

# समाचार पत्रों से चयित अंश Newspapers Clippings

दैनिक सामयिक अभिज्ञता सेवा  
A daily Current Awareness Service

Vol. 42 No. 183 04 September 2017



रक्षा विज्ञान पुस्तकालय  
Defence Science Library  
रक्षा वैज्ञानिक सूचना एवं प्रलेखन केन्द्र  
Defence Scientific Information & Documentation Centre  
मैटकॉफ हाऊस, दिल्ली 110054  
Metcalf House, Delhi- 110054

# Nirmala will have to hit the ground running

By Dinakar Peri

*First full-time woman Defence Minister faces many challenges: craft a national security strategy, changed India-China dynamics, Kashmir*

Nirmala Sitharaman will take over as the first full-time woman Defence Minister on Wednesday, once Finance Minister Arun Jaitley, who currently holds additional charge, is back from Japan.

“She will take charge on Wednesday. Time will be known in due course,” a defence source said on Sunday.

Ms. Sitharaman has a multitude of challenges to tackle in South Block which did not have a full-time Minister for over 10 months since Manohar Parrikar’s exit in November. The takeover has been delayed as Mr. Jaitley left for Tokyo to participate in the India-Japan security dialogue.

“Normally, the new Defence Minister should have been going but logistically that doesn’t seem possible, today being a Sunday to make the changes. And it’s a very important security dialogue between the two countries particularly on the eve of the Japanese Prime Minister’s visit. Therefore, changes are not advisable,” Mr. Jaitley told presspersons.

## Growing concern

The first priority will be to take the military leadership into confidence and reassure them that they would get enough time and attention to address critical issues. There has been growing concern and a feeling of being left out among the top leadership. As one senior officer put it, “The Ministry has been going on in an autopilot mode.”

“The big challenge is to craft out a national security strategy for the future. The rest will flow from this,” said Lt. Gen. D.S. Hooda, former Northern Army Commander.

In addition, she is faced with three or four major challenges. The dynamics on India-China border have changed dramatically since the Doklam standoff which ended last week. Military experts warn of a new level in the relations and an increase in standoffs.

## Line of Control

With Pakistan, the Line of Control (LoC) has been volatile since the Uri terror attack last year and the ceasefire is as good as off. While not looking weak, Ms. Sitharaman needs to get things under control and keep the peace. On a related front, Kashmir has been on the boil and there is widespread feeling on the need for an outreach while keeping the pressure militarily on the terrorist groups.

Apart from borders, the other major issue which would need attention is defence procurements and military modernisation. Under Ms. Sitharaman’s leadership, the armed forces will be implementing one of the biggest reforms ever attempted under.

## Implementing reforms

Under the ‘Make in India’ pitch, the government plans to open up domestic defence manufacturing to the private sector in a big way through the recently promulgated Strategic Partnership model. She has to keep a close watch on concerns over nepotism in these attempts.

However, in these attempts, the experience Ms. Sitharaman brings from the Commerce and Finance Ministries would come in handy.

The Ministry has or is in the process of initiating several defence deals running into billions of dollars. The real question is about getting the funds needed to finance them, especially when the economy is slowing down. It has to be seen how she would strike a balance.

# Sitharaman at Defence Ministry Good News for Industry Waiting at the Line

By Ashutosh Shyam

*A full-time minister could push key projects, benefit L&T, Tata Cos and Cochin Shipyard among others*

**Key Beneficiaries**

Major programmer in Defence: Key beneficiary

	Project Cost (\$ bn)	Key probable players (include supply of ancillary)
<b>Navy</b>		
Project 75i	10	L&T, Reliance Defence
Nuclear Submarines	6	L&T
Landing Platform Docks	3	L&T, Reliance Defence
Portable Sonar Systems	1	BEL, L&T, Tata Power SED
<b>Army</b>		
Battlefield management sys	8	L&T, Tata Power, BEL
Tactical Communication System	2	L&T, Tata Power, BEL
Towed Howitzers	2	L&T, Bharat Forge
Self Propelled Wheeled Howitzers	1	L&T
Mounted guns	1	Ashok Leyland, Bharat Forge
Futuristic Infantry Combat Vehicle	10	L&T, Mahindra, Tata Motors
Pinaka multi launcher rocket system	0.3	Tata Power, L&T

