India Successfully Tests Missile Intercept Capability

OLIVER BLOOM ➤ July 26, 2010
Center for Strategic and International Studies

Even as domestic and international controversy rages on U.S. missile defense plans and its aims, we should not forget that the United States is hardly alone in pursuing the development of national missile defense. Kyodo News International reported today that India test-fired on Monday a ballistic interceptor missile off the Orissa coast and it successfully destroyed a ballistic missile, officials said.

According to the news report,

> *The interceptor was fired from Wheeler Island in eastern India and destroyed a modified Prithvi-II surface-to-surface missile fired from Chandipur in the same state.*
>
> *The interceptor missile hit the target missile at an altitude of 15 kilometers, the Press Trust of India news agency said, quoting S.P. Dash, head of the Integrated Test Range off Orissa coast.*
>
> *India plans to deploy a missile defense shield by 2012 after the completion of a series of trials, according to the organization.*

This successful test follows an unsuccessful missile intercept back in March, when, following the test firing of a Prithvi II surface-to-surface target missile, the interceptor failed to launch due to technical problems.

India has, however, conducted three successful missile defense tests since 2006.

India has plans for a two-staged missile defense system to be deployed by 2012; as Xinhua News explained in March,

> *In the first stage, the anti-missile system could be used to intercept the incoming ballistic missiles within the range of 2,000 km, while the second stage's missiles could intercept the ballistic missiles of more than 2,000 km.*

Within phase one of the planned ABM systems,

> *[T]here will be two layers of interceptions by the anti-missile system. The upper layer of interception will be carried out over 50 km from the ground by Indian Prithvi Air Defense missile, and the lower interception will be conducted at the height of 30 km above the earth by the Advanced Air Defense [AAD] system.*

The recent successful test was of the AAD system. The second phase of the planned ABM system will be able to intercept intermediate-range and intercontinental ballistic missiles (IRBMs & ICBMs). The high speed missiles are aimed to intercept missiles with ranges of over 5,000 km.

India's missile defense plans are indicative of the two strategic threats that dominate India's thinking: Pakistan and China. In the short term, India remains more concerned with the missile threat posed by Pakistan, and therefore, has devoted the first phase of its program to that threat. From India's historical record on missile defense, the importance of Pakistan looms large. Following the Pakistani purchase of M-11 missiles from China in 1995, India purchased S-300 missile defense systems from Russia, which are effective against aircraft, cruise missiles and shorter-range ballistic missiles. Following the 1999 Kargil War, India began initial development of its ABM system (phase one), that included the PAD and AAD systems, with the former providing an exo-atmospheric intercept capability, and the latter providing a second layer of endo-atmospheric intercept potential. Recent tensions have only pushed development of the phase one system even further. As India's strategic focus has expanded, however, it has increasingly come to see China as a greater long-term rival than Pakistan. And thus, its future ABM plans deal far more with Chinese capabilities than Pakistani capabilities. For example, China's 2007 anti-satellite test prompted Indian Air Chief Marshal P V Naik to note that

> *[Indian] satellites are vulnerable to ASAT weapon systems because our neighborhood possesses one.*

India has embraced the development of a comprehensive missile and satellite defense system that clearly has China more than Pakistan in mind. As the Times of India explains, the Indian Defense Ministry's May 2010 "Technology Perspective and Capability Roadmap" argues

> *India has no option but to get ready for "star wars" in the future, with countries like China working overtime to develop advanced ASAT (anti-satellite) capabilities with "direct-ascent" missiles, hit-to-kill "kinetic" and directed-energy laser weapons.*

The Space Review succinctly elaborated on present circumstances,

> *The Indians see China as their main competitor and nation of concern (regarding space capabilities) in the region…. The Indians may have decided that they should be able to cover all contingencies for future conflicts. The Pakistanis are already well within range of Indian ballistic missiles, and by developing this long-range missile capability, the Indians will be able to counter China as well. They can point to the 2007 Chinese ASAT test as an example of the pressing need for reciprocal capability…. And since China reportedly held its own hit-to-kill missile defense test in January 2010, this just adds more justification to those who feel that India must have a missile defense system in order to keep up with regional capabilities.*

Phase Two of India's ABM plans are also indicative of their long-term strategic thinking. The second phase of the missile defense system will be of similar nature to the U.S. Terminal High Altitude Area Defense (THAAD) missiles. India Today reported on the phase two plans and noted

