



The United States' Third Offset Strategy to Counter China's Game Plan



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Deputy Defense Secretary Bob Work while speaking at the CSIS during October 2016

Cambridge English Dictionary explains offset as, 'which balances one influence against an opposing influence, so that there is no great difference as a result'. It is a consideration or an amount that diminishes or counterbalances the effect of an opposite one. The United States employs it as a means for compensating its military for the asymmetrical disadvantage it may have against opposing forces thus making the situation more favourable to their forces. It can also imply to provide technological edge to own military with the current force level. Indian Army calls it a Force Multiplier which includes intelligence, surveillance, reconnaissance (ISR), battle management

systems, electronic warfare systems, and so on. The United States has had an offset strategy since the 1950s and currently is on its third offset strategy. The US Offset Strategies are aimed at risk mitigation and creating future competitive advantage.

First Offset Strategy

The former President Dwight D Eisenhower brought a New Look to the United States national security policy in 1953 which had four key elements. These elements are as follows: maintaining the vitality of the United States economy while still having adequate combat power to counter the Cold War; nuclear weapons would be the mainstay to deter Communist aggression or to fight a war; employing the Central Intelligence Agency to carry out covert actions against governments or leaders of the Soviet Union; and strengthening allies and attempting to win over the friendship of non-aligned governments. The New Look was aimed at

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providing ‘more bang for the buck’, reduce spending on conventional forces while increasing the financial outlays for the US Air Force and nuclear weapons. It was formalized in the National Security Council document 162/2 which was approved by Eisenhower on 30 October 1953 and reflected a ‘long-haul’ approach to security planning that would maintain a more or less constant level of military preparedness, consistent with the health of the United States economy.

Second Offset Strategy

In the 1970s, the then Secretary of Defense Harold Brown spelled out the blue print for a Second Offset Strategy which was spelt out in the ‘Long-Range Research and Development Planning Programme’. This programme leveraged the development and fielding of revolutionary new systems, such as extended-range precision-guided munitions (PGMs); stealth aircraft; better ISR platforms; better battle management systems; and space-based military communications and navigation capability. These systems were possible due to rapid advancements in technology especially in micro-processing. They were then combined with new strategic operational concepts to enable the US military to avoid matching the opposing forces in terms of strength of personnel and weapon platforms-sort of ‘soldier-for-soldier and tank-for-tank’ strategy. This approach was sustained by subsequent United States presidents which encouraged technical innovations and helped the United States to have a military edge over adversaries for decades by offsetting quantitative inferiority in conventional forces. The important systems which emerged were the Airborne Warning and Control System, F-117 stealth fighter and its successors, modern PGMs, improved ISR systems, space-based communications, GPS, and battle management systems. The United States never used Offset Strategy’s technologies against the Soviet Union but during subsequent conflicts like Desert Storm, they were used extensively with great success. It was an innovative approach which gave

birth to non-nuclear strategic strike, application of information technology (IT) to offset conventional Soviet military advantages and the focus of ‘decisive operations’ in the US military strategy. Some defence analysts and historians started calling the Strategy as a new ‘American Way of War’.

Third Offset Strategy

The Third Offset Strategy emerged out of the ‘Defense Innovation Initiative’ which was announced by the former Secretary of Defense Chuck Hagel at the 2014 Reagan Defense Forum. One of the main focuses was to offset the disadvantage the US forces are facing against anti-access and area-denial (A2/AD) systems with China. The current US Defence Budget (2017) which was the last one of President Obama has also focused on the Third Offset Strategy unveiled by the former Secretary of Defense Ash Carter.

Some of the key missions articulated by the Defense Strategic Guidance (DSG) which the joint force must accomplish in the future are as follows:

- Deter and defeat aggression;
- Project power despite A2/AD challenges; and
- Operate effectively in cyberspace and space.

The *Quadrennial Defense Review* of 2014 confirmed the importance of these missions and called for the joint force to ‘project power and win decisively’ in spite of ‘increasingly sophisticated adversaries who could employ advanced war fighting capabilities’.

While speaking at the Center for Strategic and International Studies (CSIS) about the Third Offset Strategy during October 2016, Deputy Defense Secretary Bob Work said that, ‘China and Russia now have theatre-wide battle networks that are approaching parity with us’, he added, ‘so to strengthen conventional deterrence, we want to make sure that we can extend our advantage in that area.’ He described a battle network as a sensor grid that sees what’s happening in theatre; a command, control, communications, computers and intelligence, or C4I, grid that makes sense of what’s happening and offers a range of effects, a grid that achieves the chosen

effects and a logistics and support grid that keeps the network running. Work further explained that:

Our pacing competitors have put a lot of money in counter-network operations because they know how powerful our battle networks are, so they spend a lot of money on cyber capabilities, on electronic warfare capabilities and on counter-space capabilities because our space constellation is a very important part of our ability to put these battle networks together.

