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## Breaking Code & Filling Cracks

By Pranab Dhal Samanta

*A government is entitled to select an Army Chief of its own choice, so to pick political holes in the appointment on grounds of seniority may not wash beyond a point*

**Situation has turned odd for Lt Gen Bakshi & Lt Gen Hariz. To think their Chief is junior to them does complicate perceptions in a regimented and hierarchical institution like the Army**

Why cannot a government dig deep to select an Army Chief of its choice? After all, at this level when it's down to the top five or six general officers of the Indian Army, there's little separating them on merit. To become an Army Commander in the cut-throat fauji system is a big deal. So, conventional wisdom is to then just go by seniority but it's never that simple.

Before arriving at any judgment, it's important to decode this rather secretive and exhausting process, which involves the Intelligence Bureau visiting every location a candidate has been posted.

The ritual begins at least six to eight months before the retirement of the incumbent. And interestingly, all eligible candidates -essentially , the Vice-Chief, every Army Commander including the Chief of Integrated Staff Committee if he is from the Army -are considered.

The Joint Secretary (G), one of the more pivotal jobs in the Defence Ministry's bureaucratic labyrinth, prepares a profile of each candidate based on their dossiers, course record and perception. The profiles are meant to cover every detail, starting from the officer's date of commission till the present.

The process then moves to the Defence Secretary , who reviews this and on being satisfied, makes a formal detailed compilation for reference to the Director of the Intelligence Bureau.

The IB then carries out `discreet inquires' in each place of posting.They are supposed to delve into every aspect of the officer's reputation, facts that may have been suppressed in official files or embarrassments that may have been covered up through times.

Outcomes from this process have been a mixed bag. On many occasions, just as ridiculous as an officer was delayed in paying mess bills or some cantonment gossip from younger days but at times, they have also been relevant. Apparently , in one case regarding the Navy , it emerged one candidate had some deep corporate contacts and that did tilt the scales.

This exercise takes up to four months, before it finally returns to the Defence Ministry. Here on, the Defence Secretary's judgment becomes important. However, not all secretaries choose to make a recommendation. Many just highlight key findings and leave it for their political authorities to make a call.

In the appointment of Gen AK Vaidya, where Lt Gen SK Sinha was overlooked, then Defence Secretary PK Kaul is believed to have relied on old annual confidential reports where there was a hint of an observation of the officer having been given a second chance on a command assignment.

While the real reason was, perhaps, his outspokenness and firm views as articulated in some books he had written by then, the recorded reasons were around Sinha's command profile versus Vaidya's field record -like he had won two Mahavir Chakras in 1965 and 1971 conflicts.

NN Vohra, who is currently J&K Governor, as Defence Secretary had a difficult recommendation at hand for the Navy Chief in 1990. His noting was the basis on which then Prime Minister VP Singh selected Admiral L Ramdas.

While it's not known if the Defence Secretary recorded a recommendation in this case, there's no doubt a political call was made.Which is fine on principle because a government is entitled to select an Army Chief of

its own choice. This happens routinely in bureaucracies. The UPA government did so twice in the case of appointing foreign secretaries. So, to pick political holes in an Army Chief appointment on grounds of seniority may not wash beyond a point.

But there's a larger issue. The situation has turned odd for Eastern Army Commander Lt Gen Praveen Bakshi and Southern Army Commander Lt Gen PM Hariz. To think their Army Chief is junior to them does complicate perceptions in a regimented, hierarchical institution like the Army . Such issues, if unaddressed, can give birth to new schisms, hence conflict.

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# THE TIMES OF INDIA

Mon, 19 Dec, 2016

## Govt defends choice of new Army chief, oppn cries foul

A political slugfest has broken out over the selection of Lt Gen Bipin Rawat as the new Army chief, which the government linked to the “security situation“ in the context of Pakistan, China and terrorism.

“In the current situation, counter-terrorism and counter-insurgency are key issues,“ was the response of official sources to criticism that in appointing Rawat, two senior officers had been superseded -the first since 1983. The two superseded officers are Eastern Army Command chief Lt Gen Praveen Bakshi and Southern Army Command chief Lt Gen P M Hariz.

<b>A SURGICAL STRIKE ON THE ARMY'</b>	
<p>➤ Govt says Lt Gen Bipin Rawat picked to head force due to his “operational experience” and “general dynamism”. Selection “based purely on merit, irrespective of the Corps to which the officer originally belonged”, say sources</p>	<p>questions of institutional integrity; Left says appointments under NDA have become controversial</p>
<p>➤ Congress's Manish Tewari accuses govt of playing politics with the Army, says Rawat's appointment raises “serious and critical</p>	<p>➤ BJP says Cong is “politicising” the appointment</p>
	<p>➤ Lt Gen Iqbal Singh Singha (ret'd), a former UN force commander, calls govt decision a “surgical strike on the Indian Army”, says “two very competent officers have been superseded”</p>

A few veterans too questioned the decision: former UN force commander Lt Gen Iqbal Singh Singha (ret'd) called it a “surgical strike on the Indian Army“.

