



## **PRAHAR: A CONVENTIONAL REJOINDER**

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Strategic utility of missile systems is vividly interpreted. While hardliners view the precision-strike tactical missiles as protection from coercion by the adversary, peace-advocates find them as triggers of “dangerous strategic miscalculation”.<sup>1</sup> A few even opine that mutual selective removal of them, especially the short-range and obsolete ones, from the inventories of adversaries could serve as a confidence building measure (CBM).<sup>2</sup> Given the fluidity in South Asian strategic environment, one would wonder what the *Prahar* missile, reportedly replacing *Prithvi-I*, would mean for regional security when Pakistan believes in nuclear brinkmanship.

In June this year, the DRDO chief Avinash Chander has reportedly said that “we are withdrawing the tactical 150 km-range *Prithvi* missiles and will replace them with the *Prahar* missiles, which are more capable and have more accuracy”. In clarification, he said, *Prithvi* will be upgraded to be used for longer ranges but the gap in strike capabilities in the range of 100 to 150 km-range created by its proposed withdrawal would be filled in by *Prahar* missile. This impels one to introspect how effective, capable and desirable *Prahar* system is in comparison to *Prithvi*.

The *Prahar*, a solid propelled single-stage missile of 150 km range, can be truck mounted and fired in a salvo of six. It is also known to be a precision guided missile, potential of

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<sup>1</sup> Rachel Oswald, “South Asian Tactical Missiles Risk Dangerous Miscalculation, U.S. Intel Officer Says”, <http://www.nti.org/gsn/article/work-s-asia-tactical-missiles-threatens-dangerous-miscalculation-intelligence-official/>

<sup>2</sup> “Enhancing Strategic Stability in South Asia through the Transparent Elimination of Obsolescent Ballistic Missiles”, Article No.: 1925, August 10, 2011, [http://www.claws.in/index.php?action=details&m\\_id=926&u\\_id=36](http://www.claws.in/index.php?action=details&m_id=926&u_id=36)

minimising collateral damage. Having more accuracy and quick reaction capability, it can be an ‘excellent weapon’, claims DRDO. With regard to its range, it will expectedly fill the gap between the 90 km Smerch multi-barrel rocket launchers and the guided *Prithvi* missile. According to the DRDO, the *Prahar* is comparable to the US Army’s Advanced Tactical Missile System (ATACMS), extensively used during 2003 Iraq war.<sup>3</sup>

In comparison to *Prithvi*, though *Prahar* maintains the same range, it does this at a much smaller footprint and with attributes better suited for tactical deployment.<sup>4</sup> The 7.3 metre long *Prahar* is much smaller (42 cm in diameter) compared to *Prithvi* (9 meter long, 110 cm diameter). While *Prithvi* is liquid propelled, *Prahar* with solid propellant is “has been developed to provide a cost effective quick reaction, “all weather, all terrain high accuracy tactical battlefield support” and counter-strike option for theatre ground forces.<sup>5</sup> The warheads employed by the two missiles also differ significantly: while *Prithvi* carries a classic 1,000 kg warhead and is designed primarily for nuclear attack, *Prahar* is capable of carrying a conventional payload, of a weight of 200 kg.

As a maneuverable precision strike system, *Prahar* is supposed to have the ability to neutralize high value targets. Reportedly, as derived from the Advanced Air Defence (AAD) interceptor for DRDO’s BMD programme, it has a fibre-optic gyro-based inertial navigation system capable of receiving ground as well as satellite updates.<sup>6</sup> Given its AAD origin, it is also capable of attacking from high angle, bunkers and other buried targets.<sup>7</sup> Six missiles can be loaded on each Transporter, Erector Launcher (TEL) vehicle at a time.<sup>8</sup> Therefore, such a system would be appropriate against a mobile *Nasr* system by individually targeting each of its components – launcher, control vehicle, generator vehicle, etc.<sup>9</sup> Moreover, equipped with a programmable path, omni-directional warheads and front end seeker backed by an on-board

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<sup>3</sup> “Prahaar is Comparable to the US Army’s ATACMS”, <http://www.rediff.com/news/slide-show/slide-show-1-prahaar-a-tactical-missile-in-army-arsenal/20110725.htm#6>, July 25, 2011.