> *defence analysts feel that Phase 2 of the missile defence shield is almost certainly meant to defend India from China's arsenal of ICBMs. China is the only Asian country which has an ICBM arsenal, including submarine-launched ballistic missiles.*

Developing a Phase 2 intercept program is a far more daunting task that Phase 1. As India Today explained

Phase 2 was far more challenging because it calls for detecting ICBMs hurtling at twice the speeds of intermediate range missiles. It not only requires bigger interceptor missiles flying at hypersonic speeds of between six and seven times the speed of sound (present interceptor speeds are between Mach 4 and Mach 5) but also radars to detect incoming ICBMs at ranges of over 1500 kms as opposed to the current detection ranges of over 600 km.

Regardless of the specific concerns that have prompted India to pursue its various ABM plans, the implications for strategic stability are quite worrisome. In the face of improved Indian ABM capabilities, Pakistan and China will each have incentives to either expand their offensive forces (to overwhelm the fledgling Indian system) or to develop costly missile intercept systems of their own (in both cases, similar to the dilemma faced by the Russians after the U.S. announcement of SDI back in the 1980s). Not only could an arms race in Asia be incredibly destabilizing, but presumably no one wants a country like Pakistan, with questionable nuclear security, to begin expanding its arsenal. And while we shouldn't expand this hypothetical too far beyond its initial parameters, the ripple effects from a Southeast Asian arms race would easily extend beyond the continent, as other nuclear powers, especially the United States, see the expansion of Chinese nuclear and/or defense capabilities as a threat and begin a push to modernize and/or expand their own capabilities.

Here we can see that India's missile defense plans may then be more destabilizing than any plans the United States has. Assuming American missile defense systems remain primarily geared towards confronting the threats posed by regional missile threats and rogue ballistic missile threats, China and Russia should have less reason to engage in a costly arms race (though whether they subscribe to this belief is unclear). In the case of India, however, the systems are clearly directed not towards rogue actors, but towards two strategic competitors, both of whom are unlikely to stand idly by as India improves its capabilities. Thus, a dangerous strategic competition between nuclear-armed great powers seems more likely. It may be easier for the United States to make a case about the defensive utility of a system designed against rogue states than a capability clearly geared towards strategic competitors. Ballistic missile intercept capability is ultimately a situational capability whose defensive or offensive nature is determined by the parties involved, not inherent in its own nature.

Ghazala Yasmin wrote for Institute of Strategic Studies Islamabad and explained

> *An Indian BMD system – whatever its shape and size, whatever its operational shortcomings – will have a major political and psychological impact on both Pakistan and China. Both Pakistan and China would respond to an Indian BMD by bringing quantitative and qualitative changes in their nuclear forces, deployment postures, and perhaps go for missile defences of their own. India would in turn be affected by a buildup of offensive weapons and technologies by Pakistan and China, and would have to enhance its own capabilities in response. This action-reaction spiral is likely to give rise to a regional arms race.*

Not only would China and Pakistan be worried by Indian developments, but India itself may be inclined to take more provocative measures should it feel that it possesses a viable defensive system. In particular, India may be more inclined to make provocative moves vis-à-vis Pakistan (respond to another terrorist attack like Mumbai militarily, or to make a preemptive move on Kashmir, for example), actions that could easily exacerbate instability and degenerate into armed conflict, with the specter of a nuclear exchange always looming above.

In fact, in an attempt to improve its security, India may in fact be doing the opposite. As The Space Review worryingly noted

> *India's ASAT plans are worrisome because in the Indians' anxiety to keep up with China, they may unexpectedly create the exact thing that they are trying to avoid: a conflict in or about space. If their statements are misunderstood or if they ratchet up the rhetoric, they may thrust India into the position of having to hope that its missile defense interceptors do, indeed, serve as able ASATs.*

India clearly has no intensions of fostering instability in Southeast Asia or sparking costly arms races, but in its attempts to reduce its vulnerability vis-à-vis China and Pakistan, it may very well do both. India should carefully heed the strategic writings from the Cold War that illustrated how potentially destabilizing missile intercept systems can be, and instead, look to defuse any arms race through arms control, rather than accelerate it through missile defense development and deployment.

Source: http://csis.org/blog/india-successfully-tests-missile-intercept-capability