News for March 2017

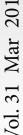
The Crux of The Hindu and PIB

Vol. 31



: Aspirant Forum :

AN INITIATIVE BY UPSC ASPIRANTS





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About the 'CRUX'

Introducing a new and convenient product, to help the aspirants for the various public services examinations.

The knowledge of the Current Affairs constitute an indispensable tool for all the recruitment examinations today. However, an aspirant often finds it difficult to read and memorize all the current affairs, from an exam perspective. The Newspapers and magazines are full of information, that may or may not be useful for the exams. Thus, acandidate is forced to spend a substantial amount of his time in selecting and maintaining notes for the current

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Another problem is that it is difficult to get every bit of information, relevant from the exam perspective at oneplace. Thus, candidates are often found wasting their time in search of current affairs material.

It is with this problem in mind that we have come up with the GIST of The Hindu and Press Information Bureau(PIB).

The whole concept of the CRUX is to provide you with a summary of the important news and current affairs, from an exam point of view. By reading the CRUX, you will be able to save your precious time and effort, as you get all the relevant matter in a summarized and convenient form.

The Crux is particularly helpful for the Civil Services, Banking, SSC and other exams that have a current affairs section

The material is being provided in such a manner that it is helpful for both- objective and descriptive sections. Our aim is to help the candidates in their effort to get through the examinations. Your efforts and dedication inspire us to keep going. It is our sincere effort to make your journey easier.

Best Wishes Editorial Board **Team Aspirant Forum**

> Courtesy: The Hindu Press Information Bureau (PIB)



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National

Opinion sought on new cadre for lower judiciary

The Union Law Ministry has sought an opinion from Attorney-General Mukul Rohatgi and Solicitor-General Ranjit Kumar on the long-standing proposal for an all-India judicial service for the lower judiciary.

The decision was taken at a meeting chaired by Union Law Minister Ravi Shankar Prasad on January 16. Various issues related to the proposal for a separate cadre for the lower judiciary were discussed.

However, several State governments and courts hold various views on the issue. While in several states local languages are currently used for official works in the lower courts, candidates selected from one state might face difficulty in another state -- this is one of the unresolved problems.

It has also been argued that such an arrangement might lead to problems in the career progression of state judicial service officials. The Law Commission has endorsed the idea of having a national-level judicial service on the lines of All-India Civil Services. A department-related Parliamentary Standing Committee on Personnel, Public Grievances, Law and Justice, in its 15th report, has also recommended such a judicial service for the appointment of district-level judges.

Law enforcement in the digital era

One consequence of the recent demonetisation was a push towards the digitisation of the economy — a move that will create transparency in the financial system.

But this digital push must be accompanied by greater security of digital transactions to deal with the tsunami of cybercrimes that is bound to follow. India's enforcement mechanisms, laws and policies must be re-examined immediately to ensure that the theft of data or money is dealt with severely, swiftly and transparently.

A recent ASSOCHAM-PwC study found that cybercrime in India surged almost 300% between 2011 and 2014. The Indian Computer Emergency Response Team (CERT-In), the national agency tasked with maintaining cybersecurity, reported more than 50,000 security incidents in 2015. With the push towards digital transactions, this number will only grow. As smartphones become the

preferred mode of transactions, hacking, phishing and malware based attacks are serious concerns. The Nokia malware report showed a 96% surge in mobile device infections in 2016.

The logistical burden these incidents will place on lawenforcement the judiciary, will be enormous. Our police infrastructure, which doesn't yet have the capacity to handle existing cybercrimes, will be strained to breaking point in the coming surge.

Dealing with cyber offences necessarily means upgrading the capabilities of law enforcement, either through new recruitment or by imparting technical training to existing personnel. But this prescription comes with its own problems, not least being the supply of qualified people. Given the salaries and perquisites in the public services vis-a-vis the private sector, hiring qualified people will be difficult. A differential pay structure or fast-track promotions will be problematic in the current system, which is strictly hierarchical. If existing personnel are trained rigorously, on the other hand, there is the danger that they will be poached by the private sector.

The more promising option is a Public Private Partnership (PPP) to combat cybercrime. Such a partnership will draw upon the skills in the private sector to train the police, while providing practical experience in dealing with cybercrimes to corporate employees. Such models already exist and are fairly successful.

One example is the National Cyber Forensic Training Alliance (NCFTA) in the U.S., a non-profit platform that tackles cybercrime through partnerships with subject matter experts in the public, private, and academic sectors. A similar set-up in India is the NASSCOM-affiliated Data Security Council of India (DSCI). The DSCI sets up cyberlabs in different cities and imparts training. This model is now ripe for scale-up across the country and can be tapped into by the jurisdictional police.

In addition, we must reshape our current cybercrime laws to address the likely surge in offences relating to digitisation. Given the borderless nature of cybercrimes, state police agencies need to be able to pursue offenders without worrying about jurisdiction. To allow for this, a pan-India cyber-enforcement force must be considered.

Such a force can become a one-stop-shop for digital monetary fraud and will go a long way in assuaging the concerns of cyber-fraud victims. Such a force will also be able to identify trends and stop entities that prey on the gullibility of uninformed citizens transitioning to the digital economy.

(The views of Pronab Mohanty, IPS, DDG-UIDAI and Jai



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Asundi, Research Coordinator, CSTEP are personal)

Enemy Property Bill passed amid walkout

Government of India should have right over such assets and not the heirs of citizens of enemy countries, says Jaitley

The Rajya Sabha passed the The Enemy Property (Amendment and Validation) Bill, 2016,, in the sixth attempt after ordinances were passed to keep the Bill alive, following fierce objections by the Opposition parties.



As the government introduced the Bill for consideration in the Rajya Sabha, the entire Opposition walked out. The government's determination to pass the Bill was evident as 10 Union Ministers were present in the House to ensure that it was passed.

Home Minister Rajnath Singh, who was supposed to reply to the debate on the Bill, did not say much observing that the Leader of the House Arun Jaitley had already explained it in detail.

The 49-year-old law was amended to guard against claims of succession or transfer of properties left by people who migrated to Pakistan and China.

Defer it, says Opposition

The Bill, which amends the Enemy Property Act, 1968, was passed by the Rajya Sabha despite the Opposition demanding deferring of the debate on the draft legislation for a threadbare deliberation next week.

The measure was passed by the Lok Sabha in March last year. After this, the Rajya Sabha had sent it to a select committee, following whose recommendations; the government had moved a number of amendments to it.

After the amended Bill was passed by the Rajya Sabha, it was returned to the Lok Sabha for final passage just before it was adjourned for the day.

Earlier when the Bill was taken up in the Upper House, Congress leader Jairam Ramesh said "many senior members including the Leader of the Opposition are not present in the House for a variety of reasons. Therefore the Bill should be taken up for discussion on the next working day." His views were echoed by other members including Javed Ali Khan (SP) and Sukhendu Shekhar Roy (AITC). However, the government took up the Bill for discussion and later got it passed by a voice vote after the entire Opposition, angered over the government's insistence, walked out of the House.

Explaining the urgency to get the Bill passed, Mr. Jaitley said the ordinance effecting the amendments in the Act would lapse on March 14 and this was a security issue also

Elaborating on the measure, he said it was a principle that the government should not allow commercial interests or properties of an enemy country or its citizens. Mr. Jaitley said the right of the enemy property should vest in the government of India and not in the heirs of the citizens of the enemy countries.

Union Ministers present in the House were Manohar Parrikar, J.P. Nadda, M. Venkaiah Naidu, Suresh Prabhu, Piyush Goyal, Prakash Javadekar, Ananth Kumar and Mukhtar Abbas Naqvi.

The amendments proposed include that once an enemy property is vested in the Custodian, it shall continue to be vested in him as enemy property irrespective of whether the enemy, enemy subject or enemy firm has ceased to be an enemy due to reasons such as death.

No transfer allowed

The new Bill ensures that the law of succession does not apply to enemy property; that there cannot be transfer of any property vested in the Custodian by an enemy or enemy subject or enemy firm and that the Custodian shall preserve the enemy property till it is disposed of in accordance with the Act.

The amendments are aimed at plugging the loopholes in the Act to ensure that the enemy properties that have been vested in the Custodian remain so and do not revert to the enemy subject or firm.

The Bill also prohibits civil courts and other authorities from entertaining disputes related to enemy property.

The lowdown on the Bill to regulate surrogacy

The Surrogacy (Regulation) Bill was introduced in Parliament in November 2016. With Karan Johar announcing recently that he has had twins through a surrogate mother; the spotlight is back on the Surrogacy Bill that is yet to become an Act, allowing for it to be implemented



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in the country.

The Bill seeks to regulate the surrogacy part of a rather flourishing infertility industry in the country.

Defining 'surrogacy' as a practice in which a woman undertakes to give birth to a child for another couple and agrees to hand over the child to them after birth, the Bill allows 'altruistic surrogacy' — wherein only the medical expenses and insurance coverage is provided by the couple to the surrogate mother during pregnancy. No other monetary consideration will be allowed.

India has emerged a hub for infertility treatment, attracting people from the world over with its state-of-the-art technology and competitive prices initially to treat infertility. Soon after, with the prevailing socio-economic inequities, underprivileged women found an option to 'rent their wombs' and thereby make money to take care of their expenses — often to facilitate a marriage, enable children to get education, or provide for hospitalisation or surgery for someone in the family.

Once information of the availability of such wombs got out, the demand also picked up. Unscrupulous middle men inveigled themselves into the scene, and the exploitation of women began. Several instances began to emerge after women, in desperate straits, began to file police complaints when they did not receive the promised sum

Other issues also began to crop up. For instance, in 2008, a Japanese couple began the process with a surrogate mother in Gujarat, but before the child was born they split and there were no takers for the child.

In 2012, an Australian couple commissioned a surrogate mother, and arbitrarily chose one of the twins that was born. The time was ripe for regulation, or a revolt.

Any couple that has 'proven infertility' are candidates. The 'intending couple,' as the Bill calls them, will be eligible if they have a 'certificate of essentiality' and a 'certificate of eligibility' issued by the appropriate authority. The former will be issued if the couple fulfils three conditions: one, a certificate of infertility of one or both from a district medical board; two, an order of parentage and custody of the surrogate child passed by a magistrate's court; thirdly, insurance cover for the surrogate mother.

An eligibility certificate mandates that the couple fulfil the following conditions: they should be Indian citizens who have been married for at least five years; the female must be between 23 and 50 years and the male 26 and 55 years; and they cannot have any surviving child (biological, adopted or surrogate). However, this would not include a 'child who is mentally or physically challenged

or suffers from life threatening disorder or fatal illness.'

Only a close relative of the couple, who is able to provide a medical fitness certificate, can be a surrogate mother. She should have been married, with a child of her own, and must be between 25 and 35 years, but can be a surrogate mother only once.

While there was a general murmur of appreciation and some strident approval from infertility experts, there was some apprehension about the regulations being too restrictive. For instance, it does not allow single women or men, as in the case of Johar, or gay couples to go in for surrogacy. Representations from these groups emerged even as Health Minister J.P. Nadda introduced the Bill in the House.

Others, primarily those involved in organ transplantation, pointed out how despite a similar stringent law, the Transplantation of Human Organs Act, organ commerce continues to thrive. Clearly, the issue will have to be handled firmly, even as the sensitivities of people are factored in.

The Bill will have to be passed by both Houses of Parliament to become an Act. The States would have to draw up their rules and regulations for the implementation.

Cost overruns for infra projects hits Rs. 1.7 lakh cr.

As many as 287 infrastructure projects worth Rs. 150 crore or above each, including those delayed, have seen a cost overrun of Rs. 1.66 lakh crore.

Total original cost of implementation of 1,186 projects was Rs. 14,60,099.70 crore and their anticipated completion cost is likely to be Rs. 16,26,445.47 crore, which reflects cost overrun of Rs. 1,66,345.77 crore (11.39% of the original cost), according to the Statistics Ministry's latest flash report for December 2016.

The 1,186 projects in question include 287 that reported cost overrun and 336 that reported time escalation.

"In April 2016, out of 1,061 projects on the monitor of this ministry, 241 reported cost and 326 time overrun while during December 2016, out of 1,186 projects, 287 reported cost and 336 time overrun," according to the report.

The flash report provides details on the status of the 1,186 central infrastructure projects that cost Rs. 150 crore and above. The Ministry of Statistics and Programme Implementation keeps track of such projects on time and cost overruns through its online computerisation monitoring system (OCMS) based on information provided by project implementation agencies.



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Lok Sabha clears amended Enemy Property Bill

Approves changes introduced in the Rajya Sabha last week

Heirs of those who migrated to Pakistan and China during Partition will have no claim over the properties left behind in India, with Parliament, passing a Bill to amend a 49-year-old law.

The Enemy Property (Amendment and Validation) Bill, 2016, which amends the Enemy Property Act, 1968, was passed by voice vote in the Lok Sabha, incorporating the amendments made by the Rajya Sabha last week. The Lok Sabha had passed the Bill earlier but certain amendments were introduced to it in the Rajya Sabha, on the recommendations of a Select Committee. Those amendments had to be approved by the Lower House, which was done ..

Seeking clarity

RSP member N.K. Premachandran had moved a statutory amendment seeking to introduce clarity with regard to those properties which had already been acquired by the heirs of the 'enemy' property owners, a reference to nationals of Pakistan and China.

According to the Bill, "enemy property" refers to any property belonging to, held or managed on behalf of an enemy, an enemy subject or an enemy firm.

The government has vested these properties in the Custodian of Enemy Property for India, an office instituted under the Central government. After the Indo-Pakistan War of 1965, the Enemy Property Act was enacted in 1968, which regulates such properties and lists the Custodian's powers.

1968 Act

"The purpose of [the] Bill is to clarify the 1968 Act. Inheritance law will not be applicable on Enemy Property...This will put an end to the long-pending issue which should have ideally happened in 2010 when the Bill was introduced," Home Minister Rajnath Singh said, while replying to a brief debate on the Bill. The government brought the amendment Bill in the wake of a claim laid by the heirs of Raja Mohammad Amir Mohammad Khan, known as Raja of Mahmudabad, on his properties spread across Uttar Pradesh and Uttarakhand.

The matter is before the Supreme Court. Five ordinances were promulgated on the Bill. The last one expired on March 14.

No Aadhaar, no scholarship

Key document: The SC is yet to rule on whether Aadhaar infringes on a citizen's right to privacy. V. Raju

S&T Ministry notification says students need it to pursue career in science

A key set of scholarships that encourage middle school students to pursue careers in science, collegians to opt for basic science research and women to return to labs after a break in career, will soon require an Aadhar registration.

A March 9 notification by the Union Ministry of Science and Technology says, "...an individual desirous of availing benefits under the Schemes is required to furnish proof of possession of Aadhaar or undergo Aadhaar authentication. The schemes are DISHA Programme, INSPIRE Award, INSPIRE Scholarship, INSPIRE Internship, INSPIRE Fellowship and INSPIRE Faculty".

The last date for application would be September 30 and, were a scholarship-holder to live in a block or taluka without an Aadhar enrollment centre, the Science Ministry would be required to set up a facility, the notification adds. The INSPIRE (Innovation in Science Pursuit for Inspired Research) scholarships and DISHA scheme (for women scientists) have been designed to reach students and women-researchers across all districts.



As of July 2016, 1.3 million students have benefited from the three-pronged INSPIRE scheme.

As part of this, 10,000 students get Rs. 80,000 to pursue a research career; 200,000 children from every school in India are awarded a Rs. 5,000 cash prize every year to develop science models with 60 of them chosen to display it at Rashtrapati Bhavan, and newly-minted scientists are offered an assured 5-year research contract.

'Not mandatory'

The Aadhar link to the scholarship comes even as a Constitution Bench of the Supreme Court, led by former Chief Justice of India H.L. Dattu, said that the use of the Aadhaar card was purely voluntary and not mandatory.



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While the Supreme Court is yet to rule on whether the Aadhar scheme is an invasion of a citizen's right to privacy, it has only allowed it to be used for subsidies under the public distribution system and for distributing LPG cylinders.

However, the government now uses it to manage a variety of schemes, from grants to Bhopal gas leak victims and the Pradhan Mantri Ujjwala Yojana to Sarva Shiksha Abhiyan. It also decided last month that children wanting to avail midday meals in schools need to be Aadhaarregistered.

'Post polls, all political parties must support labour reforms'

Panel to finalise labour code for easing retrenchment norms, says Dattatreya

The Centre will aggressively push for labour reforms following the recent state elections, said Bandaru Dattatreya, Labour and Employment Minister.

"After the state election results, all political parties should step forward to support development, including labour reforms," Labour Minister Bandaru Dattatreya told The Hindu at the International Vision Zero Conference on Occupational Safety and Health organised here.

"It should be given priority instead of playing politics. Our government has given top priority to labour reforms for employment generation and safety and working conditions for workers and we will keep pursuing them intensively."

The recent election results in Uttar Pradesh, Uttarakhand, Goa, Punjab and Manipur will help the National Democratic Alliance Government to increase its share of seats in the Rajya Sabha. The NDA has a majority in Lok Sabha but lacks the numbers for a majority in the Rajya Sabha.

The NDA has 74 out of 245 members in the Rajya Sabha at present. Getting more representation in the Upper House following the state election results will help the NDA Government facilitate further reforms, Moody's Investors Service had said.

Mr. Dattatreya said a panel of Union Ministers led by Finance Minister Arun Jaitley will meet next week to finalise the labour code on industrial relations aimed at easing retrenchment norms.

Wage code

"The Ministers have cleared the code on wages. The first phase of discussions on industrial relations code has already happened. We will again meet next week to take it forward," Mr. Dattatreya said.

The proposed labour code on wages aims to bring about uniformity in the definition of wage in various labour laws and make national minimum wage mandatory for all establishments. The code on industrial relations seeks to relax retrenchment norms for companies and provide skills to retrenched workers, among other measures.

CAG pulls up I-T Dept. on shell companies

The firms allegedly indulged in concealed unaccountedfor income and generated black money

The Comptroller and Auditor-General (CAG) has pulled up the Income Tax Department for not putting to use the tools at its disposal for effective action against shell companies that conceal unaccounted-for income and generate black money, specifically with respect to Maharashtra Sales Tax Department findings.

