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Is India's laser weapon too young to be powerful?

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India's Defence Research and Development Organisation (DRDO) has developed a laser-based weapon that will impair vision temporarily to control unruly crowds such as Kashmir's stone-throwing mobs. The non-lethal military gadget would be supplied to para-military forces in Jammu and Kashmir within three months, a senior DRDO official said.

Laser-dazzler

When turned on, the gadget, called laser dazzler, sends out radiation to immobilise individuals or crowds without causing permanent injury. The green rays can throw a wave of agony nearly 250 metres away.

AK Maini, who heads the DRDO's Laser Science and Technology Centre, told HT hand-held laser dazzlers with a range of 50 metres would be supplied to paramilitary forces by October for feedback on performance.
He said a vehicle-mounted weapon system for engaging mobs at nearly 250 metres would be ready by the end of next year. What makes the laser effective is that it doesn't have to be aimed and shot, it moves like a large circle with a spread of almost 20 metres. It will allow security forces to disperse crowds without inflicting life-threatening injury. Maini said the system was different from Western gadgets that employed millimetre wave technology to repel crowds by targeting different parts of the body.

He explained, "It's not a stun gun. The laser dazzler targets only the eyes. It could be the perfect solution to de-escalate aggression such as the kind caused by Kashmir's stone-throwing mobs."

The DRDO is also working on a laser-based ordnance disposal system to detonate explosives from a safe standoff distance. Also in the pipeline are vehicle and airborne laser systems to engage hostile targets such as aircraft and missiles. These technologies may take up to two years to mature. (From hindustantimes)

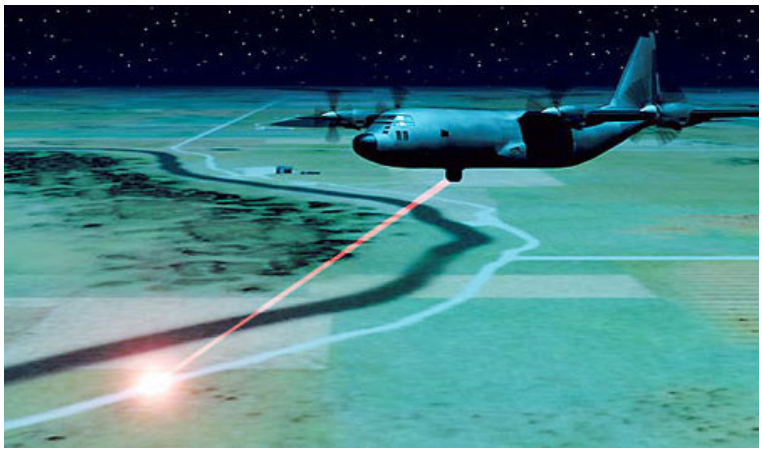
Move aside Darth Vader and Luke Skywalker, India's DRDO is trying to develop its own set of Star Wars-like weapons. From laser dazzlers to control rioting crowds to high-powered lasers to destroy incoming missiles, DRDO is working on a slew of directed energy weapons (DEWs).

"Lasers are weapons of the future. We can, for instance, use laser beams to shoot down an enemy missile in its boost or terminal phase," said DRDO's Laser Science & Technology Centre (LASTEC) director Anil Kumar Maini, talking to TOI on Monday.

Incidentally, DRDO chief V K Saraswat himself has identified DEWs, along with space security, cyber-security and hypersonic vehicles, as focus areas in the years ahead. "LASTEC has the mandate to develop DEWs for armed forces," said DRDO's chief controller (electronics & computer sciences) R Sreehari Rao.

While conventional weapons use kinetic or chemical energy of missiles or other projectiles to destroy targets, DEWs decimate them by bombarding with subatomic particles or electromagnetic waves at the speed of sound. Apart from the speed-of-light delivery, laser DEWs cause minimal collateral damage.
DRDO, of course, often promises much more than it can deliver. But even the defence ministry's recent "technology perspective and capability roadmap" identifies DEWs and ASAT (anti-satellite) weapons as thrust areas over the next 15 years, as was first reported by TOI.

The aim is to develop laser-based weapons, deployed on airborne as well as seaborne platforms, which can intercept missiles soon after they are launched towards India in the boost phase itself. These will be part of the fledgling ballistic missile defence system being currently developed by DRDO.



Imagery picture of US airborne laser attack

The US, incidentally, is already conducting tests of high-powered laser weapons on a modified 747 jumbo jet, the ALTB (airborne laser testbed), which direct lethal amounts of directed energy to destroy ballistic missiles during their boost phase.

It will, of course, take India several years to even conduct such tests. For now, LASTEC is developing "a 25-kilowatt" laser system to hit a missile during its terminal phase at a distance of 5-7 km. "All you need is to heat the missile skin to 200-300 degree and the warhead inside will detonate," said Maini.

LASTEC is also working on a vehicle-mounted "gas dynamic laser-based DEW system", under project Aditya, which should be ready in three years. "But Aditya is just a technology demonstrator to prove beam control technology. Ultimately, we have to develop solid-state lasers," said Maini. (From Times of India)

US GBU-12 laser-guided bombs

According to some military experts, the overall level of India's laser weapons is still at the early stage. The laser-based weapon "laser dazzler" emerged in the 1980s, which were used to spot snipers and impair their vision. China also displayed its T-99 tanks with a laser-based system in its 50th anniversary military parade in 1999, which is said to be capable of impairing tank aimers' vision over one thousand meters away and causing possible damage to tanks' aiming system.

Military experts also point out US and former Soviet Union conducted experiments of the laser anti-ballistic missile technology during the Cold-War era.The current laser anti-ballistic technology of US ranks the leading position in the world. Meanwhile, US and Russia have shifted their focus to solid-state directed energy weapons with higher effectiveness, smaller size and lighter weight.