Pointing out that Rawat had 10 years of experience in counter-insurgency operations and “tremendous hands-on experience in combat areas“, a government source said, “He was also involved in the 1986 operations in the eastern sector facing China (at Sumdorong Chu Valley in Arunachal). In the current situation, we need a person with experience in the relevant area, that is operational experience.“ Sources maintained that Lt Gen Rawat fulfilled the criteria by virtue of operational assignments as

commanding officer of 19 division in J&K, his “outstanding“ track record, familiarity with the Army HQ and his “general dynamism“.

Asserting the government's prerogative in selecting the most eligible officer from a panel, sources emphasised that the final decision was based on “various aspects of the security situation in the country and future scenario“. The government took recourse to a series of background briefings to counter criticism that the appointment had been rendered controversial, saying that while all officers on the panel were competent, the “prevailing environment and requirements“ were key to Lt Gen Rawat's elevation as Army chief.

“He was found best suited... to deal with emerging challenges, including a reorganised and restructured military force in the north, continuing terrorism and proxy war from the west, and the situation in the northeast,“ a source said.

The appointment, however, kicked up a storm in political circles, with Congress and the Left asking PM Modi to spell out the “compelling reasons“ for the move.

Congress spokesman Manish Tewari slammed the government for “playing with institutions“ and “doing politics“ in the Army and wondered if it was “whimsical cherry picking“. Senior CPI lawmaker D Raja said appointments -whether in the Army , judiciary or those of CVC, acting CBI director and to the Central Information Commission -had become controversial. The government and BJP, however, strongly defended Lt Gen Rawat's elevation over two senior officers.“They are all competent officers but under the prevailing security scenario, the government found Lt Gen Rawat the most suitable candidate. We will urge all political parties to not do politics over it,“ BJP spokesperson Shrikant Sharma said. He added that there was no other issue involved in promotion of Lt Gen Rawat and pointed to supersessions in the past.

Commenting on the matter, JD(U) MP Pavan Varma said, “Every question that is being raised is not about politicising an issue but about seeking a clarification or an answer.“

Tewari said, “While Lt Gen Rawat, who is being appointed the COAS, may perhaps have all the requisite credentials but the fact remains that in a hierarchy-conscious organisation where the principle of seniority is almost sacrosanct, the supersession of three senior officers, Lt Gen Praveen Bakshi, Lt Gen P M Hariz, and perhaps even Lt Gen B S Negi, raises extremely serious and critical questions of institutional integrity ,“ Tewari said. Lt Gen Negi is actually junior to Lt Gen Rawat. The PM himself should spell out the “compelling reasons“ behind this supersession, Tewari said.

The NCP said although such appointments were the Centre's prerogative, it could not brush aside considerations such as seniority, competence and integrity.



Mon, 19 Dec, 2016

## Bipin Rawat, Master of Surgical Strikes

*By Shaurya Gurung*

*Lt Gen Bipin Rawat Army Chief-Designate*

**Operational experience of candidates on panel had to be taken into account from counter-terrorism & counter-insurgency perspective'**

Well before the surgical strikes against Pakistan, the Modi government's first challenge came in Manipur in June 2015 when 18 Indian soldiers were ambushed and killed by Naga rebels (NSCN-IM). It responded with cross-border strikes, one that National Security Advisor Ajit Doval monitored carefully. And on the military side, the responsibility of coordination lay with the Dimapur-based 3 Corps Commander Lt Gen Bipin Rawat.

Cut to September 2016 -within three weeks of taking over as ViceChief of Army Staff -Rawat found himself at the centre of another cross-border strike, this time across the Line of Control into Pakistan-occupied Kashmir. The Director General of Military Operations reports to the ViceChief and, in that sense, put Rawat right at the heart of operational nerve centre in South Block, again working closely with the NSA.

As Rawat awaits his turn as Army Chief-designate, trumping two officers senior to him, Defence Ministry sources said in the current scenario “counter-terrorism and counter insurgency are key issues“ and, therefore, “background and operational experience“ of candidates on the panel had to be taken into account from this perspective. Rawat, the sources added, fulfilled this as he has commanded a unit in the Valley and also has “familiarity functioning of the Army Ministry of Defence“.

Also from the Pauri Garhwal area like the NSA, Rawat went to Cambrian Hall boarding school in Dehradun. His friends described him as “stout, fair and shy.“

Rawat then moved to St Edwards, Shimla. Rawat's father, the late Lt Gen Lachu Singh Rawat, also belonged to the Gorkha Regiment. In fact, both father and son commanded the same 511 Gorkha Rifles unit.

Rawat has an outstanding record and his contemporaries describe him as “a professional, a gentleman.“ He passed out in 1978 from the Indian Military Academy, was in the Military Operations directorate as a Major,

spent considerable time in the Military Staff branch that deals with transfers, postings and promotions, besides participating in counter-insurgency operations.