The third offset's initial vector, he added, is to exploit all the advances in artificial intelligence (AI) and autonomy and insert them into Department of Defence's battle networks to achieve a increase in performance that the department believes will strengthen conventional deterrence. He then went on to clarify that the Offset includes technological leaps but it's really about operational and organizational constructs based on doctrine, training, and exercises that allow the joint force to operate with such technologies to achieve an advantage.

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Apart from China other states like Russia and Iran are acquiring A2/AD capabilities, and it is likely that some of these capabilities may proliferate globally. The plan is not only to develop the next generation technologies but also review the existing programmes to improve them at lesser costs. Budgetary support for the Third Offset has been provided in the following areas with more stress on Air Force and Naval systems:

China's Anti-access and Area-denial

China's current strategy has been to deny access to the Western Pacific for potential adversaries or make it a costly venture for them. The US defence thinkers and analysts have termed this strategy as A2/AD which is based on employing long range fire power to deter or destroy the adversary's navy with land forces in support. Such a strategy will need ballistic and cruise missiles

with suitable range, adequate destruction power, and matching sensors to locate and destroy naval surface forces and static land targets. A2/AD system is protected by fighter aircraft and surface to air missiles from aerial threat coupled with stealthy diesel submarines and missile-equipped surface ships to reinforce the threat to adversary's naval forces. A2/AD also includes strikes on adversary's space-based sensors and communications. This system is designed to destroy or prevent enemy forces entering a given sea or air space. The object of A2/AD is to deny United States access by sea to East Asia by creating problems for carrying out power projection and movement of its trade in the region.

Counter Strategy of the United States

Some of the steps United States is taking is to accelerate the development and implementation of the US Air Force and Navy aviation propulsion development programmes, counter-space investments, a Navy autonomous cargo re-supply platform, conversion of SM-6 surface-to-air interceptor into an anti-ship missile, tripling the payload of Virginia-class attack submarines, giving the Tomahawk missile a ship-attack capability, and improving the spending on acoustic superiority for all attack and missile submarines.

Guided Munitions

Some of developments in this field are to counter hardened and deeply buried targets, development of hypersonic weapons, improving Joint Direct Attack Munitions (JDAMs) to resist jamming, and development of alternative guidance technologies to reduce reliance on GPS.

Under-sea Warfare

Some developments in this field are improving surface anti-submarine warfare capabilities by having better sensors and reducing its noise and development in large diameter and extra large Unmanned Underwater Vehicle (UUV).



Cyber and Electronic Warfare

The objective is to improve the existing cyber programmes, development of Advanced Anti-Radiation Guided Missile, next-generation Anti-Radar missile, and take the aircraft countermeasures to the next level of technology so that they become almost jam resistant.

Human-machine Teaming

While speaking at the CSIS about the Third Offset Strategy during October 2016, the then Deputy Defense Secretary Bob Work in a response to a question about the Third Offset's role in the broader defense strategy to counter threats from the Islamic State of Iraq and the Levant, non-state threats in general, homeland security and other operational challenges, he explained that the department's focus is on AI and autonomy. He further clarified that: [W]hen we say we're injecting AI and autonomy into the grids, we're looking at five different things which are autonomous learning systems for handling big data and determining patterns, human-machine collaboration for more timely relevant decision-making, and assisted human operations through technology assistance like exoskeletons or wearable electronics. Other capabilities, Work said, are advanced human-machine combat teaming such as with manned and unmanned systems working together, and network-enabled autonomous weapons and high-speed weapons like directed energy, electromagnetic rail guns, and hypersonics.

War Gaming and Development of New Operating Concepts

The US Air Force General Paul Selva, Vice Chairman of the Joint Chiefs of Staff while speaking at the CSIS on the Third Offset Strategy during October 2016 said as follows: Technologies and ideas are turned into tactics, techniques, procedures and doctrine through operational experimentation that begins with designing concepts, testing them in war games and ultimately testing them in exercises. From an operational perspective, the journey we're on has the potential to vastly increase the

effectiveness of our conventional forces but we have to ask the right questions. He added that, 'in simple terms, long-range precision strike at volume in space, in cyber space, in the air, on land and at sea'. Under this requirement additional funds have been allotted for the Navy's Fleet Experimentation programme, naval rapid acquisition programmes such as Rapid Prototype Development and Unmanned Rapid Prototype Development.