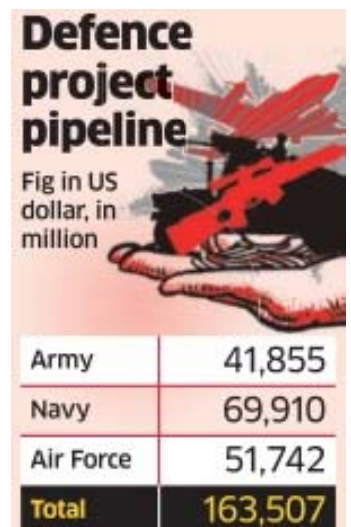
ET Intelligence Group: Defence modernisation projects could gain speed with the defence ministry now getting a full-time minister. If Nirmala Sitharaman could repeat her performance at the commerce ministry here, it would bode well for several Indian companies. The principal beneficiaries in such a scenario would be Larsen & Toubro, Tata Power, Tata Motors, Cochin Shipyard, Bharat Electronics, Reliance Defence, Ashok Leyland and Bharat Forge, which have all been waiting for years for a portion of India's sizeable defence capital expenditure.

India has been one of the largest arms importers -it accounts for 13% of global import, according to think tank International Peace Institute. As

the public sector units that the defence forces depend on locally are marred by obsolete technology and low productivity, the reliance on foreign supplies has been going up. India bought arms worth `82,496 crore between 2013 and 2016, according to a Lok Sabha document.

Several mission critical projects such as to manufacture submarines, frigates, battlefield management systems, artillery guns and tactical communication systems are yet to be executed.

Local companies stand to benefit if these are fasttracked, more so because of the government's increased focus on indigenisation and participation of the private sector in the contracts. Analysts say India's defence outlay could reach \$250 billion over the next 10 years. That means, the 30% local sources rule that apply on defence orders alone would offer a minimum opportunity of \$75 billion for



domestic players. In the medium term, the biggest opportunity for Indian companies is in artillery guns. This appears to be low-hanging fruit and may require the participation of multiple players if all the guns that the forces are looking for are acquired by 2022.

Tatas, L&T and Bharat Forge are among the companies that have made tangible progress to tap this potential business.

India's private players in defence have not received any order so far despite the government's 'Make in India' focus. With a full-time minister to take care of the sector, the \$700 million order that L&T has won for 100 self-propelled howitzers could now be formally awarded. It could drive growth in order inflows and boost the margin for the company. L&T is also ranked No. 1 in pre-qualification tests for futuristic infantry combat vehicles, an \$8 billion contract.



Mon, 04 Sep, 2017

## Lt Gen SK Jha becomes IMA Commandant

### Career graph

- *Lt Gen SK Jha was commissioned into the 17th Battalion of the Sikh Regiment on December 13, 1980*
- *He commanded Rashtriya Rifles Battalion, an Assam Rifle Sector and a Mountain Division in the North East.*
- *He has been decorated with the GOC-in-C Commendation Card (twice), VCOAS Commendation Card, Sena Medal, Yudh Seva Medal and Ati Vishist Seva Medal*

Lt Gen Sanjay Kumar Jha has taken over as the 48th Commandant of the Indian Military Academy, Dehradun.

A highly decorated soldier, Lt Gen Sanjay Kumar Jha is an alumni of National Defence Academy and Indian Military Academy. He was commissioned into the 17th Battalion of the Sikh Regiment on December 13, 1980.

In an illustrious career spanning over 36 years, Lt Gen SK Jha has held various staff, instructional and command appointments. He has commanded Rashtriya Rifles Battalion, an Assam Rifle Sector and a Mountain Division in the North East. His staff experience includes tenantry the appointment of Brigade Major of an Infantry Brigade, General Staff Officer 1 (Operations) of a Mountain Division, Director Military Operations, Brigadier General Staff (Operations) of a Command, Deputy Additional Chief of Integrated Defence Staff at Headquarters Integrated Defence Staff and Additional Director General of Perspective Planning.

He has also held instructional appointments at Indian Military Academy, Indian Military Training Team (Bhutan) and Army War College. He has served as Deputy Commander and Chief of Staff of an Infantry Brigade in the United Nations Mission at Congo.

Lt Gen Sanjay Kumar Jha has been bestowed upon a number of awards, both gallantry and distinguished for his sustained hard work and meritorious service. He has been decorated with the GOC-in-C Commendation Card (twice), VCOAS Commendation Card, Sena Medal, Yudh Seva Medal and Ati Vishist Seva Medal.

He is also the Colonel of the Sikh Regiment. He was GOC-in-C of a Corps in the North East, before assuming the present appointment.