His prime contender Lt Gen Praveen Bakshi, who was next in line, too has an “outstanding“ track record but he belonged to the Armoured Corps while Rawat as an infantryman scored on counter-terror operations, claimed Defence Ministry Source. Interestingly, Rawat was in the same course as the Southern Army Commander Lt Gen PM Hariz, second in line after Bakshi, but lost a term at the National Defence Academy. He, however, made up and eventually passed out of the Indian Military Academy with Sword of Honour.

Rawat was Sector Commander of a Rashtriya Rifles sector involved in counter-terrorist operations in Jammu and Kashmir as a Brigadier. He has commanded the 19 Infantry Division in Uri and 3 Corps in Dimapur.

The supersession has conveyed to the defence services that seniority is no guide in making such decisions. As my sources explained that the supersession will have a cascading effect in appointment of the next chief who, otherwise, would have been Lt Gen D Anbu, the present Northern Army Commander.

The upheaval has started speculations on The Chief of Defence Staff and if Bakshi could be tipped for that but the political spadework for this is still to be done.



Mon, 19 Dec, 2016

## Rawat transformed UN mission

*Keeping Peace: New army chief reworked strategy in Congo and peacekeepers became a symbol of hope for the locals*

New Delhi: When Bipin Rawat took charge of the UN North Kivu Brigade in the Democratic Republic of Congo eight years ago, things weren't going too well for the world's costliest peacekeeping mission, known by its French acronym MONUC.

The locals were contemptuous of UN peacekeepers, questioning what difference they had made in their lives and accusing the mission of doing little to protect them. Angry crowds would often hurl stones at UN vehicles on the streets of Goma, the capital of North Kivu and where the Indian brigade is based.

Lieutenant General Rawat, who will take over as army chief on December 31, was a brigadier when he was sent to the Congo in August 2008 to command the Indian Army's, then as now, largest deployment on foreign soil. He hit the ground running and quickly grasped the reason the peacekeepers were struggling to contain the crisis in the Congo, formerly known as Zaire.

“We were not fighting with our equipment, despite Chapter VII of the UN Charter, authorising the use of force in some scenarios. We have decided to fight with our equipment,” Rawat told this correspondent who was then covering the conflict in eastern Congo.

Rawat reworked the velvetglove strategy to an iron fist within a month of his arrival, frequently authorising the use of attack helicopters to strafe positions held by rebel groups responsible for civilian deaths, recruiting child soldiers and displacing millions of people.

As the Congo's internal conflict raged, he ordered the deployment of infantry combat vehicles rigged with machineguns and cannons to crush rebels and enforce peace in flashpoints such as Tonga, Kanyabayonga, Rutshuru and Bunagana.

In a remarkable turnaround, peacekeepers facing public anger soon became a symbol of hope for the local communities.

The change in attitude was clearly visible when thousands of locals, caught in the crossfire between the Congolese forces and rebel fighters, took refuge in an army base at Masisi located 80 km from Goma.

The crowd clapped and cheered for the peacekeepers as Indian helicopter gunships swooped down and sprayed rockets on rebel positions, allowing the Congolese army to push them back.

Mon, 19 Dec, 2016

## Men from Uttarakhand' hold top posts in security establishments

### *Parties Spar over Appointment to the Top Army Post*

Lt Gen Bipin Rawat and Anil Dhasmana, appointed as the next Army chief and the next RAW boss respectively, have joined the long list of men from Uttarakhand occupying the topmost positions in the security establishments of the country. Both Rawat and Dhasmana hail from Pauri Garhwal district of the state.

National Security Adviser (NSA) Ajit Doval is a native of Ghiri Banelsyun village in Pauri Garhwal, while Coast Guard chief Rajendra Singh hails from Chakrata near Dehradun. Recently appointed director general of military operations (DGMO) Anil Bhatt too has his roots in Tehri Garhwal.

**The trend of men from the hills getting positions of responsibility regarding the country's security started with Modi appointing Ajit Doval (L) as the National Security Adviser in 2014. In the past one year, more appointments from the state have followed, starting with Rajendra Singh (R) being named the Coast Guard chief in February**

The presence of so many people from the state - regarded as 'dev bhoomi' (land of gods) as well as 'veer bhoomi' (land of the brave) - in decision-making positions regarding the country's safety is both a matter of pride as well as a reflection of the trust reposed in them, says Major General BC Khanduri (Retired), former CM, Army veteran and senior BJP member. "It is a fortuitous thing that people from the state are

simultaneously occupying the top echelons of the country's security establishments. They are all highly competent officers and I hope that they do good work which makes the country and the state proud of them."

The trend of men from the hills getting positions of responsibility regarding the country's security started with the Modi government appointing retired IPS officer Ajit Doval, formerly the director of the Intelligence Bureau (IB), as the National Security Adviser in 2014.