<sup>4</sup> “After 17 Years in Service, the Prithvi I Missile will Give Way to Smaller and Better Prahar”, [http://defense-update.com/20130701\\_prahar\\_to\\_replace\\_privthi.html](http://defense-update.com/20130701_prahar_to_replace_privthi.html)

<sup>5</sup> DRDO, Press Release, “Prahaar’- New Surface to Surface Tactical Missile Successfully Launched”, [http://drdo.gov.in/drdo/English/dpi/press\\_release/PressReleasePraharnew.pdf](http://drdo.gov.in/drdo/English/dpi/press_release/PressReleasePraharnew.pdf), July 21, 2013.

<sup>6</sup> “Prahaar Missile Successfully Test-fired”, *The Hindu*, July 22, 2011.

<sup>7</sup> “Developed from AAD Interceptor of BMD”, <https://sites.google.com/site/idpsentinel/missiles/tactical-missiles/prahaar-missile?pli=1#TOC-Prahaar-to-Replace-Prithvi-SS150>

<sup>8</sup> Tamir Eshel, “After 17 Years in Service, the Prithvi I Missile will Give Way to Smaller and Better Prahar”, [http://defense-update.com/20130701\\_prahar\\_to\\_replace\\_privthi.html](http://defense-update.com/20130701_prahar_to_replace_privthi.html), July 1, 2013.

<sup>9</sup> “Prahaar – An Analysis”, n. 7.

computer, *Prahar*'s terminal accuracy is reported to be less than ten metres. Endowed with such technical sophistication, *Prahar* would effectively address Pakistan's move towards tactical nuclear weapons with *Nasr* missile.

It is also argued that *Prahar* as a tactical weapon system would give a huge boost to India's 'Cold Start' strategy by providing the army with lethal fire support for striking enemy's headquarters far behind the frontlines, and to destroy essential communications infrastructure to prevent mobilization of enemy's forces to the border. According to Ajay Shukla, Indian Army will have multiple options owing to *Prahar*'s range of warheads. It can carry a cargo warhead containing bomblets that disperse over a wide area; it could carry air-delivered mines to spread across terrain, denying passage to enemy infantry or tanks; or it could carry a single, high explosive warhead that can demolish the best-protected target or critical infrastructure.<sup>10</sup>

In terms of its strategic advantages, having double the range of the *Nasr*, *Prahar* seems to have a deterrent value. Owing to *Prithvi I*'s imprecise employment characteristics – if it exclusively meant for nuclear or conventional use – it has always been subject of debate. *Prithvi I* is viewed as potentially destabilising as its launch with a conventional warhead could be mistaken for a strategic launch. In this context, induction of *Prahar* would remove this 'doctrinal ambiguity' and bring regional strategic stability.<sup>11</sup>

However, from the operational point of view, since *Prithvi* has been inducted in large numbers during the last two decades, it may remain the mainstay in India's 150-km range category missiles for few years till *Brahmos* and *Prahar* are inducted in large numbers. Tested first time in 2011, *Prahar* will have to undergo a few more technology demonstration tests followed by user trials in the coming years; therefore, it will take some more time to become a force to reckon with.

***(Disclaimer: The views and opinions expressed in this article are those of the author and do not necessarily reflect the position of the Centre for Air Power Studies CAPS)***

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<sup>10</sup> Ajay Shukla, "Army's 'Cold Start' Doctrine Gets Teeth", [http://www.business-standard.com/article/economy-policy/army-s-cold-start-doctrine-gets-teeth-111072200071\\_1.html](http://www.business-standard.com/article/economy-policy/army-s-cold-start-doctrine-gets-teeth-111072200071_1.html), July 22, 2013.

<sup>11</sup> Saurav Jha, "Filling the Short-Range Tactical Battlefield Missile Role", *Geopolitics*, August 2013, pp. 10-11.