In its latest report, the CAG said the State department's website had a list of 2,059 suspicious dealers who had issued invoices involving tax evasion of over Rs. 10,640 crore.

The auditor had sought details from the I-T Department in Mumbai on the assessees and the ultimate beneficiaries, but despite reminders, the data were not provided.

In 2008-09, the MSTD had informed the Bombay High Court that it had investigated 1,555 hawala operators involving 39,488 beneficiary dealers who had passed on an input tax credit of Rs. 1,333 crore in three years.

The accused claimed and got input tax credit against the declaration of fake tax invoices without actual transactions involving the sale and purchase of goods. To evade detection, payments were made against the invoices by cheque or bank transfers and the amounts were later withdrawn from the accounts of hawala operators.

The CAG relied upon the MSTD data for analysis and found that the Income Tax Department had not even scrutinised all the assessees featuring on the list.

"The information regarding bogus purchases was not passed on to assessing officers ... the current provisions have not acted as a deterrent as there are no disincentive for giving and receiving accommodation entries. Established companies have also resorted to the practice of obtaining bogus purchases, which shows that the present system of gathering evidence and acting thereon is ineffective," the report said.

Inflated expenses

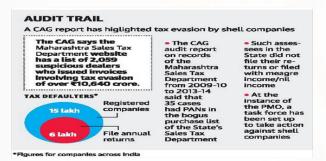
The shell companies are used to generating bogus bills showing inflated expenses on various counts. They receive payments through the banking channel to project



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the transactions as genuine, and then return the rest to the ultimate beneficiaries after charging a commission. Unscrupulous tax consultants and chartered accounts are also involved in the setting up of such entities.



In 35 cases with PAN records, the auditor found that assessees had either not filed their returns, or had disclosed meagre or no income, or had stopped filing the returns. "The Income Tax Department did not take any action to examine the veracity of the facts reported therein, nor did they fully follow the information provided by their own investigation wing," the report said.

The CAG report recommended that in cases of false disclosure, the department should have moved the Settlement Commission for withdrawal of immunity to the applicants.

Interestingly, the Finance Ministry — under which the I-T Department functions — told the CAG that there was no loss of revenue as each bogus purchase involved bogus sales also.

'Assess impact of Make in India plan'

A Parliamentary panel has sought an assessment of how the government's Make In India (MII) initiative has helped the micro, small and medium enterprises (MSME) in the country. It also said dedicated measures should be made to ensure that Foreign Direct Investment (FDI) promotes the MSME sector.

The Department Related Parliamentary Committee on Commerce and Industry also asked the government to share with it the factors behind Foreign Portfolio Investments turning negative and its impact on the Indian industry. Given the large population of youth in the country, the Parliamentary Standing Committee on Commerce also wanted the assessment to show if the MII programme — aimed at boosting manufacturing in India and generating jobs mainly for the youth after ensuring that they get opportunities to skill themselves through skill development

programmes — has seized the opportunity of the demographic dividend.

The panel, chaired by Bhupinder Yadav, MP, Rajya Sabha, recommended that manufacturing growth in the country become robust. "The manufacturing sector has grown only by an average of 1.6% in the last five years till 2015-16," it said.

'Capital goods crucial'

Stating that the capital goods sector is crucial for the industrial growth of the country, the panel said, "Appropriate measures may be taken to revive the growth of the capital goods sector." On industrial development of backward and remote areas, the panel said, "possibility of giving suitable subsidy may be explored for industries investing high capital, which may be Rs. 500 crore or above in select sectors like food processing and other employment generating industries congenial to the region."

On proposals to boost export performance, the panel said a healthy increase in the allocation of the Interest Equalisation Scheme would enable greater coverage and help augment export competitiveness, which otherwise, had been adversely affected by high rate of credit. Professionalism needed to be infused in the working of the Directorate General of Trade Remedies so that maximum benefit of the country's foreign trade potential may be reaped, the panel said.

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According to an output-outcome framework document prepared by the government, India wants to reach the 90th rank in 2017-18 and 30th by 2020.

"Better rank in ease of doing business and greater awareness about opportunities in India in manufacturing sector would lead to growth in the manufacturing sector," the document said.

Department of industrial policy and promotion (DIPP) secretary Ramesh Abhishek said the targets are feasible. "We are hoping to do extremely well in five categories: starting a business, construction permits, paying taxes, trading across borders, and resolving insolvency. We are already in the top 50 in three parameters out of 10. We are facing challenges in two criteria: enforcing contracts and registering property because of the complexity involved," he said.

India was ranked within the top 50 countries in parameters such as protecting minority investors (13th), getting electricity (26th) and getting credit (44th), among the 190 countries surveyed. India's worst rank was in dealing



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with construction permits, where it was placed 185th. It ranked 136th in resolving insolvency, 138th in registering property, 143rd in trading across borders and 172nd in both paying taxes and enforcing contracts.

Arindam Guha, partner at Deloitte Touche Tohmatsu, said it will be an uphill task to achieve the targets since it involves many stakeholders other than the central government.

"Government has to proactively pursue with the state governments and local bodies as well as the Supreme Court and high courts for necessary reforms. Between Delhi and Mumbai, the former has been an underperformer though the latter has picked up in recent times, especially in dealing with construction permits. This may prove to be a drag on India's overall ranking," he added. This year's budget allocated Rs272.48 crore under the scheme of investment promotion that will be spent on launching a 360 degree awareness campaign for better ease of doing business ranking and to attract investment in 25 sectors selected under Make in India.

DIPP has also involved the National Productivity Council and the United Nations Development Programme to conduct user feedback to evaluate the effectiveness of its reform measures.

To break into the top 50 in the World Bank ranking, India needs to set up fast-track commercial courts, dispose of cases quickly with minimum adjournments and establish e-courts for electronic filing of complaints, summons and payments, a government official said on condition of anonymity.

Jaitley announced legislative reforms to simplify, rationalize and amalgamate existing labour laws into four codes—wages, social security and welfare, industrial relations, and safety and working conditions.

The finance minister said a road map for scrapping the FIPB that scrutinizes foreign investment proposals will be announced soon as part of the government's financial sector reforms.

The National Democratic Alliance (NDA) government at the centre plotted an eight-point strategy to make it easier to do business in India. Departments will now hold stakeholder consultations for feedback on reforms undertaken, and also engage with respondents to ensure the reforms are implemented at the ground level. Each department will review progress every week in carrying out the necessary reforms.

NPCI denies loophole in BHIM app

National Payments Corporation of India (NPCI), which

developed the application for the Unified Payment Interface (UPI), has denied reports about technical malfunction or vulnerability of the app.

In a statement issued ,, NPCI said there was no vulnerability or loophole reported in Bharat Interface for Money (BHIM) application or the UPI system.

'Robust security'

"NPCI has done intensive testing, robust design of security controls and continuous monitoring of its UPI infrastructure. The environment in which BHIM or UPI is run by NPCI is highly secure and certified with best global practices like PCI DSS ISO 27001. The packages have also been audited by reputed IT security firms. NPCI has put in place adequate governance mechanism for banks to report any fraud or system issues and its redressal," the statement said.

Earlier this month, Pune-based Bank of Maharashtra had filed a first information report in Pune against 50 people for allegedly pulling out money using the UPI app causing a loss of Rs. 6 crore to the bank.

"The technical lacunas ...were present in the application. These were noticed by some unscrupulous elements and taken undue advantage of. However, the bank has taken all necessary steps and corrections have been made in the system so as to prevent the recurrence of similar incidence in future and MAHA UPI will continue to provide the services to the customers," Bank of Maharashtra said in a statement.

Centre eyes ways to open multibrand retail

Finding a way: Despite tough reforms such as allowing 100% FDI in food retail there have been no major protests

May allow FDI skirting BJP manifesto; final call after Apr. 12

In a bid to ease Foreign Direct Investment (FDI) norms related to Multi-brand Retail Trading (MBRT), the Centre is looking at ways to get around the BJP's 2014 Election Manifesto that categorically ruled out FDI in the 'politically sensitive' sector.

While the Centre is considering various options including allowing FDI in MBRT of certain non-food items such as health and wellness products, with a rider that they should be locally manufactured, the final call would be a "political" one and would be taken only after the ongoing Budget Session of Parliament ends on April 12, official sources said.

Non-food items

Despite a proposal from the Food Processing Indus-

AF)

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tries Ministry to allow FDI in MBRT of non-food items, the sources, on condition of anonymity, said the Centre's current difficulty related to the sensitivity involved in circumventing the BJP's manifesto.

The manifesto promised that "barring the multi-brand retail sector, FDI will be allowed in sectors wherever needed for job and asset creation, infrastructure and acquisition of niche technology and specialised expertise."

The manifesto said, "the BJP is committed to protecting the interest of small and medium retailers, SMEs and those employed by them."

This assurance to prohibit FDI in MBRT was to allay the fears of local traders, many of whom form the BJP's core constituency, that allowing foreign investment in the sector would lead to small retailers losing their source of livelihood.

However, ever since the BJP-led coalition came to power at the Centre, the ban on FDI in MBRT has only been a de facto one, as the consolidated FDI policy still retains the decision taken by the previous UPA government, which was to allow 51% FDI in MBRT through the approval route.

Local sourcing

The policy stipulates many conditions including on a specified level of minimum investment and local sourcing. This is not being implemented because several states through their respective Shops & Establishment Act, do not currently allow foreign-owned and controlled firms to open multi-brand retail outlets in their territory. In order to generate employment in food processing and to attract the latest technologies in the sector, the NDA government, allowed 100% FDI under the government approval route for trading, including e-commerce, in respect of food products manufactured and/or produced in India.

However, following the proposal made by the Food Processing Industries Ministry to allow FDI in MBRT of nonfood items as well, many including the Swadeshi Jagran Manch (SJM) — an affiliate of the Rashtriya Swayamsevak Sangh — had raised objections to such a suggestion and even wanted the Food Processing Industries Minister Harsimrat Kaur Badal to be dismissed from the Union Cabinet.

Lack of protests

Those in the government who are in favour of relaxing FDI norms on MBRT have pointed out that despite tough reforms such as allowing 100% FDI in food retail as well as demonetisation, there have been no major protests across the nation so far. And therefore, they said, FDI can be allowed in MBRT in non-food items also, given the potential benefits of such a decision including greater FDI

inflows and transfer of technology.

The BJP had itself averred in its poll manifesto that the party would strengthen the retail sector through modernisation, use of information technology, as well as through stronger credit and market linkages.

Modi pulls up BJP MPs for skipping Parliament

With the heat and dust of campaign and government formation in the five States that saw Assembly elections now over, Prime Minister Narendra Modi issued a stern warning to BJP MPs on regular attendance in Parliament after recent incidents of lack of quorum in the Lok Sabha and missing Ministers in the Rajya Sabha.

Mr. Modi warned MPs that he would be "calling any MP at any time to consult on any issue," a prospect that would ensure their presence in Parliament. "Main aapke liye bahut kuch kar sakta hoon, lekin app ke liye House main upasthit nahin rah sakta (I can do a lot of things for your sake, but cannot be present in the House on your behalf)," he said, while addressing the BJP's parliamentary party meeting.

'Be in the House'

A senior MP who had attended the meeting said Mr. Modi had made it clear it did not matter to him if they were in the Central Hall, a place to host joint sittings of Parliament where MPs often meet for informal conversation, as what is important is that they should be inside the Houses.

"Prime Minister Modi recalled the remarks of an RSS functionary who had lamented that though the Hindutva organisation had spread far and wide, its members seem to be too busy to attend 'shakhas' [meetings]. Just like that, he said the MPs too seemed to have so much work that they did not have time to attend Parliament and that this should not be the case. As representatives of lakhs of people of their constituency, it is their job to attend the House proceedings," said the MP quoting Mr. Modi. At his press briefing on the meeting, Minister for Parliamentary Affairs Ananth Kumar said Mr. Modi also laid out the "road map" for the party as it gears up to celebrate its foundation day on April 6 and Dalit icon Bhim Rao Ambedkar's birth anniversary on April 14.

Mr. Modi told the Parliamentary Party that the BJP's primary members, numbering over 11 crore according to its figures, should be asked to join panchayat and municipal-level meetings during a week-long exercise to mark the two events, Mr. Kumar said. He also termed the likely roll-out of the GST "transformative" and asked them to spread awareness of it, Mr. Kumar said.



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India slips in human development index

Among SAARC nations, it's third behind Sri Lanka, Maldives

India slipped down one place from 130 to 131 among the 188 countries ranked in terms of human development, says the 2016 Human Development Report (HDR) released by the United Nations Development Programme (UNDP),.

India's human development index (HDI) value of 0.624 puts it in the "medium human development" category, alongside countries such as Congo, Namibia and Pakistan. It is ranked third among the SAARC countries, behind Sri Lanka (73) and the Maldives (105), both of which figure in the "high human development" category.

The world's top three countries in HDI are Norway (0.949), Australia (0.939) and Switzerland (0.939).

The HDI is a measure for assessing progress in three basic dimensions of human development: a long and healthy life, access to knowledge, and access to a decent standard of living.

Modest Change ndia remains a medium human development country. Its HDI s well below that of BRICS counterparts, while in South Asia, only Sri Lanka has a better index.					
Russia	0.785	0.804	(+)5		
Sri Lanka	0.746	0.766	(-)2		
Brazil	0.724	0.754	(+)7		
China	0.700	0.738	(+)11		
South Africa	0.638	0.666	(+)2		
India	0.580	0.624	(+)4		
Bangladesh	0.545	0.579	(+)2		
Nepal	0.529	0.558	(+)2		

Public health spending

The report says 1.5 billion people worldwide still live in multidimensional poverty, 54% of them concentrated in South Asia. While poverty fell significantly from 1990 to 2015, inequalities sharpened in the region.

HDI IS AN INDEX CALCULATED BY INTEGRATING BASIC DIMENSIONS OF HUMAN DEVELOPMENT LIKE LIFE EXPECTANCY, EDUCATION, AND PER CAPITA INCOME INDICATORS. THE CLOSER THE COUNTRY! VALUE IS TO I THE BETTER ITS HUMAN DEVELOPMENT INDEX.

South Asia also had the highest levels of malnutrition in the world, at 38%, and the lowest public health expenditure as a percentage of the GDP (1.6%, 2014). India's public health expenditure was even lower, at 1.4% of the GDP. However, it did make some gains between 1990 and 2015, improving life expectancy by 10.4 years in this period. Child malnutrition also declined by 10 percentage points from 2015, and there was a modest gain in infant and under-five mortality rates.

The report praised India's reservation policy, observing that even though it "has not remedied caste-based exclusions", it has "had substantial positive effects". It pointed out that "in 1965, for example, Dalits held fewer than 2% of senior civil service positions, but the share had grown

to 11% by 2001". The HDR also hailed the national rural employment guarantee programme as a "prime example" of "combining social protection with appropriate employment strategies".

The report noted with approval India's progressive laws, especially the Right to Information, National Food Security, and Right to Education Acts.

It commended the Indian grassroots group Mazdoor Kisan Shakti Sanghatan for popularising social audits of government schemes.

Gender disparity

Noting that women, on an average, have lower HDI than men across the world, the report pointed out that the largest gender disparity in development was in South Asia, where the female HDI value is 20% lower than the male value

In South Asia, gender gaps in entrepreneurship and labour force participation caused an estimated income loss of 19%. "Between their first and fifth birthdays, girls in India and Pakistan have a 30% to 50% greater chance of dying than boys," the report noted.

While India's HDI value increased from 0.428 in 1990 to 0.624 in 2015, it still had the lowest rank among BRIC nations. However, its average annual growth in HDI (1990-2015) was higher than that of other medium HD countries.

Jaitley strongly defends PAN-Aadhaar link

The biometric security of the identity document will prevent tax evasion, Finance Minister tells Lok Sabha Finance Minister Arun Jaitley has defended the amendment to the Finance Bill, cleared by the Lok Sabha, making an Aadhaar number mandatory for issuing a PAN card. The biometric security of Aadhaar, he said, would prevent individuals holding multiple PAN cards and evading tax.

"In a situation where it has come to light that one citizen has up to five PAN cards, to avoid that, we have linked the PAN to Aadhaar," Mr. Jaitley said in the Lok Sabha. "So we have said, either gives Aadhaar or an application for Aadhaar. About 98% of the adult population is covered by Aadhaar and 108 crore cards have been issued." "If tax fraud is lessened, who would have a problem with this?" he asked in response to Opposition criticism that the linkage was wrong since the matter of Aadhaar's legality was still in the Supreme Court. "It is an anti-evasion measure and for the benefit of the country."

I-T searches

He also sought to allay concerns in Parliament about aggressive and unwarranted searches and seizures by In-



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come-Tax officials. The assessing officer, he said, could only make searches after recording the source of their information regarding undisclosed income.



Mr. Jaitley said the Central Board of Direct Taxes had so far identified 18 lakh names whose large bank deposits did not match their income profile. Communications had been sent to all the 18 lakh assessees and and 8.78 lakh people had already responded. "The fear is that there will be many searches and seizures under Section 132A," he said. "But before searching, the assessing officer has to get the information about undisclosed income. The source of the information and all other details has to be explained."

The political verdict of the people on demonetisation was clear, the Finance Minister said alluding to the performance of the BJP in the recent Assembly elections in five States.

GST regime

"One of the benefits of demonetisation is that the anonymity associated with cash has been hurt and this will have an effect on the economy. Crime does not end. But does cash incentivise crime? Experience from around the world has shown that more cash leads to more tax evasion and more crime."

Mr. Jaitley said the Goods and Services Tax (GST) Council was trying to implement the new tax regime by July 1. "The GST Council has met 12 times so far and all the significant decisions were taken by consensus."

Jobs impact of 'Make In India' under review

The Centre is working on a 'compliance report' of its flagship 'Make In India' (MII) initiative that attempts to transform India into a global design and manufacturing hub as well as generate large-scale employment.