## Invest more in defence research, says JNU V-C

Jawaharlal Nehru University (JNU) vice-chancellor M. Jagadesh Kumar on Saturday pitched for increasing investment in defence research for developing indigenous technology to address the country's security concerns. Speaking at a day-long seminar on 'Comprehensive View of India's National Security', Mr. Kumar said, "One of the ways to address India's security concerns is to invest more in defence research to develop indigenous defence technologies." He also pitched for opaqueness in the security policy. Former Army Chief General (retd) J.J. Singh, former foreign secretary Kanwal Sibal and former defence secretary Shekhar Dutt also took part in the seminar.

Mr. Singh said, "India's diplomacy, Army and other bureaucracy needs a policy of integration to deal with modern international relations and security and study of India's geography is important to secure our borders." Mr. Sibal said, "Indian diplomacy, Army and the country's current leadership had a very clear success in the Doklam crisis with China. India's position stands vindicated." The event was organised by JNU's Centre for Media Studies and Global Counter-Terrorism Council.

## पंजाब केसरी

### भारत-नेपाल का सैन्य अभ्यास शुरू

काठमांडो, (भाषा): भारत और नेपाल ने इस हिमालयी देश के पश्चिमी हिस्से में आज अपना संयुक्त सैन्य अभ्यास शुरू किया, जिसमें आतंकवाद रोधी और जंगली क्षेत्रों में लड़ाई वाले अभियानों पर ध्यान केंद्रित किया गया है। रूपनदेही जिले में 'सूर्य किरण' नाम से हो रहे इस अभ्यास में दोनों देशों में प्रत्येक के करीब 300 सैनिक भाग ले रहे हैं। नेपाल थल सेना के वरिष्ठ सैन्य अधिकारी राजेंद्र कार्की ने इस अभ्यास का शुभारंभ किया। नेपाल थल सेना ने एक बयान में यह कहा है। भारत-नेपाल संयुक्त सैन्य अभ्यास का 12वां सत्र 16 सितंबर को संपन्न होगा। सैन्य अधिकारियों के मुताबिक 'सूर्य किरण' सैनिकों की भागीदारी के मामले में सबसे बड़ा संयुक्त अभ्यास है।

## THE TIMES OF INDIA

## North Korea deaf to China warnings

By Indrani Bagchi

*India Reminds World of Dangers of N-Proliferation*

Coinciding with the BRICS summit in Xia men, North Korea's sixth nuclear test on Sunday sent shockwaves through the international community, adding to pressure on China at a time when President Xi Jinping is getting ready to rule the country for at least another five years.

India issued a sharply worded condemnation of the nuclear test, which, at an yield of 50 kilotonnes, is substantially larger than the bomb that levelled Nagasaki in 1945. Deploring the nuclear test, the foreign



ministry “call(ed) upon DPR Korea to refrain from such actions which adversely impact peace and stability in the region and beyond“.

Reminding the international community of the web of nuclear proliferation, that stretches from countries like China and Pakistan to others in the region, India said it “remains concerned about the proliferation of nuclear and missile technologies which has adversely impacted India's national security“. India has consistently tried to draw the line between North Korea's nuclear and missile capability and the proliferation activities by Pakistan.

The test, coming just ahead of China's 19th party congress, is another sign that Beijing's warnings to North Korea have fallen on deaf ears. Its not particularly comforting for an emerging superpower like China, which prides on getting its neighbours and allies to do its bidding. China joined in the recent UN sanctions against North Korea, stopped a lot of trade with its close ally but is not yet ready to dump Pyongyang. Kim Jong-un, meanwhile, has demonstrated that he was not willing to heed or be sensitive to North Korea's greatest benefactor.

China is trying hard to shake off the international calls that it has to “do more“ to rein in North Korean adventurism. It has been forced to go along with sanctions, but as Russian President Vladimir Putin said on Sunday , they had no effect on North Korea.

It also makes China's threats sound slightly hollow. This week, China's foreign ministry dashed off a note to Indonesia asking it to reverse a decision to name its waters as North Natuna Sea. These waters overlap with China's unilateral 9-dash line in the South China Sea. China claims almost all of this sea. It is still unclear whether Indonesia will obey the Chinese directive or feel emboldened to defy.

On the east, Japan is mulling greater military options, including pre-emptive strike abilities after North Korea sent a missile over its airspace. Sunday's test will only add to Japan's sense of insecurity and possibly focus the national debate on militarisation. Japanese PM Shinzo Abe called last week's missile firing by North Korea an “unprecedented, grave and serious threat“, while defence minister Itsunori Onodera declared that Japan must upgrade its missiles.