In the past one year, more appointments have followed starting with Rajendra Singh being named the Coast Guard chief in February. Singh, hailing from Chakrata, attended school in Mussoorie and graduated from the HNB Garhwal University, Srinagar, Pauri Garhwal.

In November, Lt General Anil Bhatt took over as the DGMO to oversee all crucial operations being conducted by the Army, a post deemed to be of great responsibility especially in the aftermath of the surgical strikes conducted in September. Bhatt, an alumnus of St George's College, Mussoorie, is a native of Khatwar in Tehri Garhwal.

The simultaneous announcement of the appointment of two more Uttarakhandis - Lt Gen Rawat and Dhasmana - to head the Army and RAW respectively on Saturday has been the icing on the cake, say observers.

Brig RS Rawat (Retired), who as an instructor at the Dehradun-based Indian Military Academy (IMA) in the late 1970s taught the newly-named Army chief, says that it is no coincidence that people from the hills of Uttarakhand are being entrusted with such responsibilities.

"Uttarakhand has had a glorious tradition of contributing many men to the country's security forces. People here have a genuine desire to join the Army and other agencies where they can serve the country. Their temperament and physical toughness also make them valuable assets. For instance, Bipin Rawat, whom I remember as a disciplined and extremely hardworking student, displayed all these qualities which I think will make him a great Army chief," he said.

## **Navy chief on five-day visit to Japan**

Navy chief Admiral Sunil Lanba is on a five-day visit to Japan during which he will explore new avenues of cooperation with the country which has emerged as a close partner of India in recent years, both on the nuclear energy front as well as military. The visit also comes at a time when India, Japan and the US are preparing for their next edition of the Malabar exercise which will focus on submarine hunting amid increasing forays by the Chinese underwater vessels in the Indian Ocean.

“The visit aims to consolidate existing maritime cooperation initiatives as well as explore new avenues,” a statement by the Navy said.

India and Japan share similar maritime challenges such as long coastline, extensive Exclusive Economic Zone, coastal security, large coastal shipping and fishing fleet, wherein both navies have opportunities to learn from each other’s experiences, it added. In addition, common ground exists for cooperation on a number of issues for the navies. Defence cooperation between India and Japan is robust and is primarily focused towards maritime cooperation. Bilateral defence cooperation was institutionalised with commencement of the India-Japan Comprehensive Security Dialogue which was initiated in 2001.

Japanese Maritime Self Defence Force (JMSDF) has participated in the Malabar exercise in 2007, 2009, 2014 prior being included as a regular member in the exercise since 2015. JMSDF participated in Malabar 15 and 16 held in the Bay of Bengal and Western Pacific respectively.

In 2014, Japan has also been included as an observer in the Indian Ocean Naval Symposium (IONS), a maritime cooperation construct conceptualised and pioneered by Indian Navy in 2008.

Both navies also engage in navy to navy staff talks which commenced in 2008. The 7th such talks are scheduled to be held in 2017. JDS Matsuyuki participated in the International Fleet Review 2016 held at Visakhapatnam. The Chief of Staff of the JMSDF, Admiral Tomihisa Takei also attended the Review.

Indian Navy too participated in the International Fleet Review conducted by the JMSDF in October 15 at Sagami Bay, Yokosuka, Japan. JMSDF for the first time participated in the Admiral’s Cup Sailing Regatta conducted by the Indian Navy in 2016 at Indian Naval Academy, Ezhimala from December 5 to 11 this year.

Warships of both countries regularly visit each other’s ports.

During the visit, Admiral Lanba is scheduled to hold discussions with Chief of Staff, JMSDF, minister of state for defence, Chief of Staff, Joint Staff besides other senior dignitaries and naval officers.



## **New social media norms for forces**

The government has issued fresh guidelines for regulating sharing of secret operational and service data on smartphones and other such platforms involving troops and officers of central paramilitary forces. The violation of the guidelines issued by the Home Ministry recently and notified to Central Armed Police Forces (CAPFs) headquarters will invite “strict legal action”.

The three-page guidelines speak specifically of instances where forces’ personnel used personal cellphones to click pictures of an ongoing or concluded ambush or operation that later found its way on media platforms like Twitter, Facebook, WhatsApp, YouTube, LinkedIn, Instagram etc.

The directives state that these are a reiteration and enhancement of the existing directives in this regard, but address some specific issues. The latest order by the Home Ministry said there was a “strong need” to issue dos and don’ts afresh as it “has come to the notice of the government that there have been instances where mobile phones and cameras of force personnel have been used for operational coverage and sensitive material was uploaded on social media without permission.” The directives stipulate legal action against defaulting personnel.