The objective of the exercise, among other things, is to find out whether the government departments and agencies implementing the MII programme are meeting the deadlines envisaged in the 'MII Action Plan' of December 2014.

MII initiative

The MII initiative covers 25 focus sectors ranging from automobiles to wellness. The 'MII Action Plan' had set short-term (one year) and medium-term (three years) targets "to boost investments in the 25 sectors" and to "raise the contribution of the manufacturing sector to 25% of the GDP by 2020."

At a national workshop held in December 2014 on these 25 sectors, an Action Plan was finalised with the help of Secretaries to the Indian Government as well as industry leaders.

As per the National Manufacturing Policy, "the share of manufacturing in India's GDP has stagnated at 15%-16% since 1980 while the share of comparable economies in Asia is much higher at 25%-34%."

Government sources said a detailed study is also being undertaken on the impact of the MII initiative including a sector-wise assessment regarding job creation and foreign direct investment inflows using the National Industrial Classification Code.

RBI, CSO data

Data from the Reserve Bank of India and the Central Statistics Office are also being looked into in this regard, they said, adding that inputs are being sought from the State governments as well.

The compliance report is being monitored and evaluated at the highest level, including by the Prime Minister's Office, the sources said. Recently, the Parliamentary Standing Committee on Commerce wanted an assessment to be done on how the MII initiative has helped the country's micro, small and medium enterprises.

It recommended that dedicated steps should be taken to ensure that FDI promotes the MSME sector, and sought to know the factors behind the Foreign Portfolio Investments turning negative and its impact on the Indian industry. The panel also wanted to learn if the MII initiative has seized the opportunity of demographic dividend in the country.

\$1 trillion by 2025

According to the India Brand Equity Foundation (IBEF), "India's manufacturing sector has the potential to touch \$1 trillion by 2025. There is potential for the sector to account for 25-30% of the country's GDP and create up to 90 million domestic jobs by 2025."

"FDI inflows in India's manufacturing sector grew by 82% year-on-year to \$16.13 billion during April-November 2016," according to the IBEF, a trust formed by the Com-



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merce Ministry to promote of the 'Made in India' label overseas.

It said, "The government has an ambitious plan to locally manufacture as many as 181 products. The move could help infrastructure sectors ... that require large capital expenditure and revive the \$27.75 billion Indian capital goods business."

India wants to hasten talks on proposed global services pact

India pressed for expediting the negotiation process for a global services pact, that among other things, aims to ease norms for movement of skilled workers across borders.

India had, in February, submitted to the World Trade Organisation (WTO) a legally-vetted proposal for a Trade Facilitation in Services (TFS) Agreement. The proposal was taken up by an expert committee at the WTO head-quarters in Geneva recently, and it will be considered for discussion by all the WTO members.

"I hope it (negotiations on TFS) will not take too long because the disillusion that multilateral institutions are delivering slowly cannot be afforded any longer in the political reality of the globe today," Commerce and Industry Minister Nirmala Sitharaman said at a TFS workshop organised by her ministry along with the World Bank Group. The proposed TFS, among other things, aims to ensure portability of social security contributions and crossborder insurance coverage to boost medical tourism. According to India, the proposed pact is similar to the WTO's Trade Facilitation Agreement (TFA) in Goods, that recently came into force, and aims to ease customs norms to boost global goods trade. India had specified that the proposed TFS pact is also about 'facilitation,' that is "making market access 'effective' and commercially meaningful and not about 'new' (or greater) market access."

She said the lessons learnt from the discussions on TFA in Goods were very critical, and wanted the World Bank to closely engage with the WTO on TFS to help it gain traction.

U.S. lawmakers urge India to lift curbs on NGO

A group of 107 members of U.S. Congress have written to Union Home Minister Rajnath Singh to temporarily lift the restrictions on the American Christian charity, Compassion International (CI), until a permanent solution can be found. The Union government has ordered banks in India to stop processing wire transfers from CI to its Indian partners, bringing the charity's operations to halt. CI supports 1,45,000 children in India with donations raised in the U.S.

The U.S lawmakers said they were "long time supporters of U.S. –India partnership" but the Indian government's treatment of CI has "caused serious concern within the U.S. Congress."

Deep concern

"It is with this in mind that we write to express our deep concern over the lack of transparency and consistency in your government's enforcement of the Foreign Contributions Regulations Act," the members wrote.

The Indian government has put CI on a Priority Watch list, accusing the charity of carrying out religious conversion in the country. However, no case has been filed against the organisation. American lawmakers, most of them staunch supporters of India, have raised the issue with the Prime Minister's Office earlier, but the Indian government has not budged.

The letter to the Home Minister has been organised by the Republican Chairman of the House Foreign Affairs Committee Ed Royce and Democrat Ranking Member Eliot Engel.

"As long time supporters of the U.S.-India partnership, we have worked diligently to deepen ties between our two countries. As the largest and oldest democracies in the world, India and the United States share bonds rooted in political pluralism and respect for the rule of law. It is with this in mind that we write to express our deep concern over the lack of transparency and consistency in your government's enforcement of the Foreign Contributions Regulations Act.

"The ongoing case of U.S.-based Compassion International, which will have harmful consequences for many Indian children, has caused serious concern within the U.S. Congress. As you may know, Compassion International has worked in India since 1968, and today, its programs support over 1,45,000 Indian children, providing critical tutoring, health and nutrition, and medical services," they said in the letter to Mr. Singh.

The U.S lawmakers said: "We want to be clear with you that we expect all U.S. entities operating within India to respect India's laws, including Compassion.

CCI imposes Rs. 591 crore penalty on Coal India

Fair trade regulator Competition Commission of India



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(CCI) has imposed a penalty ofRs. 591.01 crore upon Coal India Limited (CIL) on finding that CIL and its subsidiaries violated the Competition Act by imposing unfair and discriminatory conditions in Fuel Supply Agreements (FSAs) with power producers for supply of non-coking coal.

Apart from ordering CIL and its subsidiaries to "cease and desist" from anti-competitive practices, the CCI also directed modification of the FSAs, a government statement said.

It added that CIL had also been directed to ensure uniformity between old and new power producers as well as between private and PSU power producers.

The order follows the Competition Appellate Tribunal remanding the matter back while setting aside the CCI's original order in which a penalty of Rs. 1,773.05 crore was imposed on the coal major.

According to a statement from Coal India Limited, "The order is being studied and appropriate action may be taken at the proper forum."

Centre picks five airlines to connect 43 regional airports

The Centre announced a list of routes awarded to five airlines which will operate flights under its regional connectivity scheme, named UDAN (Ude Desh ka Aam Naagrik).

"We will be adding 43 new destinations with the launch of RCS," Civil Aviation Minister Ashok Gajapathi Raju said. "Flying was a rich man's prerogative earlier, but now it has also become a common man's prerogative."

Turbo Megha Airways

Low-cost airline SpiceJet, Air India subsidiary Alliance Air along with regional airlines Turbo Megha Airways, Air Deccan and Air Odisha Aviation won the rights to operate flights under the regional connectivity scheme under which half of the seats on the plane will be capped at Rs. 2,500 per hour's flight.

Some of the inactive airports that will soon witness regional flights include Shimla, Agra, Bikaner, Gwalior, Kadapa, Rourkela, Jharsuguda, Vidyanagar, Burnpur, Diu, Shillong, Kullu, Mysore, Jagdalpur, Salem, Utkela, and Hosur.

The regional airlines will connect these destinations with their nearest bigger airports such as Delhi, Bengaluru, Chennai, Bhubaneswar, Mumbai, Ahmedabad, and Jaipur, among others.

Civil Aviation Secretary R.N. Choubey said that the first

regional flight may likely begin its operations in April. "Fortunately, in the first round of bidding, the airlines focussed on airports that are ready to take flights. The deadline to start operating regional flights is September," Mr. Choubey said.

Subsidy on losses

As per the scheme, the Centre will subsidise the losses incurred by airlines flying out of dormant airports to help airlines charge Rs. 2,500 for an hour's flight to passengers.

80% of the subsidy will be collected by charging a levy of up to Rs. 8,500 on each departing flight of domestic airlines and the rest 20% will come from the respective State governments.

The Centre had asked airlines to submit their proposed routes along with subsidy amount required to operate the regional flight. This was followed by counter-bids from other airlines and the one asking for the least financial support won the bid. Government will provide subsidy to airlines for first three years of operations when they will have exclusive flying rights on the selected routes.

"The scheme has a unique market-based design. We have a successful national and international aviation market but an underdeveloped regional market. This scheme will stimulate growth in the regional aviation market and will connect underserved and unserved airports that really didn't have flight services," Minister of State for Civil Aviation Jayant Sinha said.

Mr. Sinha said the airlines which had won the first round of bidding under the scheme would require a subsidy of Rs. 205 crore for running their operations. This would ultimately lead to the creation of 13 lakh seats in the regional aviation market.

"This is really about bootstrapping and creating a market which is not a perpetual subsidy," Mr. Sinha said.

"Once the market gets jump started, it will operate on a commercial basis as per market forces of supply and demand," the Minister of State added.

Small can be beautiful

Microfinance institutions (MFIs) in India, catering to the needs of the weaker sections of society in the hinterlands, have had a good run in the last couple of years. Satin Credit Care Network, the fourth largest MFI in the country in terms of gross loan portfolio, is a case in point. The company, with strong presence in North India, has seen its loan portfolio grow by a stellar 76 per cent annually between FY14 and FY16. Earnings, as a result, have nearly quadrupled during this period.

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In the current fiscal too, the company's loan and profit growth has been on a healthy footing but for the slow-down in disbursements and collections, post demonetisation.

Nonetheless, investors with a long-term perspective, willing to weather near-term volatility and take on some risk inherent with the microfinance industry, can bet on Satin Credit Care.

The positives

Consistent growth in profitability and good asset quality thus far, comfortable capitalisation, long-standing experience of the promoters and diversified funding mix are key positives.

Also, collection efficiency, which took a knock between November and December, is gradually on the mend, and the company has been focussing on cashless disbursements and collections. Satin Credit's gross loan portfolio (standalone) stood at Rs. 3,344 crore as of December 2016, of which the group lending business constituted over 99 per cent.

The company recently started to diversify into other segments such as individual micro loans and loans to micro, small and medium enterprises (MSMEs). It also recently acquired majority stake in TSPL which acts as a business correspondent for various banks. Including this business, Satin's loan portfolio (consolidated) stood at Rs. 3,736 crore as of December 2016.

The company is also looking to foray into the affordable housing segment.

The cash crunch post demonetisation impacted the company's disbursements. While the loan portfolio grew by 47 per cent YoY as of December quarter, it declined 11 per cent sequentially.

Asset quality too slipped, with gross non-performing assets as a per cent of loans increasing marginally from 0.24 per cent in September to 0.5 per cent in the December quarter.

Collection efficiency, which was a robust 99 per cent predemonetisation, fell to 78 per cent between November 2016 and February 2017, driven by steeper slowdown in certain markets of UP, Uttarakhand and Maharashtra. Collections improve

Due to concerns of weakening asset quality, ICRA recently downgraded the outlook from stable to negative while retaining BBB+ rating on its debt instruments. However, there has been an improvement in the collection efficiency in February to 89 per cent and the management is confident about regaining normalcy soon.

The lag for the months of November, December and Jan-

uary is 6 per cent, 7 per cent and 10 per cent respectively — implying that 6 per cent of borrowers have not paid their November instalment (over 90 per cent of borrowers are back into the system). While the company has higher exposure in certain States — UP, Bihar and MP constitute 68 per cent of loans — it has been consciously reducing geographic concentration. In FY14, the three States constituted a little over 80 per cent of loans.

At the current price, the stock is trading at 2 times one year forward book. Bharat Financial Inclusion (formerly known as SKS Microfinance), the second largest MFI, trades at 3.2 times one year forward book.

We back indigenisation, but Tejas didn't fit the bill'

The Chief of the Naval Staff, Admiral Sunil Lanba, in a wide-ranging interview withThe Hindu, clarifies that the Navy has only taken a purely technical decision in turning down the naval version of the light combat aircraft developed by the DRDO despite its strong commitment to indigenisation. He highlights the need to step up training facilities to meet personnel shortage and the Navy's strong 'Act East' focus.

All along, the Navy had placed thrust on indigenisation of assets, but is now facing flak for turning down the homegrown fighter LCA Navy, which is being read as a retreat from the earlier commitment.

We are the pioneers of indigenisation, which we started in the 1960s and have worked shoulder-to-shoulder with the DRDO, whose naval labs also have naval personnel. As for the LCA (light combat aircraft Tejas) programme, the Navy was the first service to support the ADA (the Aeronautical Development Agency) in its development and the Air Force came on board at a later date. What the Navy wants is a deck-based fighter, but the LCA Navy Mk1 doesn't meet that requirement. Its power-to-weight ratio, the thrust the engine generates [are insufficient] and it's underpowered for the airframe. Unfortunately, even the Mk2 variant doesn't qualify. That's why we took this case up to the Defence Ministry.

A good 25% of the financial support for the project comes from the Navy. As and when the ADA produces a fighter that can operate from the deck of an aircraft carrier, we will be more than willing to acquire it and fly it. The LCA Navy was supposed to be flying off from [the aircraft carrier] Vikramaditya . The second carrier, Vikrant , should be sailing in 2019. So we want a deck-based fighter today. The timelines that the ADA promised to generate



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one was over a decade ago. We are looking at a period of at least a decade for the ADA to produce a deck-based fighter. In the meantime, the Ministry has allowed us to go ahead and look for a fighter that meets our requirements following which we issued an RFI.

Timelines have slipped for the under-construction, maiden indigenous carrier Vikrant thanks in part also to delay in delivery of aviation equipment from Russia. Also, what is the latest on the third carrier?

There have been some delays in the delivery of equipment for the aviation complex from Russia. We are hopeful that Vikrant will start going to trials in 2019.

As for the IAC-II [second indigenous aircraft carrier], we are taking up the case with the Ministry for which we will get an approval sooner than later. We are looking at a CATOBAR aircraft carrier above 65,000 tonnes and with EMALS and an advanced air strip.

What will be the fate of the decommissioned carrier INS Viraat?

The Navy will like the Viraat to be converted into a museum, but it is not the Navy's job to do that. We made an offer through the Ministry to all the coastal States, but only Andhra Pradesh responded. The offer was that we will give the ship to you and you will convert it into a maritime museum at your cost, without any funding from the Ministry. The proposal that we got from Andhra Pradesh was for a 50:50 partnership. The Ministry is very clear that they are not going to do that. So, at the moment, we have no proposal to convert her into a museum. If we don't have a concrete proposal, we propose that the ship be scrapped. Off the cuff, what I thought was we could take her out to sea and make her a maritime museum by sinking her in 30-40 metres of water not far from the coast, thereby turning her into a diving site. Interested people will dive to have a sight of the ship.

We don't want to go through the Vikrant experience in which we gifted the ship to the State of Maharashtra for Rs. 1 and got stuck with her for 17 years, occupying valuable berthing space. And, then there was this hullabaloo when she was to be scrapped. It's a costly affair to convert a carrier into a floating maritime museum and given the cost of construction of a jetty, it costs you roughly about Rs. 1,000 crore.

How do you plan to address shortage of personnel and also attain gender parity by inducting women officers in combat roles?

There is a steady growth in the number of sailors and officers being integrated and overall shortages as per percentage have come down. But we are constrained by our capacity to train. We have to get the right kind of people and have to compete with other avenues that are open to youngsters to get the kind of people we need. The shortages are gradually being bridged, with the Indian Naval Academy working in full capacity at 1,300 cadets. We induct about 800 officers each year, but 500 retire annually. So the net gain is 300. With increase in training capacity and the government sanctioning more numbers, we will be able to liquidate the shortage in five to six years.

The other issue is of inducting women to serve on board ships. We have about 570 women officers in branches such as education, logistics, ATC, as observers on maritime reconnaissance aircraft and the law, and not counting the doctors. We have identified ships on which [billeting] facilities are available for women officers and are working on the modalities of their induction on board ships. We need some minimum numbers [of women] on each ship. We are also going to do a survey and ask them if they want to serve on board ships. And then we will take a call and take this proposal forward.



A string of accidents had dented the image of the Navy a couple of years ago. It seemed to be a thing of the past when the frigate INS Betwa collapsed on its side in the drydock late last year.

To be honest, I cannot give an assurance that there will be zero accidents. But SOPs have been put in place and a culture of safety is being enforced. The number of accidents has come down drastically lately. Some of those past incidents have been blown out of proportion by the media.INS Betwa's was an accident that shouldn't have happened. A Board of Inquiry is looking into it. Basically, there was a mistake in calculating the stability [on the blocks].

Of late, the Navy has been focussing strongly on the



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eastern side, strengthening the security apparatus along the island chains.

In Andaman and Nicobar, newer and more capable assets are in place in the form of Kora-class ships [corvettes] and there is a long-term infrastructure plan where airfields in the northern group of islands are being strengthened and lengthened for heavier aircraft to operate. A similar project is taking place in the south. Infrastructure plans of making OTR (operational turnaround) facilities in the southern group of islands have started to move. The Boeing P8I [long range maritime reconnaissance aircraft] is being deployed from Port Blair.

At the same time, our cooperation with our neighbours in the east has grown. We have resolved our maritime boundary issues with Bangladesh and there is much greater interaction with Myanmar, Indonesia, Thailand, Vietnam, Malaysia and Singapore. It's no just 'Look East', we are also 'Acting East' in accordance with the government's policy.

We are assisting island nations in the IOR (Indian Ocean Region) and neighbours in the East in capability enhancement and are doing coordinated patrols with Myanmar, Thailand and Indonesia.

For full text of the interview, visit http://bit.ly/sunillanbainterview

It's not just 'Look East', we are also 'Acting East' in accordance with the government's policy

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Economy

Oil majors — Pros and cons

An integrated public sector 'oil major' as proposed in the Budget could be an energy behemoth with interests spanning both upstream (exploration) and downstream (refining) businesses. This could bestow it with the financial muscle and management bandwidth to hold its own in the highly competitive and complex arena of global energy asset shopping.

