export of this aircraft to countries strategically closer to it.

The Agni-III is critically important for Indian security and nuclear strategy. The acquisition will greatly overcome India's missile inferiority, more so as India has declared 'no first use' of nuclear weapons as part of its nuclear doctrine. In such a situation, to acquire a massive and instant retaliatory capability to penetrate deeper into its perceived adversary's territory, is indeed vital. Missiles provide a more secure counter force capability, as there is no interception force as of now among India's adversaries, and importantly would not lose pilots when shot down. Moreover, worldwide, a mixed force is a preferred choice for nuclear strategy. It helps towards a flexible response to a nuclear attack. Admittedly, India has got other nuclear capable missiles and aircraft which can undertake retaliatory tasks. However, the absence of the Intermediate Range Ballistic Missile like Agni-III will reduce retaliatory options against an adversary. Overwhelmingly, the Indian strategic community has been articulating the 'retaliatory option'. The extended range of Agni 3000 km plus the nuclear deterrence could be highly effective.

A common understanding among the strategic community is that the Indian posture of common minimum deterrence could be rendered

ineffective until and unless the counter force structure is sophisticated and quite advanced. The Agni-III is supposed to be highly sophisticated. Apart from being solid-fuelled, it is supposed to possess a 'host of critical technologies' such as a highly improved guidance and control, mission sequencing, all carbon composite re-entry heat shield, mobile launch systems and a modern launch complex.

By now, it is almost clear that the extended range of the Agni has a Chinese context - defence or deterrence. The most accepted proposition is defence through deterrence. Both India and China have adopted a highly complex deterrence posture vis-a-vis each other. Both project their nuclear force capabilities in an indirect way with neither of them declaring that its arsenal is directed against the other.

However, their intentions are communicated through monitoring each other's weapon development activities. For instance, in 1998, India did not declare that it had tested the nuclear weapon to deter China or any other country. The Chinese reacted quite angrily to the test, clearly irked that an effective instrument of deterrence had arrived across its borders.

Given the fact, and as most media reports indicate, that the Agni III has a range exceeding 3000-kms, the signals are clear that it will cover China. The Agni, in fact, was basically designed keeping China in mind. The strategic affairs community had expressed its annoyance when for long it appeared that the range would be around 1,200 kms. After 1998, a number of tests were conducted for extending the range, which remained around 2000-2500 kms.

This was inadequate for deterrence against China. There was strong pressure on the government to increase the range beyond 3,500 kms and the government, for long, formally and informally promised to deliver the Agni with a range over 3000 kms. Not surprisingly, the occasional tests of the shortened range Agni bewildered everyone. There seems to be a logic - to project two impressions: first, that the Agni is not country specific; the shortened range is considered more useful vis-à-vis Pakistan. Second, if India has to rely on massive retaliation against Pakistan, it will have a wide array of weapons.

India is nowhere inferior to China in aerial warfare, including possibly nuclear aerial warfare. Also India is closing the missile gap gradually and

qualitatively. The Indian strategic community has long apprehended that the missile gap could mean a deterrent gap. By strengthening its counter force structure, India would reiterate complex deterrence. The development of Agni-III could be conducive to the achievement of strategic stability in the Indian neighbourhood. The Indian strategic community has refused to accept the positioning of India within the construct of South Asia for strategic affairs, insisting on the inclusion of China in any strategic calculation. Of late, increasingly, international scholars, especially Americans have acknowledged this reality and have started recognising the Chinese element in Indian security and regional stability.

In recent years, India and China have taken a series of measures in economic, political, and even security spheres. They are also striving hard for joint gains in energy security. Again, some raise arguments about the validity of deterrence in the changing context. The strategic environment however, is uncertain even if it seems stable today.

For years, the international community has been witnessing the operation of proliferation network involving a number of states and non-state actors. China and Pakistan have been active collaborators in the development of nuclear weapons and missiles. This collaboration is a new version of extended deterrence. In the given situation, India has two options: entering into an alliance with countries sharing common strategic goals or developing its own system robust enough to counter extended deterrence. The Agni-III is absolutely necessary for this purpose.

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