“Any such photo, video, among others are meant strictly for official use and any unauthorised disclosure of confidential operations-related information is a serious breach of rules,” the guidelines said. — PTI



*Mon, 19 Dec, 2016*

## **Pak Shifts Focus from Loc to Hinterland**

The attack on an Army convoy in Pampore on Saturday in which three jawans were killed, indicates that while cross-border firing and infiltration has gone down on the Line of Control (LoC), the hinterland remains vulnerable to ambushes and attacks. The Pampore incident was the first since heavily-armed militants stormed an Army camp in Nagrota on November 29, killing six Army personnel. The LoC, which witnessed a series of ceasefire violations for close to one month before the Nagrota attack, became peaceful afterwards due to stiff retaliation by the Indian Army.

The Indian Army changed its tactics and carried out fire assaults on Pakistan Army posts along the LoC as these posts were providing covering fire to militants trying to sneak into Kashmir. Following this, the Pakistan Army and ISI decided to step up violence in the hinterland in South Kashmir by directing the militants to target vital installations and security forces, officials said here on Sunday. The Pampore attack was a testimony to this strategy, they added.

Operational commanders of the Army and paramilitary forces were now redrawing their strategy to counter the new threat by strengthening the counter-insurgency grid in the hinterland.

The objective was to deny the militants a free run and gain an upper hand.

Elaborating upon this crucial aspect, officials said heavy snow along the LoC in South and North Kashmir had blocked all the ingress routes. Nearly 200 terrorists hiding in these regions were now expected to foment trouble in the hinterland and the Pampore attack was one such instance, sources said.

In fact, the phenomenon was now apparent with more than seven encounters with militants in various parts of South Kashmir in the last ten days, they said adding a “hot winter” was anticipated in terms of terrorist violence. The Army was not giving much credence to new Pakistan Army General Javed Bajwa’s statement about wanting to normalise the situation along the LoC. He made this statement while taking charge from outgoing chief General Raheel Sharif last month. Bajwa called for a resolution of the Kashmir issue for the sake of regional stability and warned that any miscalculation by India could be dangerous.

He warned India that taking Pakistan’s policy of constraint and patience as any sign of weakness will prove dangerous. Incidentally, Bajwa headed Rawalpindi-based 10 Corps some years back. Deployed along the LoC, this corps backs terrorists by training and pushing them across LoC through various launch pads located close to the border.

Given the fact that in winter the snow blocks infiltration routes, the Pakistan Army was keen to keep the LoC quiet for the time being and rely on the terrorists inside Kashmir valley to keep the “pot boiling,” sources said. Determined to take revenge for surgical strikes by the Indian Army in Pakistan-occupied Kashmir (PoK) in September-end, the Pakistan Army is unlikely to back off. Officials said infiltration was difficult in the Jammu division manned by 16 Corps due to terrain and heavy presence of the Army. In this backdrop, militants will go all out in South Kashmir where they have more numbers.



## Day After: Forces Step Up NH Vigil, Search Ops

A day after an audacious attack on an Army convoy that killed three Rashtriya Rifles soldiers at Pampore in south Kashmir, the security forces conducted massive search operations on Sunday even as the State police chief reviewed the security situation at a high-level meeting.

The police and paramilitary forces tightened vigil along the Srinagar-Jammu National Highway and conducted surprise searches of the vehicles. The Army conducted house-to-house searches in three villages around the Pampore town where the militants struck on Saturday afternoon and inflicted heavy casualties on the security forces.

No militant was arrested in the raids. Meanwhile, in the backdrop of the lethal attack, Director General of Police K Rajendra Kumar chaired a high-level meeting regarding the security of National Highway at Awantipora, the police district headquarters of the area. The meeting was attended by top Army, police and paramilitary officers.

The DGP directed the officers to devise foolproof plan for the National Highway for safe and secure movement of the people and the security forces, a police spokesman said.

He asked all the officers involved in the security of the national highway to put in additional efforts for greater coordination and cooperation. He emphasised upon the Army authorities to strengthen the corridor protection while the CRPF was asked to fine tune the Road Opening Parties along the highway.

The militants have reportedly set up highway squads to conduct surprise attacks on the security forces.

Rajendra said surgical operations with minimum collateral damages should be conducted.

Inspector General of police, Kashmir range Javed Gilani briefed the meeting about the security situation of south Kashmir and also highlighted recent operations conducted against the militants. He also briefed about the law and order situation and measures taken by the police to investigate and solve the recent bank robberies.

The police chief also held separate meeting with 15 Corps commander Lt Gen J S Sandhu. This meeting was attended by top officers of Army and police to review the overall situation across Kashmir Valley.

Meanwhile, the Army paid tribute to the slain soldiers Naik (Gnr) Ratheesh, Gunner Farate Sourabh Nandkumar and Gunner Shashikant Pandey who laid down their lives in the Saturdays attack.

In a solemn ceremony at Badami Bagh Cantonment in Srinagar, many senior officials from security agencies - including Jammu and Kashmir Police, CRPF, BSF and SSB, joined General Officer Commanding, Chinar Corps, Lt Gen J S Sandhu and all ranks -- in paying homage to the martyrs. Many officials from the civil administration, including Divisional Commissioner Kashmir Baseer Ahmed Khan were also present on the occasion.