So far, Indian public sector energy companies such as ONGC, Oil India, Indian Oil and BPCL have either by themselves, or in consortium, bought asset stakes abroad, including in Russia, Mozambique, Venezuela and Brazil. But their buys are small in comparison to deals struck by big national oil companies, including those from China, and independent oil companies such as Exxon Mobil and BP. Bigger scale and balance sheet size could give Indian energy companies better bargaining power and access to big capital to bag mega deals that could enhance the energy security of the nation. With oil and gas prices subdued, global energy assets are available at reasonable cost, making it a good time to buy. Also, an integrated company will be better placed to weather events such as a crude oil rout.

Pain points too

But such integrated 'oil majors' also carry risks. There is a possibility of dampening competition within the country and reducing the choice for customers in areas such as fuel retailing. Next, core competencies, organisational structures and work cultures of these entities could be quite different, making mergers a tricky affair.

If the government sells its 51.1 per cent stake in refiner HPCL to explorer ONGC, as reports suggest, some of these difficult issues could be avoided, while still achieving the overall objective. For one, it would not be a 'merger' – ONGC and HPCL will continue as separate entities within their own domains of expertise. Rather, ONGC will become the holding company and HPCL its subsidiary. This will still give ONGC, without a formal merger, a much enhanced balance sheet on a consolidated basis, enabling it to take the high tables in big-ticket foreign energy bids. The government, by virtue of holding the controlling stake in ONGC, will also continue to control HPCL, although indirectly. That is, HPCL will become a subsidiary of ONGC and a step-down subsidiary of the government.

But the government will still be richer by about Rs. 30,000 crore or so — the proceeds for selling its stake in HPCL to ONGC. In short, quite an elegant and enriching rejig for the government.

ONGC, though, will have to pay not just the government Rs. 30,000 crore for its 51.1 per cent stake but will also have to make an open offer worth around Rs. 15,000 crore for an additional 26 per cent stake from public shareholders. This will likely require it to borrow to finance the deal, and could reduce its capacity for asset acquisitions, at least in the near future.

Aadhaar data not misused: UIDAI

Dismissing reports of misuse of Aadhaar biometrics for identity or financial thefts, the Unique Identification Authority of India (UIDAI) , said personal data held by it were secure.

"There has been no incident of misuse of Aadhaar biometrics leading to identity theft and financial loss during the past five years when more than 400 crore Aadhaar authentication transactions have taken place," an official statement said.

Recently, a breach of Aadhaar data was reported after the UIDAI sent a notice to three firms for possible unauthorised authentication attempt and storing of biometric data. The notice it had served was shared widely on social media and questions were raised over the safety of Aadhaar data.



Describing the incident as an "isolated case of an employee working with a bank's business correspondents' company", the authority said the employee had attempted to misuse his own biometrics. This was detected by the UIDAI internal security system and subsequently action under the Aadhaar Act was initiated.

The UIDAI said it had "carefully gone into these reports", and asserted that the "Aadhaar system has the capability to inquire into any instance of misuse of biometrics and identity theft and initiate action. UIDAI uses one of the



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world's most advanced encryption technologies in transmission and storage of data. As a result, during the past seven years, there has been no report of breach or leak of residents' data out of UIDAI."

Further, the authority said it continuously updated the security parameters and undertook security audits.

Criminal offence

On reports that there were no extant regulations to prevent storage and misuse of e-KYC data, the UIDAI clarified that there were "stringent provisions in the Aadhaar (Authentication) Regulations governing the usage of e-KYC data, including storage and sharing, resident consent being paramount in both the cases." Any unauthorised capture of iris or fingerprint data or storage or replay of biometrics or their misuse is a criminal offence under the Aadhaar Act.

Further, addressing concerns over private agencies hired by mobile operators and banks for e-KYC leading to creation of parallel database, the statement said Aadhaar authentication or e-KYC was only available to authorised agencies whose appointment, responsibilities and statutory obligations, and penal provisions for contraventions were clearly provided for in the Aadhaar Act and the regulations.

Customer consent

"Banks or mobile operators have to become UIDAI's authentication user agencies and authentication service agencies to obtain e-KYC data of their customers from the UIDAI. The e-KYC data can be given by the UIDAI to these agencies only after they obtain consent of their customers and can be used only for the purpose for which it was obtained," it said.

"Violations of the provisions attract strict penalties under the Aadhaar Act which will be enforced strictly," the statement said.

More than 111 crore people have Aadhaar in India, covering more than 99% of the adult population. According to official data, more than 4.47 crore people have opened bank accounts using Aadhaar e-KYC.

Aadhaar has helped the government transfer LPG subsidy under the PAHAL scheme, MGNREGS payments, scholarships and pensions directly into the accounts of beneficiaries eliminating diversion and leakage of funds by middlemen. The direct benefits transfer has saved the government Rs. 49,000 crore during two-and-a-half years, the release added.

Centre gives nod to sell three SAIL plants

The Centre has approved outright sale of state-owned SAIL's three special steel units, including the Salem and Alloy Steel plants.

In pursuance of the decision, SAIL has now sought advisers, including legal and merchant bankers, to carry out the strategic sale along with transfer of management control in the three steel plants — Alloy Steels Plant, Salem Steel Plant and Visvesvaraya Iron and Steel Plant.

The 'Maharatna' PSU is scouting for transaction advisers from professional consulting firms, investment bankers and financial institutions to provide advisory services and manage the disinvestment process.

The transaction adviser will advise SAIL on the modalities and timing of the strategic disinvestment of the three steel plants and prepare a detailed operational scheme to successfully implement the process, indicating tentative timelines for each activity.

The firm will also finalise the process of strategic sale as to whether it will be done through bidding or auction and assist SAIL in fixing the range of the fair reserve price, considering the valuation of the divesting plants.

The strategic sale of these three units is likely to happen only in the next financial year, beginning April.

The government has budgeted to raise Rs. 15,000 crore from strategic disinvestment in 2017-18.

The Centre currently holds 75% stake in SAIL, which is the largest steel producer in India.

Small businesses lobby for rules to increase liquidity

Close to five years after the introduction of a separate segment for listing of small and medium enterprises (SMEs), market participants are now looking at ways to increase the liquidity to attract more institutional and retail investors.

With critical mass being attained, market participants are now lobbying hard with the capital market regulator to review the trading norms to increase liquidity in the segment. One of the main issues being proposed is lowering the trading lot size post listing, which is currently pegged at Rs. 1 lakh.

Minimum lot size refers to the minimum amount that an investor has to put in to trade in the shares of a company.

Separate platforms

The country's leading equity bourses — BSE and the National Stock Exchange (NSE) — introduced their separate SME platforms in 2012. While both have been pitching their respective platforms to SMEs by way of awareness



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camps across the country, BSE has marched ahead in terms of numbers of companies. Asia's oldest stock exchange has seen 165 SMEs listing on its segment, while NSE has close to 60 entities on board so far.

"There is marked improvement in trades in SME stocks, though many a time, concerns over lesser liquidity still take centre-stage in discussions on SME investing," says Mahavir Lunawat, Group Managing Director, Pantomath Capital, an investment banking entity specialising in the SME space.

"Mitigation of lot size in secondary trades can be explored as a measure to aid liquidity levels. Investors would certainly find it more convenient to deal in SME stocks in small lots. That will also reduce pressure on market makers," adds Mr. Lunawat.

Merchant bankers are of the view that once the company has been listed for a certain period of time and a trading history has been created, the lot size could be lowered to one share so that retail investors can also participate if they are convinced with the quality and potential of the entity.

SEBI proposal

Incidentally, a formal proposal on behalf of Association of Investment Bankers of India (AIBI), the umbrella body of merchant bankers, is likely to be submitted soon to the Securities and Exchange Board of India (SEBI).

Stock exchanges, however, seem to differ over the issue of lowering the lot size. While NSE favours a reduction in lot size post listing, BSE believes that the current framework has worked well and hence should not be changed. "SEBI has made the SME guidelines for informed investors and it is working fine. There is no need to disturb the ecosystem at this juncture," said Ajay Thakur, Head BSE SME.

When SEBI framed the guidelines for the SME segment, it intentionally kept the minimum trading lot at Rs. 1 lakh to keep out retail investors since the view was that SMEs carry higher risk compared to companies on the main board.

"SEBI has been consulting the market on this issue and reducing the lot size is likely to improve liquidity in securities on the SME platform. It can be considered if the regulator thinks it is appropriate," said a senior NSE official.

Bankers say that the last five years have shown that there is enough appetite for SME stocks and investors have realised that the segment is for investment and not trading for quick gains.

"Given that most of the SMEs are at the initial trajectory of the business life cycle, investors should have a longer investment horizon. The SME segment should not be perceived to be a trading platform aimed at making im-

mediate returns," said Mr. Lunawat.

Note ban impact may linger: RBI's Acharya

The impact of demonetisation on GDP may be seen in the current quarter in some segments, while the remonetisation exercise should be completed in 2—3 months, RBI Deputy Governor Viral V. Acharya said,.

Asked if the spillover effect of the note ban could extend to the January—March quarter, Mr. Acharya said the impact could be felt in some segments.

"Ultimately, the cash shortage is like a liquidity shock and unless it had led to substantial wealth destruction, one would expect its effects to be quite temporary. I'm not saying that the temporary impact is not hard on some parts of the economy, you would expect the effect to be temporary," he said.

"There may be a couple of sectors, like 2—wheeler sales, where there is slightly slower rebound," he said.

When asked about the GDP estimate, he said, "you can see our MPC resolution which is that our estimate was actually reasonably close to that (of the CSO estimate)." "Of course, the drivers may have been slightly different, but I think there are a couple of things that people have raised which would be interesting and worth thinking about, which is how much of the informal sector gets fully captured other than through its links to the formal sector," he said.

He further said that the impact of the note ban would only be temporary and would help in bringing the informal sector into the mainstream economy.

"I think everyone should keep in mind that the remonetisation is taking place at a very fast pace," Mr. Acharya said.

Centre mulls modifying definition of start-up

The Centre is considering proposals to amend the definition of 'start-up' in the policy and looking to review applications seeking benefits of start-up policy which were rejected, according to a top official.

"It (the definition) needs to undergo change. We (the government) are flexible," said Ramesh Abhishek, Secretary, and Department of Industrial Policy & Promotion (DIPP) citing feedback from entrepreneurs who submitted that the definition of start-up in the policy hampered their ability to claim benefits.

Mr. Abhishek was speaking at an event organised by Indian Private Equity and Venture Capital Association.

Mr. Abhishek was referring to the provision in the Start-up India policy which states that for the purpose of claiming the benefits of the government schemes, 'start-up' means



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an entity, incorporated or registered in India: (a) not prior to five years, (b) with annual turnover not exceeding Rs. 25 crore in any preceding financial year and (c) working towards innovation, development, deployment or commercialisation of new products, processes or services driven by technology or intellectual property.

"There may not be any need to have a single time period (like five years) and turnover (like Rs. 25 crore) for all sectors. Maybe there is a need to have different time period and different turnover for different sectors," said the official.



He said the government would retain the criterion of "innovation" as it is deliberately kept in the policy to differentiate between a traditional firm and a start-up. However, he added the government would consider suggestions on making the definition of start-up more broad-based.

Mr. Abhishek said entrepreneurs from the biotechnology and medical devices sectors have informed the government of the need for relaxation of the five-year time period to eight or ten years as more time was required in such sectors for an entity to take off financially.

He said there were also suggestions that instead of 'turnover,' the policy should consider the number of employees in a firm or investment in plant and machinery.

On the reason for the government looking to review the applications that earlier sought benefits of the start-up policy and were rejected, Mr. Abhishek said, "out of all the applications, only ten start-ups have been approved for availing tax benefit."

"I am concerned about this low number and have suggested the need for a review. The mechanism (of the Inter-Ministerial Board, or the IMB, considering the applications) is transparent."

Tax benefit

As per the Department of Industrial Policy & Promotion, out of the 1662 applications received so far, only 146 applications can be considered for tax benefits as only these start-ups have been incorporated after April 1, 2016.

It added, "out of the 146 applications, all have been considered by the IMB and 10 start-ups have been approved for availing tax benefit." The 'Bharat Navodaya: StartUp India Reform Report,' released ,, suggested that the start-up definition be simplified.

'Raise threshold'

"The revenue threshold should be raised; subjectivity should be removed and the additional layer of approval from the IMB should be dispensed with. There should be automatic certification of start-ups upon approval from a few pre-designated bodies," the reform report recommended.

The study also mooted the establishment of a single window clearance for obtaining approvals and licences from all departments, adding that the frequency of filing under labour and tax laws should be reduced.

'Trajectory of India's growth not visible'

There has been a huge debate around India's GDP numbers and their accuracy. In an e-mail interview, Derek Scissors, resident scholar at public policy think tank The American Enterprise Institute, discusses the issues around the GDP numbers. Mr. Scissors, who closely studies Indian and Chinese economies, says revised older data needs to be published to ensure the credibility of the current method. Edited excerpts:

There is a huge debate on India's GDP numbers. What, according to you, is the issue?

The public debate is fuelled most by one thing: bad GDP numbers have never been announced by the Modi government. They assumed office, changed the methodology, reported growth that was immediately much higher and, now outperforms expectations for demonetisation. The only disappointing reports are later revisions which get much less attention. There are plenty of problems in India's economy according to all information except Modi government's GDP statement.

How does it affect credibility?

When you never acknowledge bad news, after a time, no one will pay attention to your good news. The public can't determine what policies are truly working and what are not. Eventually, they just stop listening to the government on economic issues altogether.

Do you think the data captures impact of demonetisation?

Even if demonetisation had a relatively small effect, the direction of movement of several key indicators does not make sense for October-December.

What should the government do to make the GDP data



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more reliable?

In my opinion, by far the most important step to make the current GDP method credible is to publish older data going back before 2010. The Modi government promised to publish the revised older data in 2015, then again in 2016, and has failed completely. All its claims about internationally accepted practices and the like are undermined by this failure. If you still can't measure the past, how can you claim to be accurately measuring what just happened?

What are the major flaws you see in the current GDP series? How does it impact perception of foreign investors? The main flaw is we cannot see the actual trajectory for India. We have a few years of GDP but no sense if they are a real improvement because we don't have previous years'. The new method changed 2013-2014 calculations a great deal, did it change 2003-04 as well?

How did India actually perform at the height of the global financial crisis? We don't know these and many other things. Foreign media care about GDP but serious foreign investors largely do not. They care about the economic performance of the state or states in which they want to locate business and about the policies of those states. National GDP is too general and vague to matter when money is on the line.

Are there any international best practices which India could look at?

One thing that might help is moving to quarter-on-quarter growth, rather than year-on-year. It takes away the incentive for governments to talk about being the fastest-growing economy; such boasts just encourage exaggeration and short-sighted policy.

You have also said economic growth should be measured by personal or household income than GDP. Why so?

GDP is just an accounting tool, with no meaning. Try to spend your GDP per capita — it doesn't exist. What matters economically in a person's life is how much money they or their families have.

We can measure that. We can measure income net of personal or household debt and see if ordinary people are becoming better off on a sustainable basis.

GDP is used by governments all over the world to say they are doing a fine job, but what matters is how people are doing.

Who cares if India boasts the fastest GDP growth, unless that means the actual lives of its people are improving fastest. We should be measuring from the bottom up, not top down.

New norms for selling insurance online

Insurance Regulatory and Development Authority of India (IRDAI) has issued guidelines on insurance e-commerce, thus paving the way for electronic platforms that will market as well as service insurance products.

The insurance self-network platforms that are to be set up could be a regular web portal, mobile app or both. Entities registered with IRDAI, such as insurance firms or insurance intermediaries, are eligible to apply for setting up such a platform.

For customers, the key difference will be prices, with the products purchased on the platform coming at a lesser pay out. This will be more so in the case of term life insurance, sources said.

Over time, the companies would also have products that will be sold exclusively online.

The guidelines, IRDAI said, are being issued "to promote e-commerce in insurance space, which is expected to lower the cost of transacting insurance business and bring higher efficiencies and greater reach."

Two-wheeler sales may shrug off demonetisation impact

The two-wheeler industry, which was on a fast track with high double-digit growth till October, is likely to shrug off the shocks from demonetisation and close the current financial year with a 7-8% growth, according to a report.

The note ban—induced liquidity crisis has resulted in sales falling 11.3% between November and January. The conversion to BS-IV emission norms, which will come into effect from April, also resulted in some inventory correction taking place across original equipment makers from February.

Overall, the industry closed the first 10 months of fiscal 2017 with a growth of 8.3%, which, although better than the industry growth rates over the past four fiscal years, remains a far cry from the double-digit growth prior to November 2016.

"The impact of [the] note ban appears to have moderated with the industry limping back to normalcy as reflected by smaller volume contraction in January and expectations of flattish February and March. For the fiscal 2017, we expect the industry to grow 7-8%," ICRA said in a report.

Deferred purchases

The agency also expects some deferred purchases during Q3 and Q4 to result in better sales in fiscal 2018 leading to 8-10% growth during the year. "While the gap

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in growth rates will narrow, scooters will continue to outpace motorcycles sales in fiscal 2018," the report said. During the note ban period, only moped sales have remained relatively insulated and maintained their double—digit growth, albeit on a low base, growing 26.8%.

On the other hand, scooters, while continuing to outpace industry growth, have grown so far by 12.5% which is much lower than the 24.7% growth till September.

Motorcycles, which had been on the path of revival from the contraction and flat sales reported since fiscal 2013, again returned to low growth levels of 5.1% in the aftermath of demonetisation, the report said.



Overall, the agency reiterated its stable outlook for the industry and over the medium term, the industry is expected to report a volume CAGR of 8–9% with demand expected to be driven by structural factors like favourable demographic profile, growing middle-class and urbanisation, besides moderate penetration levels.

Organised finance

In the medium–term, ICRA expects increasing penetration of organised finance into smaller towns and rural centres supported by favourable interest rates to support demand.

"We expect exports to clip at a CAGR of 8–10% over the next three years with a gradual pickup from next second half as key markets are showing signs of a recovery," it said.