With South Korea already looking to beef up its defences, including deploying the Terminal High Altitude Area Defence (THAAD), an American anti-ballistic missile defence system, North Korea's nuclear antics may just result in a situation where China, the dominant power in east Asia, could become flanked by heightened offence-defence posture by Japan and South Korea.



*Mon, 04 Sep, 2017*

## **N Korea's ‘perfect’ H-bomb test sends global shockwaves**

Seoul: North Korea said it had detonated a hydrogen bomb designed for a long-range missile on Sunday and called its sixth and most powerful nuclear test a “perfect success”, sparking world condemnation and promises of tougher US sanctions.

Pyongyang residents threw their arms aloft in triumph as a jubilant television newsreader hailed the “unprecedentedly large” blast.

But world reaction was swift and angry.

US President Donald Trump said on Twitter Pyongyang’s “words and actions continue to be very hostile and dangerous to the United States”.

The US treasury department said it will prepare a package of sanctions that would “cut off North Korea economically”.

In Seoul, President Moon Jae-In called for new United Nations sanctions to “completely isolate North Korea”.

India too strongly condemned the test.

In a statement, the external affairs ministry said that it was a matter of deep concern that North Korea had again acted in violation of its international commitments.

“We call upon North Korea to refrain from such actions which adversely impact peace and stability in the region and beyond,” it said.

Hours before the test, the North released images of leader Kim Jong-Un at the Nuclear Weapons Institute, inspecting what it said was a miniaturised H-bomb that could be fitted onto an intercontinental ballistic missile (ICBM).

US monitors measured a 6.3-magnitude tremor near the North’s main testing site, which South Korean experts said was five to six times stronger than that from the 10-kiloton test carried out a year ago.

The tremor was felt in north-eastern China, with people in the border city of Yanji saying they fled their homes in their underwear, and in the Russian Pacific city of Vladivostok.

Pictures of Kim at the Nuclear Weapons Institute showed the young leader, dressed in a black suit, examining a metal casing with a shape akin to a peanut shell.

The device was a “thermonuclear weapon with super explosive power made by our own efforts and technology”, the Korean Central News Agency cited Kim as saying, and “all components of the H-bomb were 100% domestically made”.

Despite its power there were no radioactive leaks from the test, KCNA said in a later report.

Analysts cautioned that the image had not been verified.

## N Korea's H-bomb test a 'perfect success'

Pyongyang's hydrogen bomb on Sunday resulted in tremors that shook buildings in China and Russia. HT takes a look at Pyongyang's journey to its latest nuke

### 1985

North Korea signs the Nuclear Non-Proliferation Treaty (NPT)

### 1993

North Korea threatens to pull out of NPT after the International Atomic Energy Agency (IAEA) calls for its inspectors to be given access to two nuclear waste storage sites

### 2002

US President George W Bush labels North Korea, Iran and Iraq an "axis of evil"

### 2003

North Korea withdraws from NPT, later declares it has nuclear weapons

### 2006

**JULY:** North Korea tests long range missiles

**OCTOBER:** North Korea claims to have successfully tested a nuclear weapon, resulting in UN Security Council sanctions

### 2007

North Korea agrees to close nuclear reactor in exchange for \$400 million in aid

### 2009

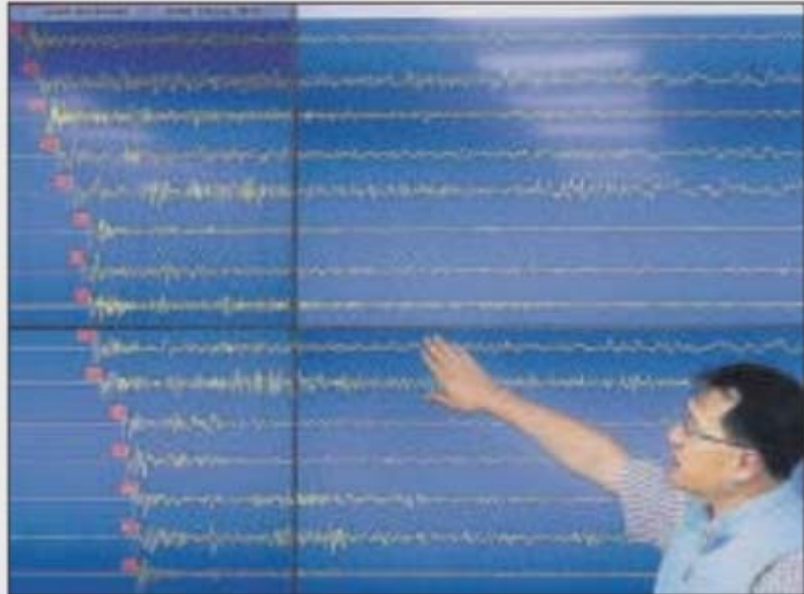
North Korea conducts its second nuclear test, resulting in fresh UN Security Council sanctions