“Martyr Naik (Gnr) Ratheesh C (35) had joined army in 2001 and hailed from Kotolipram, Kannur district in Kerala and is survived by his wife and a son,” an Indian Army official said in a statement.

He said 33-year-old Gunner Farate Sourabh Nandkumar of Bhekrai Nagar village in Pune of Maharashtra had donned the uniform in 2004 and is survived by his wife and twin daughters.

Gunner Shashikant Pandey (24) had four years of service and was on his way to join his unit in the Valley. Hailing from Zharian area of Dhanbad district of Jharkhand, he is survived by his parents, the official said.

Mon, 19 Dec, 2016

## Let China keep the drone it stole from US: Trump

In yet another swipe at China, President-elect Donald Trump said on Sunday that the US should let the Communist giant keep the navy's unmanned underwater drone after Beijing agreed to return in an "appropriate manner" the device it had seized in the disputed South China Sea. "We should tell China that we don't want the drone they stole back -let them keep it!" Trump tweeted, hours after Pentagon announced that they have reached an understanding with China for the return of the drone.

Pentagon had alleged that the drone was unlawfully seized by China on December 15 in the South China Sea while it was being recovered by an US navy oceanographic survey ship, USNS Bowditch. The US had lodged a formal diplomatic complaint and demanded the drone back. The incident is among the most serious military confrontations between the two powers for decades. China slammed the US on Saturday for "making a fuss" over the seizure of its underwater drone and said that it would return the device in an "appropriate manner".

Defence ministry spokesperson Senior Colonel Yang Yujun dismissed the US allegations, insisting that China seized the underwater glider to ensure the safe navigation of passing ships.

### Beijing: Will erase intel data from drone before returning it

Chinese official media, quoting informed sources, said on Sunday that the PLA would erase the drone of all intelligence data before handing it back to the US.

Li Jie, a naval expert, said that information gathered by the drone in the South China Sea would not be handed back to Washington "whether the US is happy or not". Li also said that the US should put a stop to "spying activities" in South China Sea under the guise of freedom of navigation. "This is not the first time that we seized a US underwater drone, but the one we seized on Thursday is more advanced than before and might carry valuable information."

This is why the US was so nervous and tried to use media to hype it up this time while it remained silent before, Li said. "The US is aware that such spying activity is inappropriate," he said.

The paper's editorial wondered about how Washington would react if China decided to send its naval vessels close to US shores. "Does the US want the two countries to engage in offshore intelligence gathering one-upmanship?" it asked.



Mon, 19 Dec, 2016

## NASA plans to search for 'Star Wars' planets

*There is a world named Hoth in our galaxy - an icy super-Earth discovered in 2006.*

Some of the planets discovered around stars in our own galaxy may be very similar to the 'Star Wars' exoplanets like arid Tatooine, watery Scarif and even frozen Hoth, according to NASA scientists.

Sifting through data on the more than 3,400 confirmed alien worlds, scientists applied sophisticated computer modelling techniques to tease out the colours, light, sunrise and sunsets we might encounter if we could pay them a visit. Some of these distant worlds are even stranger than those that populate the latest Star Wars film, "Rogue One: A Star Wars Story." "Others are eerily like the fictional planets from a galaxy far, far away," researchers said.

A real planet in our galaxy reminded scientists so much of Luke Skywalker's home planet, they named it "Tatooine." Officially called Kepler-16b, the Saturn-sized planet is about 200 light-years away in the

constellation Cygnus. The reality of its two suns was so startling, George Lucas himself agreed to the astronomers' nickname for the planet.

"This was the first honest-to-goodness real planetary system where you would see the double sunset as two suns," said Laurance Doyle, an astrophysicist with the Search for Extraterrestrial Intelligence Institute, who discovered the planet using NASA's Kepler space telescope.

A person on Kepler-16b would have two shadows. In a storm, two rainbows would appear. Each sunset would be unique, because the stars are always changing their configuration.

Building a sundial would require calculus. Astronomers have discovered that about half of the stars in our Milky Way galaxy are pairs, rather than single stars like our sun. While Kepler-16b aka Tatooine is probably too cold and gaseous to be home to life it's a good bet that there might be a habitable Tatooine "twin" out there somewhere.

There is a world named Hoth in our galaxy – an icy super-Earth discovered in 2006. It reminded scientists so much of the frozen Rebel base they unofficially nicknamed it after the planet that appears in "The Empire Strikes Back." The planet's scientific designation is OGLE 2005-BLG-390L, after the Optical Gravitational Lensing Experiment (OGLE) that found it.

Our galaxy's Hoth is too cold to support life as we know it, researchers said. However, life may evolve under the ice of a different world, or a moon in our solar system. On Earth, it's been found inside volcanoes, deep ocean trenches, even the frozen soil of Antarctica.