BRICS to discuss steps to boost investment

BRICS nations will soon consider a proposal to frame 'guiding principles' for investment policymaking to boost investment flows into Brazil, Russia, India, China and South Africa as well as take steps to promote e-commerce among the five leading emerging economies.

In addition, the BRICS Contact Group on Economic and Trade Issues (CGETI) meeting – slated for early next week in Beijing – will also discuss measures for closer cooperation among the BRICS countries for developing

their respective national single window for trade facilitation, official sources told The Hindu.

China, the current BRICS chair, wants to push 'investment facilitation' and 'e-commerce'-related issues, the sources said. Beijing's proposal for 'Guiding Principles for BRICS Investment Policymaking' is similar to 'Guiding Principles' agreed by the G20 (group of 20 major economies of the world) Trade Ministers at Shanghai in July 2016 under the Chinese G20 Presidency, they said. India was part of that meeting. China has also been at the forefront of a proposal for a global pact on 'investment facilitation and promotion' at the World Trade Organisation (WTO)-level, and is making efforts to ensure that the proposal on a global investment pact gains traction before the WTO Ministerial Conference (MC) meeting in December 2017 in Buenos Aires (Argentina). The MC meeting is the WTO's highest decision-taking body.

The 'G20 Guiding Principles for Global Investment Policymaking', among other things, states that, "Governments should avoid protectionism in relation to cross-border investment" and that "investment policies should establish open, non-discriminatory, transparent and predictable conditions for investment."

It adds that, "dispute settlement procedures should be fair, open and transparent, with appropriate safeguards to prevent abuse." China, driving this year's BRICS agenda, now wants the BRICS nations to separately adopt these principles and enter into an 'investment facilitation' agreement. India had recently rejected a proposal by the European Union and Canada at the WTO-level for a global investment pact that incorporates the contentious Investor-State Dispute Settlement (ISDS) mechanism. The ISDS mechanism allows firms to drag governments to international arbitration without waiting to exhaust the available local remedies and seek huge compensation.

Focus on e-commerce

China has been leading the discussions on e-commerce at the global level. In November 2016, the WTO said China had proposed that discussions at WTO should focus on the promotion and facilitation of cross-border trade in goods enabled by the Internet. "It (China) said discussions (on e-commerce) could also include services directly supporting this, such as payment and logistic services," the WTO said.

Incidentally, there is a proposal for setting up a common payment gateway to promote e-commerce among BRICS.



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Centre unveils plan for export infra

The Rs. 600 crore-scheme is aimed at strengthening India's trade competitiveness

The Centre, unveiled a scheme to create export-related infrastructure and boost the competitiveness of India's shipments.

The scheme would have a budgetary allocation of Rs. 600 crore, with an annual outlay of Rs. 200 crore per year, and it would be implemented from FY'18 till FY'20, according to a Commerce Ministry statement.

"The objective of the proposed scheme — Trade Infrastructure for Export Scheme (TIES) — is to enhance export competitiveness by bridging gaps in export infrastructure, creating focused export infrastructure, first mile and last mile connectivity for export-oriented projects and addressing quality and certification measures."

Replacing ASIDE

The scheme replaces a centrally sponsored scheme — Assistance to States for creating Infrastructure for the Development and growth of Exports (ASIDE).

Commerce Minister Nirmala Sitharaman said: "The focus is not just to create infrastructure but to make sure it is professionally run and sustained. There will be an (interministerial) Empowered Committee (chaired by the Commerce Secretary) to periodically review the progress of the approved projects in the Scheme and will take necessary steps to ensure achievement of the objectives of the Scheme."

Commerce Secretary Rita Teaotia said the scheme would provide assistance for setting up and upgrading infrastructure projects with overwhelming export linkages — like border haats, land customs stations, quality testing and certification labs and cold chains. She said last and first mile connectivity projects related to export logistics will also be considered.

Why bit coins are a bit risky

"Bitcoin value hits a life-time high,"; "bitcoins are now more expensive than gold,"; "Winklevoss twins make a bid for an exchange traded fund based on bitcoin." Headlines such as these are making everyone sit up and take notice of the virtual currency that had faded into oblivion two years ago.

Similar frenzy and excitement had prevailed in 2013 and 2014, followed by revelation of a series of scams and nefarious activities involving these currencies. Value of bitcoins had then crashed; bitcoin exchanges closed down and investors had forgotten about them.

Not much has changed with respect to the fundamentals

of the bitcoins over the last three years. They still remain highly unsuitable, both as medium of exchange and store of value.

While bitcoin usage could increase in the years ahead, they carry multiple risks that investors need to be aware of.

Bitcoin basics

For those who joined the party late, bitcoins are virtual currencies created in 2008 by an anonymous person calling himself Satoshi Nakamoto. He created a system wherein these currencies could be created (mined) by those who could solve some complex algorithmic equations. Every bitcoin transaction is recorded and verified in an open ledger called block-chains, thus preventing counterfeiting or double spending.



Using bit coins is simple, if you are tech savvy. You have to first acquire a bit coin wallet through one of the sites buying and selling bit coins. Then you have to transfer funds from your bank to the wallet which can then be used to buy bit coins. The bit coins can be stored in the wallets, on your desk-top or mobile, or in the cloud until put to use.

Bit coins can be used to buy products and services from various websites including Microsoft and Dell. Many gift cards can be purchased with bit coins that can, in turn, be used on online retail stores such as Amazon, Wal-Mart and Target.

So far so good. But if you thought that bit coin is a substitute for your normal currency, think again.



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Faulty price discovery

Bit coin prices are discovered through exchanges that are unregulated with very lax KYC compliance process. Wash trades, front-running and trading with insufficient funds is said to be common in many of these exchanges. According to the website bitcoincharts.com, Japanese exchange, coincheck, clocked the highest volume in the last 30 days and accounted for 25 per cent of global bitcoin transactions. Kraken exchange that operates in Canadan EU, Japan and the US and okcoin that is based in China are next in the list of top exchanges by transaction volume. The largest US bit coin exchange, bit stamp, accounted for just 14 per cent of global volume.

In other words, the value of bit coin is determined largely by unregulated pools of investors.

Lack of regulation

The speed of money transfer and the lower cost of transaction in bitcoins are mainly because there is no supervising authority. But with no overseeing authority, instances of price manipulation are common. There is no central authority giving the rights to set up or trade on the bitcoin exchanges either. Regulators, including the Reserve Bank of India, have issued cautionary notices to users, highlighting the risks they take in dealing with these currencies. This causes a problem for bitcoin users too. If the user suffers a loss due to an exchange or the dealer deducting unfair transaction charges, he has no one to complain to. If the bitcoin wallet is hacked into or some bitcoins are lost, there is again no recompense.

This lack of regulation had resulted in websites dealing in narcotic drugs and arms smuggling using bitcoins in the past.

Price volatility

If you thought that bitcoins could become a store of value, then the sharp price volatility seen in this currency is a deterrent to such aspirations. Check this out. One bitcoin could be purchased for \$5 in 2011. Between February and November 2013, exchange rate rose from \$20 to \$1,000. By early 2015, the rate was at \$200. In recent times too, volatility has been acute. On January 4, the high was \$1,140. But a week later, prices were down more than 30 per cent.

The main reason for this volatility is that there is no underlying to which the value of the bitcoin can be pegged. Its price is based just on the demand and supply in numerous unregulated exchanges around the world.

The trading volume is quite shallow too. It's reported that 50 per cent of the bitcoins is held by less than 1,000 people. Hoarding of bitcoins is also quite rampant.

Another problem is that only 21 million bitcoins can be mined in all. Over two-third is reported to be mined already. As the number of bitcoins mined reaches the upper limit, the value is expected to shoot through the roof. Vendors facilitating transactions through this currency will then stand to lose.

The block-chain revolution

While it is best to be wary about bitcoins, the technology on which they are based — block-chains — is likely to grow popular going ahead. An open ledger where users enter information, verified by a set of people, can greatly increase transparency and cut down costs. It's already used in the financial services industry and could grow in popularity in future.

Doubts raised over second IFSC's viability

The Commerce Department has asked the Department of Economic Affairs (DEA) to comment on the feasibility of having more than one International Financial Services Centre (IFSC) in India.

It has also sought comments from the DEA on the viability of the Maharashtra government's proposal for an IFSC in Mumbai.

If the IFSC, proposed to be set up at the Bandra Kurla Complex in the country's financial capital, gets all the required clearances, it will be the second such centre in India following the Gujarat International Finance Tec-City (GIFT City) in Gandhinagar.

Nodal agency

The DEA, in the Finance Ministry, is the nodal agency for formulation and monitoring of economic policies at the macro-level such as the ones relating to the functioning of the financial services sector in the country like banking, insurance and capital markets, including stock exchanges.

IFSC-related matters fall within the jurisdiction of financial sector regulators such as the Reserve Bank of India, Insurance Regulatory and Development Authority and Securities and Exchange Board of India as well as the Finance Ministry.

The Special Economic Zone (SEZ) Act is pertinent in this case as IFSC is set up in a SEZ, and therefore, the Commerce Department has a crucial role here as it is the nodal body at the Centre for SEZ-related matters.

The SEZ Act merely states that the Centre can approve only one IFSC in a SEZ, and does not bar more than one IFSC in the country.

Citing examples in other countries, the Commerce Department, however, has said even advanced nations



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have been finding it difficult to develop more than one major international financial centre in their respective territory.

It added that therefore, India, which is yet to have full capital account convertibility, may find it even tougher to make more than one IFSC viable. In its initial proposal, the Maharashtra government (and the concerned body, the Mumbai Metropolitan Region Development Authority) had sought a relaxation of the minimum land norm of 50 hectares of contiguous and vacant land because what could be made available then for the proposed Mumbai IFSC was only 32 hectares of such land.

The State government sought the Centre's nod to ease the land norms by considering the built-up area instead of contiguous and vacant land. The State wanted the Mumbai IFSC to be a multi-services SEZ like the GIFT City.

Revised proposal

However, as the Centre had expressed reluctance to grant the Mumbai IFSC a 'special exemption' from the land norm, Maharashtra then sent a revised proposal stating that it is in possession of about 52 hectares for the IFSC. This included 32-33 hectares of commercial land as well as 19-20 hectares of 'non-developable' green area, official sources said.

According to the state government, once approved, the Mumbai IFSC would potentially generate employment for 1.3 lakh people and attract investments to the tune of Rs. 12,014 crore within ten years.

The Commerce Department has now asked the Maharashtra government and the Development Commissioner (DC) of the Santacruz Electronic Export Processing Zone to explain and clarify the term 'non-developable.'

The department wants to know whether it will include area falling under the Coastal Regulation Zone, where there are curbs on construction, development and industries, and therefore could attract objections from agencies in charge of environment and pollution.

The Maharashtra government had proposed that the Mumbai IFSC can even enter into collaborations with the GIFT City International Financial Services Centre as Mumbai has the advantage of being the country's de facto financial capital.

Vodafone, Idea merge to create giant

\$23 bn. telecom firm will be led by Kumar Mangalam Birla; will have a consumer market share of 35% Idea Cellular, the Kumar Mangalam Birla-led telecommunications major, agreed, to merge with the Indian unit of the U.K.-headquartered Vodafone Plc, making it a \$23 billion giant.

The merged entity becomes India's largest mobile telephony and data service provider with 39.25 crore customers, ahead of current market leader Airtel, which has a 26.44 crore user base. Both figures are provided by the Telecom Regulatory Authority of India.

Brand strategy

A joint statement issued by Vodafone and Idea said the combined company would have a 35% customer market share and 41% revenue market share. It said that the brand strategy for the new firm "will be developed in due course" and "will leverage customers' affinity for both existing brands, built up over the past decade."

Kumar Mangalam Birla will be the chairperson of the merged entity. The move, though not surprising, has stoked rumours that the current tariff war, initiated by the Mukesh Ambani-led Reliance Jio's entry into the high-speed data market in 2016, will possibly come to an end in the near future.

Rajan Mathews, director general of the Cellular Operators Association of India, said, "There is currently a tariff war in the market which may not be sustainable for long. This has also severely impacted the revenue stream of operators, not just in terms of an increase in cost but also in terms of a marked decline in the revenue stream. All these have put the financial condition of this industry at risk and increased the debt to Rs. 4.3 lakh crore, also leading to a severe decline in government revenues from the industry."

He said that in contrast to 13 operators a few years ago, the Indian mobile telecom market is down to "four or five operators." "Due to the poor financial health of the sector, we are witnessing mergers, acquisitions and combinations of companies like Idea and Vodafone, Aircel and R Comm and MTS. Other companies such as Videocon and Etisalat have already left the industry because of this hyper-competitive pressure," he added.

Investment experts said the largest consolidation in the highly competitive Indian telecommunications space will test the ability of both Vodafone and Idea to jointly operate the combined entity as equal partners.

S.P. Tulsian, a leading investment adviser told the The Hindu , , that even as the companies claim it is a "merger of equals", Idea will have to buy 4.9% stake in Vodafone for Rs. 3,900 crore (\$579 million) in cash when the merger completes, to increase the Aditya Birla Group stake to 26%.

"Besides, the company will have to spend another Rs. 9,000 crore to bring its stake at par with Vodafone in the combined entity. So, it's not a merger of equals."

In a statement ,, Aditya Birla Group chairperson Kumar

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Mangalam Birla said, "For Idea shareholders and lenders who have supported us thus far, this transaction is highly accretive, and Idea and Vodafone will together create a very valuable company given our complementary strengths."

New Delhi, Kabul talks soon to boost trade

The first such meeting since January 2014 and the first during the tenure of the NDA Government led by Mr.Narendra Modi, is also aimed at mounting pressure on Islamabad to facilitate trouble-free transit of goods from India to Afghanistan through Pakistan (Wagah-Attari route), official sources told The Hindu.

This is to help in the development of Afghanistan which is a land-locked and Least Developed Country (LDC) as well as to boost trade and investment in South Asia through better regional connectivity, the sources said. They said it will also help India to improve trade ties with **Central Asian nations.**

In this regard, the 'India-Afghanistan Joint Working Group on Trade, Commerce and Investment' meeting will discuss ways to make use of the United Nations TIR (Transports Internationaux Routiers or International Road Transport) Convention to boost trade between India and Afghanistan through Pakistan.

The TIR Convention facilitates trade and international road transport by permitting customs-sealed vehicles and containers to transit nations without them being generally inspected at border crossings. The Union Cabinet chaired by Prime Minister Narendra Modi had earlier this month granted its nod for India's accession to the TIR Convention. Pakistan and Afghanistan are also 'contracting parties' to the TIR Convention.

Thanks to the Afghanistan-Pakistan Transit Trade Agreement (APTTA), Afghanistan can use Pakistan's territory for transit trade while Pakistan's goods can move through Afghanistan to nations bordering Afghanistan. However, Islamabad has not agreed to allow using APTTA for goods to be transported from India to Afghanistan through Pakistan's territory (via the Wagah-Attari route).

India is keen to join APTTA and Afghanistan has backed India's readiness to be an APTTA member but Pakistan has so far rejected such a proposal. The sources said while India is likely to soon make renewed efforts to be an APTTA member, it will also look at how the UN TIR Convention can help send goods to Afghanistan through Pakistan

While there have been informal proposals recommending

India and Afghanistan joining the over \$50 billion China-Pakistan Economic Corridor (CPEC), India has strategic concerns regarding the CPEC that would cover areas including Pakistan-occupied-Kashmir. CPEC is the so-called 'flagship' project of China's One-Belt-One-Road (OBOR) initiative. The OBOR is aimed at developing infrastructure in more than 60 countries.

Transit route

In the absence of transit route through Pakistan, India depends on other countries, including Iran, to send goods to Afghanistan even though it increases time and costs for Indian exporters. India is also planning to strengthen air cargo links with Afghanistan as well as help expedite the development of Chabahar Port in Iran to bypass the Pakistan route to increase trade relations with Afghanistan, Iran and Central Asian countries.

Bankruptcy board spells out 'eligibility'

Entities will have to form a separate subsidiary with dedicated resources related to insolvency

The first order issued by the recently-established Insolvency and Bankruptcy Board of India (IBBI) is expected to set in motion a chain of events at many firms, including well-known consultancies that are eyeing the huge market for stressed assets and debt resolution.

In its March 2 order, IBBI rejected an application for registration as an Insolvency Professional (IP) by an individual who works with one of the so-called Big Four consultancy firms. "... an IP must not 'engage in any employment', repeat 'any employment'. It envisages that a person must not play two roles — profession and employment — simultaneously," according to the order.

Practitioners in the segment say that the order has made it clear that IBBI is not going to grant registration to individuals in such a scenario and so entities that want to be registered will have to form a separate subsidiary with dedicated resources related to insolvency and bankruptcy work.





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Dedicated resources

"Most firms, including ours, are considering forming a separate entity or an LLP where we have such dedicated registered resources," said Ashish Chhawchharia, Partner, Grant Thornton Advisory. "The law does allow insolvency professional entities or IPEs wherein the majority of partners are registered IPs."

In a similar context, Sumit Khanna, Partner and National Head Corporate Finance & Restructuring Services, Deloitte said that while it was too early to comment on the possible restructuring that firms would have to undertake to participate in this segment, they had already started strengthening their in-house resources.

"Deloitte is one of the most active players in this segment though it is too early to conclude if we need to set up a separate entity to house the practice as the final engagement will be in the name of a registered IP only," Mr. Khanna said. "We will take a call once business reaches a critical threshold. We are augmenting our strong domestic team with in-house expertise in this practice area from overseas markets such as U.K. and U.S., where we are large players in this segment."

It is clear that the firms are betting big on a segment that is showing enough signs of having a huge business potential. In the one-year period ended September 2016, gross non-performing assets (NPAs) as a percentage of gross advances jumped to 9.1% from 5.1%, as per Reserve Bank of India (RBI) data.

"This segment is going to be extremely large in the future. There is around Rs. 6.6 lakh crore worth of recognised NPAs in the banking sector as of today," said Mr Khanna. "While the smaller loans could go to the regular firms, large stressed assets would require the expertise of large firms. The initial number of cases could well over be 2,000."