Some Other Aspects of Third Offset Strategy

Robotics and Autonomous Systems

Any unmanned system controlled by a computer to carry out its mission, without human intervention is called an autonomous system. Such war machines including robots are an integral part of autonomous unmanned systems like bomb handling robots. In the future, this will manifest into robot soldiers operated by AI implying that the computers 'deciding to kill or not to kill' but is a great challenge to programmers. It also raises ethical and legal issues.

Miniaturization

The cost can be reduced by making miniaturized systems with the final outcome being to launch 'swarms' of small and expendable autonomous weapons.

Big Data

This can be a key element of intelligence gathering provided suitable algorithms can automatically sift out the essential data so that the decision-makers do not get saturated with unnecessary data.

3-D Printing

Traditional manufacturing allows very little flexibility in changing the design in between and carry on with the production as there are tremendous cost and time penalties. That is the reason that manufacturers take a long time to change the design for the next model. 3-D printing can be called advance manufacturing process which is fast gaining popularity with the US Military

specially for producing spare parts. It allows for design change for trying out new technology or refining the existing one.

Weapon Platforms and Weapon Systems: A few examples are as follows:

US Air Force

The United States plans to achieve a fully networked Air Force to include old systems like F-22 Raptor and F-35 Lightning II along with manned/unmanned teaming of platforms armed with advanced weapons based on laser and hypersonic munitions by 2030.

Raytheon's Standard Missile-6 (SM-6)

It is already deployed in anti-air warfare and as an interceptor for ballistic missiles at sea. Trials are on to convert it into anti-ship missiles. During a trial in 2014, SM6 destroyed five targets in 'over-the-horizon, engage-on-remote' missions. This will enable the US Navy to achieve for what it calls 'distributed lethality', or the ability to strike from any ship and any location.

Tomahawk Block IV Cruise Missile

Tomahawk cruise missile can be launched from a ship or submarine to carry out precise strikes at 1600 km away and has been upgraded to Block IV which includes a two-way satellite data-link that enables the missile to be retargeted in flight to pre-programmed alternate targets. Raytheon and the US Navy are now carrying out upgrades to the Tomahawk Block IV which include upgraded communications, a more powerful warhead, and a new seeker designed to hit moving targets at sea or on land, in darkness and all kinds of weather.

Virginia-class Attack Submarines

They are being upgraded to more than triple their missile payload and achieve superiority in acoustic and under-sea warfare.

The Global Surveillance and Strike (GSS) Concept

Robert Martinage in a report to the Centre for Strategic and Budgetary Assessments has advocated the integration of some of its current advantages like unmanned operations, extended range strike capability, stealth and under-sea warfare to deter the adversary by a credible threat of denial and asymmetric punishment for 'exploiting US long-term advantages to restore US global power projection capability'. If required this network could be used to make the adversary roll back its A2/AD network and set a scenario for a more traditional power projection campaign.

Indian Perspective

India's former Defence Minister George Fernandes came closest in articulating India's defence strategy as he was academically inclined towards security issues and liked to speak on the subject in various fora. He stated that India's defence strategy from 1947 was, 'a non-aggressive, non-provocative defense policy', centred around 'holding corps' to halt hostile advances. The former Army Chief General Sundarji was a thinking general and planned that the holding corps deployed poised towards Indo-Pakistan border should hold the adversary's offensive and give time for the strike corps to take offensive action deep into enemy territory. He also planned against the Chinese border in the East by carrying out paper exercises for moving whole formations from West to East and vice versa. He was futuristic in his thinking and planned for IT, cyber warfare, and computerized war games. For force projection he wanted to raise air landed and amphibious formations. Many aspects of his plans came to a naught due to lack of budgetary support; however, IT and cyber warfare have made some headway. Full mobilization was ordered as a response to the terrorist attack on the Indian Parliament in 2001, but the process took a month which gave enough time to exert international pressure on India as not to go for war and resulted in a fruitless face off with Pakistan for almost a year. This

led to review of the procedure resulting in the strategy of cold start for mobilization where formations go to war straight from the barracks. India has also been carrying out low intensity conflict operations (LICO) to fight terrorism for long. Recently, the present Army Chief General Bipin Rawat mentioned about a two front war. So far no government has spelled out the specific role of the Armed Forces like the white paper China or Japan has come up with. This could be due to lack of strategic culture/background on part of the decision-makers unlike many of the US Defence Secretaries

and Deputy Defence Secretaries have as seen from how they have enunciated the offset doctrine. The other important aspect is that if the government spells out a defence strategy then it has to provide budgetary support for it. In the present fiscal environment it is not possible. Year after budget allocation has not been able to cope up with the upkeep of the current force level and to raise and maintain a 40 division plus force level for the Army, achieve a fleet of 198 warships from the current fleet of 137, and acquire a 45 squadron Air Force even in two decades; will remain only a wish list and a pie in the sky.

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