### 2012

**FEBRUARY 29:** US says North Korea has agreed to a moratorium on long-range missile launches and nuclear activity in exchange for aid

**MAY 24:** South

**North Korean supreme leader Kim Jong-Un**



■ South Korea's Earthquake and Volcano Monitoring Division director Ryou Yong-gyu shows a chart of seismic waves caused by the hydrogen bomb, as measured on the Korean peninsula. AP

Korea claims the North appears ready to carry out a nuclear test "at any time"

### 2013

**JANUARY 24:** North Korea says will continue nuclear tests and long-range missile launches in defiance of the US, "the sworn enemy of the Korean people"

**FEBRUARY 12:** North Korea conducts third nuclear test

### 2015

**MAY 20:** North Korea claims it has the ability to miniaturise nuclear weapons, a key step toward building nuclear missiles

**DECEMBER 12:** Pyongyang claims North Korea now has a hydrogen bomb in its arsenal

### 2016

**JANUARY 6-7:** North Korea claims to have successfully conducted a hydrogen bomb test

**MARCH 9:** North Korea says its miniature nuclear warheads can fit on ballistic missiles

**SEPTEMBER 9:** North Korea detonates a nuclear warhead, with an estimated explosive power of 10 kilotons

### 2017

**JULY 4:** North Korea claims it has conducted its first successful test of an ICBM that can "reach anywhere in the world"

**AUGUST 9:** North Korea says it is "examining the operational plan" to strike areas around the US territory of Guam

**AUGUST 29:** North Korea fires a missile that travels over Japan's Hokkaido island

**SEPTEMBER 3:** Pyongyang claims successful test of 'missile-ready' hydrogen bomb



Mon, 04 Sep, 2017

## TRAPPIST-1 planets likely to have water

*3 planets within habitable zone of the star*

The Earth-sized planets orbiting the ultracool TRAPPIST-1 dwarf star 40 light-years away may have substantial amounts of water and could be habitable, scientists say.

An international team of astronomers used the NASA/ESA Hubble Space Telescope to estimate whether there might be water on the seven planets orbiting in the nearby TRAPPIST-1 planetary. The results suggest that the outer planets of the system might still harbour substantial amounts of water.

This includes the three planets within the habitable zone of the star, lending further weight to the possibility that they may indeed be habitable. In February this year, astronomers had announced the discovery of seven Earth-sized planets orbiting the ultracool dwarf star TRAPPIST-1, 40 light-years away.

Following up on the discovery, scientists used the Space Telescope Imaging Spectrograph (STIS) on the Hubble telescope to study the amount of ultraviolet radiation received by the individual planets of the system.

Mon, 04 Sep, 2017

## A robot that can climb walls, grab objects

*It is powered entirely by vacuum*

Scientists have created the first functional soft robot powered entirely by vacuum that moves by having air sucked out of it, and can perform different tasks, such as climbing vertical walls and grabbing objects.

For the robot to move, air has to be sucked out of its individual components. Inspired by muscle contraction, its individual soft components are activated (they collapse) when vacuum is applied to them. The robot uses suction to grab objects or to stick to a smooth wall for climbing, so it can really achieve a wide range of tasks because of the unique properties of vacuum.

### **Multi tasking**

The robot can be reconfigured to perform different tasks, making it highly modular and versatile, with a wide range of applications in both research and in industry.

“What we have is a fully functional robot which is entirely powered by vacuum, which has never been done before,” said Matt Robertson, Ecole Polytechnique Federale de Lausanne (EPFL) in Switzerland. “Previous work has shown individual components powered by vacuum, but never in a complete system,” said Robertson.

Vacuum-powered components are a recent addition to robotics — and, more importantly, they are safe. Today, most actuators on the market are activated by applying positive pressure, i.e by injecting air into their components. However, containing positive pressure requires stiff high-pressure pneumatics, which also pose a safety threat: in extreme situations, they can explode. By comparison, vacuum-powered actuators are safe, soft, and simple to build. “What’s more is that our soft building blocks are designed to be plug-and-play, so ultimately we can assemble several types of robots from the same basic units,” said Jamie Paik, scientist at EPFL.

“They can be reconfigured to perform different tasks like crawling, gripping canisters, and climbing a vertical wall,” said Mr. Paik.