'Same direction as SEBI'

Legal experts say that the first order from IBBI has set a tone on how it is going to interpret the provisions of its regulations and is in line with the views of other regulators.

"It has held that the insolvency professional work requires full time attention and would not countenance an IP riding two horses or more at a time," said Sumit Agrawal, Partner, Suvan Law Advisors. "The order brings clarity on eligibility norms to be an IP and is in the same direction as SEBI or other regulators expect a person who is a registered intermediary."

SEBI slaps RIL with Rs. 447 crore

disgorgement order over RPL

The Securities and Exchange Board of India has issued a disgorgement order of Rs. 447 crore against Reliance Industries Ltd. for insider trading in Reliance Petroleum Ltd.

In a 54-page order ,, the regulator said RIL should disgorge an amount of Rs. 447.27 crore along with interest at 12% per annum from November 29, 2007, till the date of payment.

SEBI has also barred RIL, and 12 other entities, from dealing — directly or indirectly — in the equity derivatives market for one year from the date of the order. They have been allowed to square off or close out any existing positions.

According to SEBI's investigation, RIL made unlawful gains amounting to Rs. 513 crore "which could not have been made but for the fraudulent and manipulative strategy/pattern adopted by them."

RIL said the trades in RPL shares were "bonafide transactions" and added that it would appeal SEBI's order.

In March 2007, RIL decided to raise resources by selling about 5% of its holdings in RPL. While RIL was dealing in the shares of RPL in the cash segment, it enlisted 12 entities as agents to operate on its behalf in the derivatives segment. These entities took substantial short positions in the derivatives segment. All orders were placed by Sandeep Agarwal, an employee of a subsidiary of RIL. As per SEBI, trades in cash and derivatives segments were done so as to "bring down the price in the cash segment and consequently the derivatives segment of the RPL scrip" and make "undue extraordinary profits" on the open short positions.

India eyes Dhruv's foreign market

As part of efforts to enhance defence cooperation and boost exports with friendly countries, India is in discussions with Sri Lanka and several Southeast Asian nations for the supply of Dhruv, the indigenously developed advanced light helicopter (ALH).

Supplying defence equipment and providing assistance in setting up domestic manufacturing capability have become the new normal in India's defence cooperation with regional countries.

"There are queries ... There is talk with Vietnam, Myanmar and Sri Lanka for ALH," T. Suvarna Raju, Chief Managing Director of Hindustan Aeronautics Ltd. (HAL), told The Hindu.

Another official said discussions with Indonesia were progressing well. Officials from India were expected to visit

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Jakarta in April.

This time, India is putting specific emphasis on maintenance and training in view of its experience of Dhruv sales to Ecuador, which got embroiled in legal issues.

Amid much fanfare in 2009, India bagged a deal to supply seven of these helicopters to Ecuador worth \$45.2 million after defeating several global platforms. However, the euphoria was short-lived as four of them crashed. In October 2015, Ecuador unilaterally terminated the contract and in 2016, put the three helicopters on sale. Following this, HAL had moved a local court there. Of the four crashes, two had been attributed to pilot error and one to mechanical failure.



Availability of spares

Dhruv, designed and developed by the HAL, is powered by the Shakti engine jointly developed by it and Turbomeca of France. Over 200 helicopters are in service with the Indian military.

The three Services have constantly complained about lack of spares and support for the fleet. The situation has slightly improved in recent times.

"We have started mini maintenance, repair and overhaul (MRO) facilities at forward bases where we man them and stock spares and line replaceable units for use. We do a clean exchange when required," Mr. Raju said. These attempts to stock the spares and supply them as quickly as possible have brought serviceability to "more than 65% to 70%", he said.

To increase the delivery rate, the HAL recently set up a second assembly line in Kanpur, which is expected to produce 12 helicopters a year.

'Digital platform to help railways save Rs. 60,000 crore'

Entire operations can be monitored on a single platform Indian Railways will invest about Rs. 12,000 crore in developing a common digital platform for integrating information from all its departments leading to savings of about Rs. 60,000 crore, said Suresh Prabhu, Railway

Minister.

"In the last Rail Budget, I had announced an Enterprise Resource Planning system that will be an IT-based platform for system-wide integration and planning," Mr. Prabhu said during a conference involving leading software companies, to draw the roadmap for the software.

"We then took the advice of [former] Tata Consultancy Services CEO N. Chandrasekaran [now Tata Sons Chairman] and other eminent personalities in framing the terms of references. Now, we will start working on the common platform," Mr. Prabhu said.

The Minister said Rs. 10,000–Rs. 12,000 crore of investments will be required for the enterprise-wide digital platform called IR-One ICT that will lead to benefits worth Rs. 50,000–Rs. 60,000 crore to the Indian Railways in the long run.

"It might take at least two-three years to complete the first phase. With the common platform, the monitoring of the entire Indian Railways operations can be done on a single platform," he said

"Several passenger complaints can be solved. We may also get to know the vacancies in a train and the number of people travelling. Maintenance issues can be handled remotely. There will be asset utilisation, revenue seepage will reduce and ultimately customers will benefit," the Minister said.

During the conference, the Minister said passenger complaints were the best pieces of information available to the Railways free-of-cost which can be used as a management tool to take informed decisions.

'One ICT' will cover all the aspects of the Indian Railways, including cost analysis, attendance, accounting, asset management, medical management and land management.

"Better capacity and asset utilisation would help the railways run more trains, carry more freight, provide better and reliable services to passengers, increase its revenues and make its operations more safe," according to a statement from the Railway Ministry.

GST Bills get cold welcome

The four Bills to operationalise the rolling out of the Goods and Services Tax (GST) were introduced by Union Finance Minister Arun Jaitley in the Lok Sabha, amid Opposition protests that the Bills were not listed on the day's agenda beforehand.

This objection followed the Treasury to the Business Advisory meet of the Lok Sabha, with the final decision that the Bills — the Central Goods and Service Tax Bill 2017,



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Integrated Goods and Services Tax Bill 2017, Union Territory Goods and Services Tax Bill 2017, and the Goods and Services Tax Bill (Compensation to States) 2017 — will be taken up, for consideration and passing. Govt. keen

A senior Opposition MP who attended the meeting told The Hindu that the government had been keen on taking up the Bills for clearance, "This is however, not acceptable. These are four complicated Bills with far-reaching implications for State finances. Therefore we managed to defer it to Wednesday," he said.

The government proposes to launch the GST from July 1. It is estimated that rolling out of the GST can add up to 2% to India's economic growth. The fifth GST law — the State GST Bill — needs to be cleared by the Legislative Assemblies of all States and Union Territories with legislature.

'Watershed moment'

"The introduction of the GST Bill in the Lok Sabha today marks a watershed moment in the tax reform landscape of the country," M.S. Mani, Senior Director at Deloitte Haskins Sells said. "This marks the successful culmination of a series of steps taken by the government since August 2016 and it now appears certain that India is headed for a GST rollout from July 2017." "With the introduction of the GST Bills in Parliament, it is now expected that the GST Rules and the GST Rates for both goods and services would be announced soon, enabling business to be prepared for the imminent go-live date of July 2017," Mr Mani added.

Quality checks now for Coal India's non-regulated buyers

As part of the ongoing thrust on quality, Coal India Ltd. will start validation of coal supplies by a third party for non-regulated sectors (cement, steel and others) by April, Coal India Ltd. Director (Marketing) S.N. Prasad said. Participating in a seminar on 'Coal: Emerging Perspectives and Challenges', he said that there was 'slackness' on the issue of coal quality.

"While [the] Coal Controller's Office is assessing the grades of coal of all mines, seams and sidings, the practice of third-party validation of coal grades will be extended to the non-regulated sector by April," he said at the meeting organised by Bharat Chamber of Commerce.

In August 2016, a tripartite agreement was executed among coal companies, the regulated sector (power, fertiliser and defence) and the Central Institute for Mining and Fuel Research for third-party sampling.

The IIT (Indian School of Mines, Dhanbad) and the Quality Council of India will validate the quality for the non-regulated sectors which account for about 20% of coal consumption.

The National Coal Distribution Policy, formulated in 2006, needed revision as it had become outdated, said R.P. Ritolia, Director, India Power Corporation. He also felt that supply should now be "freed up" as there was an abundance of coal.

Rana Som, Chairman of Bengal Birbhum Coalfields Ltd & former CMD National Mineral Development Corporation said that contrary to perceptions, coal would remain an important energy source.

Mr. Som, whose company is now trying to implement a project involving 2.1 billion tonnes of coal reserve here, said that new technologies like underground coal gasification (against physical coal mining in deep seams) needed to be exploited to access deep-seated coal.

"It involves certain risks, but there is merit in addressing the risk issues to utilise the coal while replacing physical mining. India has some 160 billion tonnes locked up in deep seams," he said.

Centre may expand social security net

The Employees' Provident Fund Organisation's central board of trustees will meet to consider extending social security benefits to volunteers under anganwadi , midday meal and Accredited Social Health Activists (Asha) schemes.

The EPFO has proposed to the Labour Ministry that a lower contributory rate of 10% of income towards the Employees' Provident Fund be allowed for scheme workers as against 12% contribution stipulated for the organised workers.

According to estimates, there are 14 lakh anganwadi workers, 12 lakh anganwadihelpers, 25.50 lakh mid-day meal workers in the country, as per the agenda of the EPFO's central board of trustees meeting reviewed by The Hindu . The meeting will be chaired by Labour Minister Bandaru Dattatreya.

No cover

There is no mandatory social security cover for such scheme workers at present. However, the Centre can issue a notification to cover any class of establishments with a lower contributory rate under the Employees' Provident Fund and Miscellaneous Provisions Act, 1952. This will only be applicable to scheme workers in organisations employing at least 20 workers.

"The Central Board (EPF) may kindly consider for recom-



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mendation to the Central Government to issue notification for the Social Security Benefits to the volunteers of various schemes workers i.e, anganwadi , ASHA, Midday Meal Workers under the ambit of EPFO," according to the agenda of the meeting.

Providing social security coverage to the unorganised workers has been one of the key demands of the central trade unions.

Wage increase

The EPFO will also consider a proposal to increase wage ceiling for its social security coverage to Rs. 25,000 a month from Rs. 15,000 a month at present in a bid to bring more workers under the provident fund net.

At present, EPF is optional for employees earning more than Rs. 15,000 a month. The EPFO had sent a formal proposal to the Union Labour Ministry last year to increase the wage ceiling for EPF coverage to Rs. 25,000 a month.

"The purpose of revision of wage ceiling is to ensure that on increase in wages due to inflation etc., minimum social security benefits are continuously made available to intended beneficiaries. Timely revision of wage ceiling is of utmost importance to ensure that new employees who are joining establishments covered under the EPF & MP Act, 1952 are assured of PF benefits," according to the agenda.

The EPFO said that "there is an immediate requirement to enhance wage ceiling under EPP & MP Act, 1952" to ensure workers remain eligible for provident fund benefits.



Financial burden

However, the move may lead to additional financial burden on the Union government as it contributes 1.16% of the employee's salary as subsidy towards the Employees' Pension Scheme. The wage ceiling hike will lead to additional burden of Rs. 2,708 crore per annum on the central government, the EPFO said.

The previous wage ceiling was revised in September

2014 when the limit was increased from Rs. 6,500 to Rs. 15,000 per month. At present, out of around 3.7 crore active members are subscribed to EPFO, close to three crore workers are those in the earning category of Rs. 15,000 and below.

Board moots EPF for unorganised sector

The Central Board of Trustees (CBT) of the Employees' Provident Fund Organisation (EPFO) recommended to the Centre to extend social security benefits to more than 61 lakh workers in the unorganised sector.

However, the trustees decided to defer the proposal to amend the Employees' Provident Fund and Miscellaneous Provisions Act for making provident fund contribution optional for employees in the apparel and made-ups sector following opposition from workers' representatives.

"In an important decision, the central board recommended to the central government to consider issuing a notification for extending Social Security Benefits to the volunteers of various schemes workers i.e. Anganwadi, ASHA, Mid-day Meal Workers under the ambit of EPFO," according to a statement from the EPFO.

Unions welcome move

D. L. Sachdev, national secretary, All India Trade Union Congress (AITUC) and member of the CBT said: "This is a landmark step taken by the board of trustees. Trade unions have been demanding social security cover to the entire workforce and this is a step forward in that direction.,"

The EPFO has proposed to the Labour Ministry that a lower contributory rate of 10% of income towards the Employees' Provident Fund be allowed for scheme workers as against 12% contribution stipulated for the organised workers.

However, Mr. Sachdev said that the trade unions demanded that central government and state governments pay for the employer's share of contribution towards the EPFO for the scheme workers.

According to estimates, there are 14 lakh Anganwadi workers, 12 lakh Anganwadi helpers, 25.5 lakh mid-day meal workers and 10 lakh ASHA workers in the country.

Centre's notification

There is no mandatory social security cover for such scheme workers at present. However, the Centre can issue a notification to cover any class of establishments with a lower contributory rate under the Employees' Provident Fund and Miscellaneous Provisions Act, 1952.

The EPFO trustees also approved a new eligibility condition for grant of exemption to firms under Employees'



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Provident Fund and Miscellaneous Provisions Act. Exempted firms are allowed to set up their own trusts to manage their workers' EPF accounts as well as funds themselves.

"To be eligible to be considered for exemption under the Act, the establishments would henceforth require compliance with EPFO as an un-exempted establishment for a minimum period of 5 years, should employ at least 500 employees and their corpus should be at least Rs. 100 Crore at the time of seeking an exemption," according to the statement. Besides, the trustees also decided to allow all banks including private ones to collect contributions from employers and make payments to employees in addition to SBI, nationalised banks and payGov platforms on a pilot basis. The proposal to increase wage ceiling for social security coverage under EPFO to Rs. 25,000 a month from Rs. 15,000 a month at present could not be taken up for discussion in the meeting held.

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International

Trump signs 'Muslim Ban 2.0' order

New travel ban applies to 6 countries but excludes Iraq; green card, visa holders to be unaffected

The Donald Trump administration issued a new executive order ,, temporarily banning travel from six Muslimmajority countries to the U.S, after an earlier order ran foul of the country's judiciary. The new executive order bans travel from six countries — Sudan, Syria, Iran, Libya, Somalia, and Yemen, leaving out Iraq among countries that was in the earlier order's list.

In an attempt to pass the judicial scrutiny, the order says that current visa and green card holders from these countries will not be affected. It also explains the basis for including the six countries, trying to remedy a lacuna in the earlier version. Further, it avoids the preferential treatment offered to Christian refugees in the earlier order.

"Here we go again... Muslim Ban 2.0," Congressman Andre Carson responded. "Courts across the country have made clear: President Trump is not above the Constitution. While the White House may have made changes to the ban, the intent to discriminate against Muslims remains clear," New York Attorney General Eric T. Schneiderman, said, offering to take the issue to the courts again.

"We do not make the law, but are sworn to enforce it. We have no other option," said Secretary of Homeland Security John Kelly, at a press conference to announce the presidential decision. Secretary of State Rex Tillerson and Attorney-General Jefferson Sessions were also present. "The order is completely lawful," said Mr. Sessions. The new order will not come into effect until March 16, in contrast to the earlier order that became effective immediately. There will be a 90-day ban on the issuance of new visas for citizens of these six countries, and the refugee programme will be suspended for 120 days. The number of refugees to be admitted this year has been reduced to 50,000 from the 1,10,000 cap set by the Obama administration.

The order said each of the six countries was either a "state sponsor of terrorism, has been significantly compromised by terrorist organisations or contains active conflict zones". It also gives country-wise details, justifying the inclusion of each and also explains the exclusion of Iraq.

"Iraq presents a special case. Portions of Iraq remain combat zones," the order said, but added that the country's commitment to "combating [IS] justify a different treatment"

U.S. moves parts of defence system

U.S. missile launchers and other equipment needed to set up a controversial missile defence system have arrived in South Korea, the U.S. and South Korean militaries said ,, a day after North Korea test-launched four ballistic missiles into the ocean near Japan.

The plans to deploy the Terminal High-Altitude Area Defence system, or THAAD, within this year have angered not only North Korea, but also China and Russia, which see the system's powerful radars as a security threat.

China responded quickly, saying it will take "necessary measures" to protect itself and warning that the U.S. and South Korea should be prepared to bear the consequences.

In self defence

Washington and Seoul say the system is defensive and not meant to be a threat to Beijing or Moscow. The U.S. military said in a statement that THAAD can intercept and destroy short and medium range ballistic missiles during the last part of their flights.

"Continued provocative actions by North Korea, to include yesterday's launch of multiple missiles, only confirm the prudence of our alliance decision last year to deploy THAAD to South Korea," Adm. Harry Harris, head of the U.S. Pacific Command, said in the statement.

Some South Korean liberal presidential candidates have said that the security benefits of having THAAD would be curtailed by worsened relations with neighbours China and Russia.

China's condemnation of South Korea's plans to deploy THAAD has triggered protests against a South Korean retail giant, Lotte, which agreed to provide one of its golf courses in southern South Korea as the site of THAAD.

Leaving the Continent

What is the Article 50 Bill?

The Withdrawal from the European Union (Article 50) Bill or "Brexit Bill" is legislation that is currently being considered by the U.K. Parliament to authorise the British government to invoke Article 50 — notification of the country's exit from the European Union (EU).

Where does the Bill currently stand?

The Brexit Bill was passed without amendment by the



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elected House of Commons. In separate votes, each with a large majority, the House of Lords backed two amendments to the Bill. The first amendment required the U.K. to unilaterally preserve the existing rights of EU citizens already resident in the country, and the second gives Parliament a veto on the final terms of the Brexit deal.

What are the arguments for and against the EU citizens' rights amendment?

Those who support preserving the EU-derived rights of some 3.2 million EU citizens resident in the U.K. argue that there is a strong moral case for it – not making bargaining chips out of people.

There is an economic argument as well — uncertainty over their futures could mean workers leaving the U.K., adversely impacting businesses and the economy.

The government does not want EU citizens' rights guaranteed before the rights of Britons resident in the EU are secured.

What are the arguments for and against the amendment regarding the Brexit deal's terms?