"We need Earth climate science to help us understand planetary habitability and the potential diversity of life on exoplanets," said Nancy Kiang, a research scientist at NASA's Goddard Institute for Space Studies.

Both the forest moon of Endor, from "Return of the Jedi," and Takodana, the home of Han Solo's favourite cantina in "The Force Awakens," are green like our home planet. However, astrobiologists think that plant life on other worlds could be red, black or even rainbow-coloured.

## THE ASIAN AGE

*Mon, 19 Dec, 2016*

### **Bird-like drone with feathers developed**

Geneva: Scientists have developed a new bird-like drone equipped with feathers which is capable of changing its wingspan, flying at high speed and moving through tight spaces.

Birds alter the configuration of their wings, when they need to change direction, increase their speed or counter headwinds.

To steer, they spread one wing and slightly retract the other. By adjusting their wingspan in this way, they create a calculated imbalance that causes them to turn.

After observing birds in flight, researchers from the Ecole Polytechnique Federale de Lausanne (EPFL) in Switzerland built an energy-efficient winged drone capable of changing its wingspan, flying at high speed and moving through tight spaces.

"We were inspired by birds: they can radically transform the size and shape of their wings because they have an articulated skeleton that is controlled by muscles and covered in feathers that overlap when the wings are folded," said Matteo di Luca from Brown University in the US.

The drone also has feathers that it can fold and overlap like a fan.

One of the many challenges was in designing and building the complex morphing mechanism, in other words, mimicking nature to construct the drone.

"It is extremely difficult to find the right balance between aerodynamic efficiency and the weight of the device," said Stefano Mintchev from EPFL.

The wing is composed mainly of composite materials in order to maximise strength while reducing overall weight.

Morphing wings that can adapt to the environment and weather conditions are also an important

After observing birds in flight, Swiss researchers built an energy-efficient winged drone capable of changing its wingspan, flying at high speed and moving through tight spaces

issue in aeronautics.

Engineers are still trying to find the ideal replacement for the rigid wings and ailerons of planes.

“With the foldable wings, we discovered that we didn’t need ailerons to help the drone turn. By changing the wingspan and surface area during flight, we could make it turn automatically,” said Dario Floreano from EPFL.

This winged drone therefore opens up new possibilities. Due to its ability to adapt, it may prove very efficient at low altitude, in an urban environment where winds change rapidly.

Researchers wanted to develop a bio-inspired drone that could meet various aerodynamic requirements.

It had to be capable of flying between obstacles, making sharp turns and coping with strong winds. By changing its geometry mid-flight, the drone can meet all these criteria.

The moving part is located on the outer wings. It works like a bird’s quill feathers, which are the large feathers at the edge of the wing.



Mon, 19 Dec, 2016

## Photocopying on campus: Ctrl C, Ctrl V

*What do you do when books cost more than college fee? If you’re a Delhi University student, you head to the nearest photocopy shop. Indian Express visit the campus to see what keeps photocopy machines running.*

The debate on photocopying for education and whether it violates copyright laws, has been brewing since 2012, when some publishers sued Rameshwari Photocopy Service shop at the Delhi School of Economics for making and selling “coursepacks”.

Earlier this month, the Delhi High Court sought to put the matter to rest, saying that photocopying of copyrighted material for educational use was allowed under the Indian Copyright law. The Indian Express spoke to students and teachers to understand why the photocopy business continues to thrive.

As an MSc student of Physics at Delhi University, Kabir Singh, says he is expected to read several books as part of his research on astronomy and astrophysics. One such book is the three-volume series on Theoretical Astrophysics by T Padmanabhan. A search on the Amazon website shows that the hardcover issue of the third volume alone costs Rs 16,619.

Similarly, the latest edition of Spectrometric Identification of Organic Compounds Paperback — an essential reading for all MSc Chemistry students — costs about Rs 17,000 on an online book store.

Most books prescribed to undergraduate science students cost upwards of Rs 500.

“Science books are generally very expensive, and everyone can’t afford them. Photocopying is a cheaper, viable alternative,” says Singh. “Plus, the same subject is taught by four teachers, all of who prefer different books. But we don’t need the entire books, only certain chapters.”

It’s not just science books that cost a bomb, though. Across the board, price remains one of the biggest factors why students — many of them living in the capital on shoestring budgets — prefer to photocopy books. “In my first year, I used to buy books, but then I realised I’m wasting my money because I just refer to one chapter,” says Ankrish Khanna, a final-year student of Political Science at Hindu College.

Sociology professor Nandini Sundar estimates that if students are told to start purchasing all the books they need for their course — MA in Sociology, for example — they would have to shell out as much as Rs 56,000 per semester, or Rs 2.6 lakh for their entire course.

“There are, on an average, 15-30 readings, of which 20 are books or extracts from books. Our students do four courses a semester and 16 during a two-year MA. If an average book costs Rs 700, we are talking Rs 14,000 per course, or Rs 56,000 per semester... Economics textbooks are even more expensive — they cost around Rs 9,000 on an average,” she says.