The Prime Minister has said she would give Parliament a vote on the final deal. This would entail the deal being presented as a fait accompli; Parliament would then have to take it or leave it. (The Prime Minister has also said she would rather have no deal than a bad deal).

The amendment requires the Prime Minister to have the terms of the deal approved by both Houses of Parliament – failing which she will have to go back to the negotiating table.

Critics of the amendment say this will constrict Prime Minister Theresa May's negotiating ability and provide incentives for the EU side to offer Britain a bad deal. They also say it subverts the will of the people which was ascertained via the referendum. Supporters of the amendment say that it places Parliament back at the heart of the process and protects the interests of the 48% who voted to remain in the EU in last year's referendum.

G20: Climate pledge dropped

Finance ministers from the world's biggest economies, dropped an anti-protectionist pledge and a vow on action against climate change after Washington refused to sign up to the commitment.

After a two-day meeting, ministers from G20 developed and developing nations said they were "working to strengthen the contribution of trade to our economies" but failed to spell out a pledge to reject protectionism. The conspicuous omission came amid a push by U.S.

President Donald Trump to pursue an "America First" policy that includes penalising companies that manufacture abroad by heavily taxing their products.

Norway is the world's happiest country

UN report places it ahead of Denmark and Iceland A chilly climate isn't keeping Norway from basking in the glow of being named the world's happiest country,.

It surged from fourth place in last year's UN assessment all the way to the top spot, according to the World Happiness Report 2017. Other top countries on the list included Nordic neighbours Denmark and Iceland, as well as nearby Switzerland.

"All of the top four countries rank highly on all the main factors found to support happiness: caring, freedom, generosity, honesty, health, income and good governance," the summary explained.

Rounding out the top 10 were Finland, in fifth place, the Netherlands (6), Canada (7), New Zealand (8), and Australia and Sweden tied for 9th.

The entire top 10 were affluent, developed nations, although money is not the only ingredient for happiness, the report said.

In fact, among the wealthier countries the differences in happiness levels had a lot to do with "differences in mental health, physical health and personal relationships: the biggest single source of misery is mental illness", the report said.

Another major country, China, has made major economic strides in recent years. But its people are not happier than 25 years ago, the report found. China ranked 79th in the study of 155 countries.

Norwegian Prime Minister Erna Solberg welcomed the report as "a nice validation on a Monday morning".

The World Happiness Report 2017 was released by the United Nations on the International Day of Happiness. It is the fifth such report since the first was published in 2012.

People see larger role for religious leaders

A large number of people in South Asian countries favour a role for religious leaders as against politicians in major decision-making in their country, at a time when all the countries in the region have democratically-elected governments.

According to a report titled 'State of Democracy in South Asia', while in Pakistan more than half the respondents favoured the involvement of religious leaders in place of



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politicians in crucial decision-making, over one-third took this stand in Sri Lanka, and around one-fourth endorsed this position in Nepal, Bangladesh and India.

The survey report, which enumerates the opinions of 18,576 citizens in India, Nepal, Bangladesh, Pakistan, and Sri Lanka, has been brought out under the aegis of the Global Barometer Survey and conducted by Lokniti, Centre for the Study of Developing Societies, New Delhi, and Jain University, Bengaluru.

The support for a role for religious leaders in highest among the Muslims across countries of the region, says the report.

"It can be a matter of debate whether this represents a lack of faith in the political class or a positive endorsement of religious leaders," said the recently-released study.

In Pakistan, minorities such as Hindus and Christians favour a role for the religious leaders. In Sri Lanka, the support for a role in decision-making for religious leaders was not just among the Sinhala Buddhists and Muslims but also among the Christians and Hindus.

Rising polarisation

The report said, "Support for religious leaders reflects is not so much a vote of confidence in their credentials but a clear frustration with the political class. The increased religious polarisation that societies in countries of South Asia were witnessing in the recent past might have also contributed to this unconscious assertion of faith in the capacities of religious leaders."

In fact, "it is a rare moment in South Asia today when all the countries in the region have democratically elected governments."

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India and The World

India, Oman to hold counter-terror exercises

Plan to enhance interoperability and exchange skills

The armies of India and Oman are scheduled to conduct their second bilateral exercise, Al Nagah-II 2017, in March with a focus on counter-terrorism.

India has, of late, been deepening its defence cooperation with the region. The Chief of the Naval Staff, Admiral Sunil Lanba, is on a tour of Oman and the UAE to "explore new avenues for naval cooperation".

Hill ranges

The Army said in a statement that the exercise would be held in the Dhauladhar Ranges at Bakloh in Himachal Pradesh from March 6 to 19.

Sixty troops from the two sides will participate.

"The aim of the exercise is to build and promote bilateral Army-to-Army relations and enhance interoperability while exchanging skills and experiences between the Indian Army and the Royal Army of Oman," the statement said.

Various modules

An added aim, the statement said, is to enhance knowledge of each other's military procedures qualitatively, thus increasing the scope for "interoperability and better responsiveness to a common threat".

The 14-day exercise will be conducted in modules.

The Army said the vast experience and expertise gained by the Indian troops through counter-insurgency operations held "special importance to the Oman Army".

In preparation for the exercise, the Indian team has undergone extensive training in rock climbing and slithering and counter-terrorism or low-intensity conflict operations, in addition to tactical drills of close cordon and house intervention drills.

India and Oman already have extensive cooperation in the maritime domain.

The navies of the two countries have been holding the bilateral maritime exercises called 'Naseem Al Bahr' since 1993.

In addition, the Indian Navy has been cooperating with

its UAE and Oman counterparts in training, operational interactions and exchange of "white shipping information" with the help of a joint cooperation committee.

India worthy of rating upgrade: OECD

Internationally influential think-tank, Organisation for Economic Co-operation and Development (OECD), threw its weight behind India saying the country is worthy of a credit rating upgrade, but cautioned Indian policy makers against taking measures only with an aim to get a better rating.

The OECD also said the Indian government needed to do "much more", in terms of promoting India through road shows. The government needs to be a "good salesman" — by informing global investors and rating agencies about the reforms it had already undertaken (and will do so in the future) "in the best interest of the country" as well as their positive impact on the economy, according to Angel Gurría, Secretary-General, OECD.

India's (sovereign) credit rating has remained unchanged for the past several years at 'BBB (-)' — or the lowest investment grade, which is only a grade above "junk" status for government/sovereign bonds. Leading international credit rating firms such as Standard & Poor's, Moody's and Fitch rate government/sovereign bonds on the basis of lending risks — or, in other words, their estimation of the borrower's ability to repay its debt and the likelihood of them defaulting. According to the Indian government's Economic Survey 2016-17, "India's ratings have remained stuck at the much lower level of BBB-, despite the country's dramatic improvement in growth and macro-economic stability since 2014."

Mr. Gurría told The Hindu on the sidelines of a Confederation of Indian Industry-event that though India deserved a higher rating, "You don't take policy measures to satisfy rating agencies... to get a better rating." He added, "You take policy measures because they are in the best interest of the country... and the consequence may be that the rating agencies will recognise them." The rating agencies have become "ultra-cautious" after the debt of the firms they granted the highest (AAA) ratings, went wrong — leading to the 2007-08 American sub-prime mortgage crisis and then the 2008-09 Great Recession.

Mr. Gurría said: "Today you need to do much more to convince them that you deserve a better rating." However, he added, "You (Indian government) have got to be a good salesman... go and do road shows. You've got to tell everybody you are going to do a bond issue, and that is good opportunity to tell everybody, the rating agencies



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and investors, what you are doing."

TRAI is now alive to some issues

India could do with just three private telecom operators and the telecom regulator needs to have a longer term vision for the sector rather than just react 'in fits and starts' to market developments, opines Bharti Airtel chairman Sunil Mittal .

You said the telecom industry's global reputation is just slightly better than that of tobacco...

Yes, it's terrible. We did a survey. It has improved by 1% last year. But that's nothing. People remember us only when there are call drops or a data session is going slow. If you have no problems, you are not going to remember me. Of the four-five issues we picked up, the biggest one is international roaming and we have woken up to that. I have taken the lead as the GSMA chairman to launch a war on roaming bill shocks. Some murmuring was there because the roaming revenue pool is about \$50 billion. If this pool drops, local tariffs may go up. My view is if the local tariff goes up by a few paise, it's alright. Don't have those roaming shocks that keep on coming across the globe.

Like we have a fair usage policy, we will create a fair roaming policy. In this one year, my personal delivery to this industry is that this international roaming should go away and bring 5% to 7% up our reputation index.

TRAI has come out with a paper on predatory pricing. Is it too little, too late?

You said it. I am not going to say it. My view is the regulator needs to have a long-term vision for the sector. You cannot be doing things in fits and starts. I think too much of activity is happening in a reactive manner. I am glad that TRAI has called upon a group of experts to look at the long-term roadmap that will talk of interconnect, issues of tariffs, predatory pricing or closed user networks. I think it's the responsibility of the regulator to ensure an amicable co-existence of operators. TRAI is coming alive to some of these (long pending) issues. I only hope when these recommendations come from TRAI, they don't land us in further litigation but are futuristic, visionary and takes care of all stakeholders.

You have hinted consolidation could reduce the number of players to four...

When we went from 2 to 4 or 5 players, it was okay. But going to 12 operators has led to \$20-\$25 billion being written off. You could have built roads, bridges and god knows what all with that money. If you take BSNL out, it is four operators – which is clearly us, Vodafone-Idea com-

bined and Jio with one more which could be RCOM, Aircel, Tatas. If all three of them come together, then there may be a case for a fourth operator. But just between the two of them, they are sub-10% market share and declining very fast because you need serious investments not only to cover up 3G networks, you now need a rollout of 4G networks. So my view is that there is a question mark whether that entity will come into some shape or form with three of them coming together.

Will that allow competition?

The competition now lies in the space which is increasingly outside our control. People are using us just as a journey to get to the destination whether it is Facebook or Whatsapp. So most of the battle is being fought there. With 1 GB a day offers at Rs. 303 plus eight or nine rupees a month for the next 12 months, the paradigm has shifted. If it carries on at even half of this level after the promotional offer, it's very inexpensive compared to the world

Would you like to see another auction this year?

April 1. When do you see the situation easing?

It won't happen. There are enough spectrums that have been tanked up by us, at least. Vodafone–Idea merger will yield a lot of spectrum for them. I would say Jio has picked up the spectrum they have wanted. They may want a little bit here and there... So who is the buyer? We have moved to a spectrum-surplus situation for now. My prediction is that there can't be an auction in 2017–18. Jio has said they are going to charge for services from

It will ease once Reliance probably gets some scale. Their whole need is to get scale, customers, and revenues. The good news is they have announced they are going to charge from April. But, we think it is unsustainable for the industry to give 1GB a day for that price.

Will it hurt revenues and profits?

It's better than zero. We have been living with zero for the last six months. Eventually, this industry needs to have return on capital or else investments in future networks will slow down.

Jio has 100 million subscribers but incumbents like you haven't lost as many users. Could Jio lose numbers once it starts to charge?

That's simple. It's dual SIM. Almost anybody with a Reliance SIM has another SIM. So, you are right. We have not lost customers. We have gained customers. But they also have 100 million, so the math doesn't add up. The answer is double SIM. The usage will come down. Subscribers, I don't think so.



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Free trade should be fair too'

Trump cites Indian duty of 100% on motorcycles, demands reduction in it

In an indication that increased market access for American companies will be a key priority in his engagement with New Delhi, U.S. President Donald Trump mentioned the 100% duty that India imposes on high-end motorcycles as a case of unfair trade practice and vowed to change it, in his first address to Congress.

Mr. Trump did not take India's name, but India is the only major country that has a 100% customs duty on motorcycles. American company Harley-Davidson has been seeking a duty reduction for several years now. Recalling his meeting with the company's executives on February 2, Mr. Trump said: "They said that in one case another country taxed their motorcycles at 100%. They weren't even asking for change. But I am... I believe strongly in free trade but it also has to be fair trade."

Cites Lincoln

Citing Abraham Lincoln to declare that he would pursue an openly protectionist and nationalist policy that favours American companies, workers and soldiers, the President said: "My job is not to represent the world. My job is to represent the United States of America." Mr. Trump said American companies were facing trade barriers across the world.

His statement sets the tone for Indian Foreign Secretary S. Jaishankar's meetings with several U.S. interlocutors this week in Washington. U.S. officials, who did not want to be named, told The Hindu the Trump administration is likely to press India on trade matters. India is moving up in the list of U.S. trade partners and this has added a new urgency to the question of market access, according to these sources.

According to data for 2016 released recently, India is the ninth biggest trading partner of the U.S.

The Trump administration will be less concerned about balancing trade issues with strategic concerns, according to Richard Rossow, Wadhwani Chair in U.S.-India Policy Studies at the Centre for Strategic and International Studies, Washington. "For India, that means that sectors with price controls, high customs duties, or compulsory local manufacturing rules may increasingly be on the radar screen. Pressing India to liberalise FDI caps, which could result in manufacturing relocation, will get less attention," he said.

India has a strong voice within World Bank group, says Georgieva

India has a "very strong voice" within the World Bank group due to its active participation in the international financial institution's meetings and decisions, and the Bank is in talks with the government to further strengthen this partnership, according to World Bank Chief Executive Officer Kristalina Georgieva.

In an interview to The Hindu, Ms. Georgieva said even as the Bank was undertaking internal reforms on decision-making and governance, "India's voice on the (World Bank) Boards of directors and governors is very strong. It is very active in the meetings, due to which it has learnt a lot from the Bank and the Bank has learnt a lot from India"

Ms. Georgieva, who arrived in India on February 27 on her first official visit here, said the Bank's focus areas in the country included financial inclusion, renewable energy, smart cities, sustainable water resource management, skill development, sanitation and cleaning the river Ganga.



On the Indus Waters Treaty, Ms. Georgieva said, "a constructive engagement is taking place. We have seen there is good progress." India, Pakistan and the World Bank are signatories to the Treaty and are in discussions on resolving disagreements the two countries have over India's construction of two hydroelectric power plants, the Bank had said. "The Treaty has served the two countries very well and has survived difficult moments. It has benefited the countries," Ms. Georgieva said. However, she added that water resource management today is very different when compared to the times when the Treaty was signed (in the year 1960) due to the huge rise in population and the increase in the water requirement for energy and agriculture. Water sharing is a major issue not just between India and Pakistan, but in many parts across the world, she said, adding that the Bank is working on better

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strategies to make best use of water resources.

Ms. Georgieva, who met Finance Minister Arun Jaitley and RBI Governor Urjit Patel, said among the topics of discussion was finding ways to help raise more funds through rupee-denominated bonds issued outside India – also known as 'masala bonds'. The masala bond was first issued by the International Finance Corporation, a member of the World Bank Group. The talks were also on better handling exchange rate fluctuations given the uncertainties in the world economy.

Half of India-Bangladesh border fenced

BSF to go in for cameras and lasers on riverine stretches; aim is to curb infiltration and smuggling of cattle and currency

Half of the 4,096-km border India shares with Bangladesh has been fenced. Land acquisition is a major challenge to completing the work by the 2019 deadline.

The border runs along West Bengal for 2,216.7 km, Assam 263 km, Meghalaya 443 km, Tripura 856 km and Mizoram 318 km.

The aim of the project is to curb infiltration and smuggling of cattle and fake Indian currency notes.

"We have surveyed every inch of the land to be fenced. We have identified plots to be acquired. We have sent a proposal to the government," R.P. Singh, Additional Director-General of the Border Security Force, East, told The Hindu. He said land acquisition was a "legal process" and the moment the final approval was received, fences would be erected.

Asked whether the State governments were not cooperating in land acquisition, he said the West Bengal government formed a committee for acquiring land.



Another important issue in West Bengal is that a large part of the border is riverine: rivers running along the border serve as the border. For instance, 70 km of the south Bengal frontier — from South 24 Parganas to Malda — is

riverine. "Where fence is not possible, we are going in for technological solutions such as cameras and lasers," Mr. Singh said.

Asked why fake currency notes were being seized in Malda district, he said the fake currency note syndicates are "...located in Malda and Churiantpur areas."

BSF officers said that 13 of the 17 security features of the Rs. 2,000 note had so far been compromised. In February, fake currency notes with a face value of Rs. 2.96 lakh were intercepted by the BSF. One person was held.

India to attend meets of Indus Commission

At the time, tensions with Pakistan were high, as the government considered all retaliatory measures after the Army camp attack in which 19 soldiers were killed. "Meetings can only take place in an atmosphere free of terror," a senior official briefing the press about the suspension of the Indus talks had said.

Asked if the scheduling of the talks now in March despite the previous decision meant a climb-down in India's position or whether terror attacks had in fact decreased in the past few months, the MEA did not offer an official comment.

"It is a regular bilateral meeting of the Permanent Indus Commission which implements the Indus Waters Treaty," a senior official told The Hindu , denying that there was any "shift" in India's position. In November another controversy erupted over the World Bank decision to constitute a Court of Arbitration to look into complaints from Pakistan over India's construction of Kishenganga and Ratle river water projects. India said the World Bank decision was biased in Pakistan's favour, threatening to "take steps" against it.

Eventually the matter was resolved after it was taken up at the highest levels between the World Bank President Jim Yong Kim, who also spoke over telephone to Finance Minister Arun Jaitley and to his Pakistan counterpart Ishaq Dar. This was followed by visits to India and Pakistan by World Bank expert Ian Solomon and then Ms. Georgieva.

According to the sources, Ms. Georgieva discussed the impasse over the IWT at length with Mr. Jaitley during her visit to Delhi, and even suggested putting some of the key issues on Kishenganga and Ratle hydel projects on the agenda for the Lahore meeting.

In an exclusive interview to The Hindu ,, Ms. Georgieva said: "Our contribution is to help the countries better understand each other's concerns and address them. We



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have seen that the Treaty has served the two countries very well and has survived difficult moments."

Pakistan returns to SAARC, gets Secretary General Post

But officials say the election is of administrative nature After months of difficulty posed mainly by India, Pakistan , succeeded in getting its official elected to the post of the Secretary General of the South Asian Association for Regional Cooperation (SAARC). Wednesday's success for Pakistan was backed by all members, including India, which made the selection consensus-based.