Sundar is right — even the most basic books for Economics can burn a hole in the pocket. Hardcover versions of Optimization in Economic Theory and Microeconomic Theory, both published by Oxford University Press, for example, cost Rs 37, 827 and Rs 10,900 online, respectively.

### Some old problems

Not just books; old notes by seniors are in demand too. “If one of us gets notes from a senior, we get it photocopied and share with friends,” says Manya Ahuja, a third-year Economics student at SGTB Khalsa. Many photocopy shops have readymade bundles of notes that once belonged to a “topper” from an earlier batch.

Hindi-medium students, in particular, have to rely on photocopied notes. “Most of our books are in English, so we are mostly dependent on seniors’ notes, which are photocopied and passed on through generations,” says


Om Prakash, a student of MA Political Science at DU.

For a lot of students, ill-equipped libraries pose a problem. Final-year History (Hons) students at Lady Shri Ram College, specialising in American History, say there is just one copy of Give Me Liberty: An American History by Eric Foner (Rs 4,500) in the college library — which they’re all supposed to access.

These days, though, photocopying is not the only option — copies of many books can be found online as well. But this helps only those students who have uninterrupted internet access.

In institutes such as IIT, textbooks are made available online and students can access them using the campus network. In residential universities such as JNU, the library is open till late and allows students to access journals and books online.

Pooja, a PhD student of Zoology, says, “During exams, every student is seen searching for books in the library. But someone or the other has already taken them. In the MSc Zoology class, for example, 10-20 copies are available for a certain




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## Business is Booming

Figures from a photocopy shop at Delhi University's Arts Faculty

<p><b>5</b> packets of sheets used on most days. Each packet has 500 sheets</p> <p><b>10 PACKETS</b> per day during examinations</p> <p><b>₹1.5-1.75 LAKH</b> Cost of a photocopy machine</p>	<p><b>₹900</b> Cost of 1 kg of toner</p> <p><b>10,000-15,000</b> pages can be printed with 1 kg of toner</p> <p><b>50 PAISA</b> Cost of photocopying a page</p>
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## Hole in the pocket

<p><b>₹27,190</b> First-year fee for BA (Honours) Journalism at Lady Shri Ram College for Women</p> <p><b>₹36,000</b> Approximate cost online of books that UGC's reading list prescribes in the first two semesters</p>	<p><b>₹13,000</b> Cost of the latest edition of a popular book, Mass Communication Theory</p> <p><b>MOST OF</b> these books do not have Indian editions and have to be imported</p>
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**PRICES OF** second-hand books can be slashed anywhere between half to even a tenth, depending on the condition

book, and there are 80 students.”

Faculty members say in DU, where over a lakh students are enrolled, having enough books in libraries is a tough ask. Plus, certain libraries are off limits for undergraduate students. “We don’t have as many books as there are students. So students get photocopies of whichever chapters they require. Only postgrad or PhD students studying Science in DU can access the library,” Ram Prasad, professional assistant at the Central Science Library, says.

**Only way out** - In some cases, publications are so old that they only exist in photocopy form, or the subject experiences such rapid shifts that books change every other year. Either way, students say photocopies are the only way out.

“There are certain books only available in photocopied format as far as we know, because they’ve been published years ago. Take, for example, *Magic, Science and Religion and Other Essays* by Bronislaw Malinowski. It was published in 1948 and is still part of Sociology readings,” says Dharampal Singh, owner of the Rameshwari Photocopy Shop.

This is the case with many subjects like History and Political Science, which recommend books published as early as 1942 (J W Thompson’s *A History of Historical Writings*) and 1954 (Maurice Duverger’s *Political Parties: Their Origin and Activities in Modern State*).

“For subjects like corporate law, we cannot rely on second-hand books because the standards keep changing due to changes in various acts,” says Hriday Maini, a final year B Com (Hons) student of Ramjas College.

### **Not just DU**

The photocopy phenomenon exists in JNU and Jamia Millia Islamia, too. Meeran Haider, an MPhil student of West Asian Studies at Jamia, says, “We get about Rs 5,000 as scholarship. If we don’t photocopy books or use scans and PDFs, how will we manage?”

Aman Sinha, an MA student of Modern History, says, “In JNU, the library is better stocked, so at least we easily get access to books and readings we need to photocopy. In DU, even finding that is a problem.”

Advocate Saikrishna Rajgopal and Pratibha Singh, representing the triad of publishers — Oxford University Press, Cambridge University Press and Taylor & Francis Group — in the case against Rameshwari Photocopy Service for copyright violation refused to comment on the matter.

Associate Professor Niranjana Kumar of the Hindi Department at DU feels publishers should distinguish between photocopying for “enhancement of knowledge” and “commercial use”. “The academics and research that we are gaining will help in upward social mobility and some of them will be good researchers, good educationists and will help in creating and innovating further knowledge. The publishers should also think of that,” he says.