Officials at the SAARC secretariat, however, said the election was of administrative nature and diplomatic intent should not be read in it. "As the incoming chair, Pakistan was supposed to provide the next Secretary General and all members of SAARC allowed the smooth transition from Nepal to Pakistan," said a source in the Secretariat in Kathmandu.

Veteran diplomat

The new chief of SAARC, Amjad Hussein B Sial, is a veteran Pakistani diplomat who was expected to take charge a year ago. However, India's tough stance on cross-border terrorism posed problem for the candidate who has been in waiting since March 2016.

Sources at the SAARC secretariat in Kathmandu said the election of Mr. Sial was possible as India and Pakistan had indicated a greater willingness to allow SAARC to function.

Earlier, India had opposed holding of the 19th SAARC summit in Islamabad in November 2016 following the terror strike in Uri.

The Hindu had reported that India had sent delegates, including Joint Secretary in charge of SAARC, for a meeting of SAARC representatives in the first week of February to finalise the issue of budget and other administrative matters.

The Ministry of External Affairs has not yet commented on the issue.

'U.S. needs trade deal with India'

As the Donald Trump administration moves ahead with its plans to replace multinational trade treaties with bilateral ones, a senior lawmaker has called for an India-U.S. bilateral trade treaty. Ed Royce, Chairman of the House Foreign Relations Committee, said India and the U.S agreed on liberalising trade further and a bilateral treaty could be the next step.

Mr. Royce was speaking at a reception organised by Indian American investor Devendra Verma for a visiting delegation from Vivekananda International Foundation in New Delhi, a think thank earlier headed by National Security Adviser Ajit Doval.

"...we are trying to push the policies [to increase bilateral trade to \$500 billion], and the Prime Minister is also trying to push these policies. So we need an effective bilateral trade agreement treaty with India. We are pushing to liberalise trade further," Mr. Royce, who had earlier met Foreign Secretary S. Jaishankar, said. A bilateral trade treaty is among the topics of Mr. Jaishankar's discussions with U.S. interlocutors, according to U.S. Congressional sources.

The Foreign Secretary met U.S. Secretary of State Rex Tillerson and was scheduled to meet Secretary of Commerce Wilbur Ross,.

Moving fast

The U.S. under Mr. Trump has already started exploring bilateral trade treaties with the U.K., Japan and Canada. "You will be shocked by the speed at which bilateral agreements begin to materialise," Reuters had quoted an unnamed Trump adviser in January as saying. The U.S. has withdrawn from the Trans-Pacific Partnership, which was designed as a 12-country trade pact. Mr. Trump has also ordered to tweak the North America Free Trade Treaty (NAFTA) with Canada and Mexico. India is the ninth largest trading partner of the U.S and bilateral trade is largely guided by WTO rules. "If both governments move ahead with a bilateral trade agreement, we will support it," Mukesh Aghi, president of the U.S-India Business Council, told The Hindu . High technology trade is guided by strategic calculations, and is often a point of friction in bilateral ties. India's request for unarmed Guardian drones for maritime surveillance was given a green signal by the Obama White House, but appears struck in the U.S bureaucracy.

"I have been frustrated with the Defense and State Departments in terms of the sale of Guardian drones. This is going to be the next great thing of defence collaboration," Senator Mark Warner, Co-Chair of the Senate India Caucus, said during a discussion at Woodrow Wilson Centre, a Washington think tank. Mr. Warner and Republican Senator Dan Sullivan called for speeding up the process and enhancing defence trade between the two countries. Mr. Sullivan also called for joint military operations by India and the U.S. "in areas of common interest."

India to train Myanmar Navy



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Indian Navy will set up meteorological facilities and impart training for the Myanmar Navy. This was agreed upon during a recent visit of a Myanmar delegation to Kochi. Myanmar will soon send a proposal with its requirements. This fits into India's overall effort to boost strategic cooperation under the 'Act East' policy and will help offset increasing Chinese presence in its neighbourhood.

The three-member Myanmar Navy delegation was on a four-day visit to Kochi from February 26 to March 2. "The visit is primarily aimed at familiarising the officers on Indian Naval Meteorology and Oceanography (METOC) operational/training facilities and exploring avenues for defence co-operation in the field," the Navy said in a statement.

The Navy said the delegation also called on the Chief of Staff, Southern Naval Command (SNC), Rear Admiral R.J. Nadkarni, who "assured them all assistance in terms of training and setting up of meteorological facilities for the Myanmar Navy."

"He requested the delegation to send a proposal for the SNC to take up the same with higher authorities," the Navy stated.

As a prelude to the cooperation, the delegation was given a tour of the Indian Naval Meteorological and Analysis Centre (INMAC), as well as the School of Naval Oceanology and Meteorology (SNOM).

'Trump team positive about ties with India'

The new U.S. administration is optimistic about America's relations with India, and India sees no conflict between its 'Make in India' programme and President Donald Trump's push for expanding manufacturing in America, Foreign Secretary S. Jaishankar says.

"...the administration has a very positive view of India and India-U.S. relations. We saw a lot of goodwill and interest in taking this relation forward," Mr. Jaishankar said at a press conference after a series of meetings with officials of the Trump administration and lawmakers in the U.S. capital this week.

Mr. Jaishankar and Commerce Secretary Rita Teaotia discussed economic, security and defence cooperation with American interlocutors. The discussions with the U.S. foreign policy and national security officials also covered the "global strategic landscape," and "both sides exchanged ideas on Asia-Pacific and Af-Pak and Middle East," the Foreign Secretary said.

Mr. Jaishankar, however, did not offer any assessment on the new U.S. administration's position on these areas of critical importance to India. "It is not for me to comment on their policy," he said.

Mr. Jaishankar and Ms. Teaotia met U.S. Secretary of State Rex Tillerson, Secretary of Commerce Wilbur Ross, Secretary of Homeland Security John F. Kelly, National Security Advisor H.R. McMaster and several Congressional leaders.

The Indian officials also interacted with U.S. business leaders.

Mr. Jaishankar said that with the "new set of players and a new way of looking at the world" in the new administration, "We need to adapt to it and look for new opportunities for cooperation." However, there is an element of continuity in bilateral relations, he added. "We are not starting from scratch. You have the foundation of where the previous administration left it."

Responding to a question on the protectionist economic agenda that Mr. Trump has set out on, Mr. Jaishankar said: "...every country would like to take steps that would be in the best interest of their economy and the way the global economy works is that countries reconcile those ... through an international trading system. ... If there is more robust growth in America...it can offer opportunity here."

Kansas shooting

Mr. Jaishankar said the murder of Indian engineer Srinivas Kuchibhotla recently in Kansas featured in several meetings, and the U.S. interlocutors had assured India that it would be prosecuted as a hate crime. "....we heard expression of deep sorrow, deep regret," Mr. Jaishankar said.

The question of H-1B visas came up in discussions with the secretaries and lawmakers.

"If the Trump administration wants to bring more companies and investments to the country and America grows, that growing America needs this partnership and I think that point was registered," he said.

'H-1B-linked suspension was to clear backlog'

The suspension of premium processing of H-1B visa does not indicate any change in the U.S. policy on work visas, a leading immigration attorney in the U.S capital said.

The U.S Citizenship and Immigration Services (USCIS) has suspended premium processing in the past also, to clear the backlog of H-1B petitions, said Aparna Dave, in



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an interview to The Hindu.

85,000 H-1B per year

Premium processing involves a USCIS commitment to respond on a particular petition within 15 days, for an extra fee. USICS processes more than 85,000 new H-1B visas. The agency has to process amendments and extensions of people who are already in the U.S. on H-1B visas. "As the number of H-1B visa holders in the U.S is increasing every year, the time taken for processing extensions and amendments has shot up in the last couple of years, Ms. Dave said.

"Therefore, companies and employees started taking the premium route. An increasing number of premium processing applications further slows down the regular processing, as more and more people pay extra to get the case processed within 15-days, diverting the USICS manpower," she said.

The emphasis on premium processing has stretched the time USICS takes for normal processing of extensions, and these days it is nearing 240 days, the maximum number of days an H-1B visa holder can work in the U.S while waiting for an extension. The USICS has said, that it was suspending premium processing to clear long-pending cases.

Not linked to Trump

Ms. Dave said the suspension of premium processing is not linked to Trump administration, but the panic among H-1B holders and companies have resulted in spike in premium petitions in recent months.

"Suspension is an internal decision of the USCIS and it does not signal any policy change. However, due to the change in the administration there has been a preference for filing H-1B petitions under the premium route, due to a fear that H-1B policy may change in the future," she said. "H-1B petitions are usually approved for three years. However in the recent years, USCIS has approved several petitions just for one year. Before the end date on the H-1B petition an extension must be filed. If within the H-1B approved period, the employee changes the company, or the work location of the employee changes within the same company, an H1B amendment needs to be filed. Every year, you have more than 85000 new visas added and the number of total H-1B visa holders is constantly increasing and the number of people seeking such amendments is also increasing," she said.

'No change in India's stance on UNSC veto'

Will accept no-veto rule for first 15 years India is ready to accept a United Nations (UN) permanent Security Council seat without using a veto for the first 15 years, the MEA confirmed here .

Answering questions on the stand taken by India's Ambassador to the UN , where he addressed the General Assembly's Inter Governmental Negotiations on behalf of Brazil, Germany, India and Japan (called the G-4), MEA spokesperson Gopal Baglay said there had been "no change in the government's position" on securing veto power at the UNSC, but India did not wish to "impede" the process.

In his submission Ambassador Syed Akbaruddin had said that India and other G-4 countries were ready to accept a moratorium on using the veto.

"While the new permanent members would as a principle have the same responsibilities and obligations as current permanent members they shall not exercise the veto until a decision on the matter has been taken during a review [expected after 15 years]," Mr. Akbaruddin said. "The Indian Ambassador's statement merely stresses that the matter of veto need not be made into something to protract urgently needed reforms of the Security Council," added Mr. Baglay. According to officials, India is hopeful that the Chairpersons of the Inter-Governmental Negotiations (IGN) will now put out a text recording every country's views to take the reforms to the next step.

Showing flexibility

"This is one way of keeping the process going, and to show some flexibility on our part," explained Chinmaya Garekhan, former Indian Ambassador to the UN.

However, Mr. Garekhan said that he doubted India could uphold the moratorium if there were any resolutions at the UNSC that affected India directly.

India, Pak. DGMOs hold talks

Inputs about Pakistani regulars training terrorists shared India conveyed its concerns to Pakistan regarding the movement of terrorists along the Line of Control (LoC) as well as repatriation of two of its nationals who crossed the LoC post-Uri terror attack.

The information was conveyed during an unscheduled call between the Indian Army's Director-General of Military Operations (DGMO), Lt. Gen. A.K. Bhatt, and his Pakistani counterpart Maj. Gen. Sahir Shamshad Mirza, the Army said in a statement.

"These concerns arise primarily from specific inputs of Pakistani regulars training terrorists for infiltration and cross-border raids. The specifics of them have been shared with Pakistan DGMO," one Army source said.

Army gears up

As winter ends and summer sets in, infiltration sees a

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gradual increase along the LoC and the Army is gearing up for a surge this year in view of the unrest in Kashmir. However, Pakistan rejected the observation on terrorists along the LoC.

"Indian concerns on terrorists' movement along LoC were strongly rejected during hotline. Indian Army asked to look inward, share evidence," Maj. Gen. Asif Ghafoor, spokesperson of Pakistan Armed Forces, tweeted quoting The Hindu 's tweet on the issue.

Lt. Gen. Bhatt also communicated that two Pakistani nationals apprehended in Uri, Kashmir, would be repatriated on March 10 through Wagah border.

" the National Investigation Agency had handed over the two Pakistani youths, Faisal Hussain Awan and Ahsan Khursheed, to the Army's 16 Corps headquarters in Jammu. They were arrested in connection with the last year's terror attack on the military camp in Uri in which 19 soldiers were killed.

Commonwealth trade meet begins

Bloc targeting increase in trade to \$1 trillion by 2020, from \$750 billion now

An inaugural Commonwealth summit focused on stimulating trade within the group kicked off in London, as government representatives and business people gathered to discuss opportunities for growth. The meeting, though planned before last year's Brexit referendum, has acquired new significance as a result of it, as Britain pushes for trade deals beyond the EU borders.

The two-day event involves a series of round-table discussions between ministers from over 30 countries and chief executives, followed by a ministerial round-table, which its organisers hope will kick-start further action on strengthening cross-Commonwealth trade, ahead of next year's Commonwealth Heads of Government Meeting (CHOGM) in the U.K., which is expected to bring together leaders as well as 2,000 businesses from across the group.

The Commonwealth leadership is targeting an increase in intra-group trade to \$1 trillion by 2020, from \$750 billion. Organisers of the trade summit are hopeful that a Commonwealth accord that recognises the benefits of trade within the bloc and provides the framework for potential trade initiatives between groupings within it is achievable in the next couple of years. India is being represented by Commerce Secretary Rita A. Teotia, who took part in panel discussions on the ease of doing business and creating an export economy. Ms. Teotia's visit will be followed by that of M.J. Akbar, Minister of State for External

Affairs, who will be attending the Commonwealth Ministerial Action Group meeting next week, also in London. "From today, till the CHOGM summit, the Commonwealth will be an important part of our agenda," said Deputy High Commissioner Dinesh Patnaik.

Ties beyond EU

At the event, British Trade Secretary Liam Fox spoke of Britain's eagerness to forge stronger ties beyond the EU. "Protectionism can be a seductive but a false friend." Speaking at the start of the day, Lord Marland, chair of the Commonwealth Enterprise and Investment Council, noted the sharp disparity between the population of the Commonwealth (around a third of the world's population) and its share of trade (around 15%). "That gives great potential," he said adding that common actors such as language and similarities in legal and regulatory regimes meant that the costs of trade could be on average 19% lower compared to other states. Changing attitudes towards globalisation in other parts of the world added to the opportunities presented to the Commonwealth to stimulate trade within the group, he said.

"When countries protect themselves, it will give short-term benefit to sectors but it can do great harm," said New Zealand's Minister for Trade Todd McClay ahead of the discussions. "We need outcomes that help bring us together and make trade freer and fairer and helps our economies grow."

India sees options in U.S. energy policy

President Donald Trump and Republican lawmakers have already set in motion a series of measures that will deregulate American oil, gas and coal sectors and India sees an opportunity to enhance bilateral cooperation in these areas in the coming years.



Thirty percent of all increase in world's energy demand from now to 2040 will be from India, and energy cooperation will be an increasingly key component of bilateral relations, Petroleum Minister Dharmendra Pradhan said

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after a meeting with U.S. Energy Secretary Rick Perry. This was the first ministerial level interaction between India and U.S. under the new administration. India will start importing Liquefied Natural Gas from the U.S. in 2018 under contracts signed during the previous Obama administration. Right pricing will enable India to ramp up imports from the U.S., Mr. Pradhan said.

The Trump administration's focus is on making American oil and gas sector competitive in the world market and it does not want environmental concerns holding back the sector. By deregulating oil and gas, and rolling back incentives available to non–conventional energy industry, the Trump administration is hoping to create a boom in the U.S. oil and gas market.

Three Indian public sector companies, GAIL, Oil India and IOC and Reliance have invested in U.S. shale gas production. The Obama administration's focus was on pushing renewable energy cooperation with India, but Trump administration's focus is different said an Indian official.

Mr. Pradhan said Prime Minister Narendra Modi's commitment to increase the share of non-conventional sources in India's energy mix is independent of what the American administration thinks or does. "The PM is clear that India will go ahead with its COP 21 commitments," the minister said.

'Texas visit'

He said Mr. Perry has asked him to request Mr. Modi to visit his home state of Texas, which is the centre of American petroleum industry. Mr. Modi is expected to visit the U.S. in the next two months. While it appears certain that Mr. Trump will disrupt the U.S. energy sector, its implications for the global market are unclear.

Mr. Pradhan said cooperation could be in the areas of clean coal technology, and in converting coal to synthetic gas. "American technology and investment could be of great help in coal sector. U.S technology will also be helpful in building smart grids and reducing transmission losses," said Mr. Pradhan, who attended the CERA Week in Houston, an annual conference of energy executives and policy makers.

India to lose presence on U.N. scientific panel

No candidate was fielded for elections to the Commission on Legal Continental Shelf

Even as India strenuously lobbies for seats in global high tables such as the United Nations Security Council and the Nuclear Suppliers Group, it will — for the first time in two decades — not have a member in a prestigious, U.N.

scientific body that decides what portions of the seabed can be exclusively mined for natural resources such as oil, precious metals and minerals.

India's current member to the 21-person body, called Commission on Legal Continental Shelf (CLCS) and part of the United Nations Convention on the Law of the Sea (UNCLOS), told The Hindu that he was "anguished" by India's decision not to field a candidate for the upcoming election

According to officials of the Ministry of Earth Sciences (MoES), the date to send a nomination lapsed on March 7. Multiple sources said the Ministry of External Affairs (MEA), which formally nominates Indian candidates, chose to nominate a person to another U.N. body, called the International Tribunal for the Law of the Sea (ITLOS).

Sea-related issues

"The MoES is the nodal Ministry for the Law of the Searelated issues. However, the MEA went on to nominate a retired Joint Secretary-level officer for ITLOS membership, whereas the MoES candidate for CLCS was not agreed to by the MEA," an official source said.

Despite several representations by the MoES Secretary at various levels, the issue was not addressed, the source said. MoES Secretary Madhavan Rajeevan didn't comment on The Hindu's queries.

The CLCS has five-year tenure and elections are due in June for the 2017-2022 term.

Not having an Indian in this 21-member group would mean that China and Pakistan would likely "grab" two of the five seats allotted to the so-called Asia-Pacific group, Rasik Ravindra, India's current member of the CLCS, said from New York.

Apart from signalling prestige, a membership of the commission allows India to gauge the scientific strength of claims by countries to parts of the seabed that, like territorial waters, are often hard to demarcate. Such information is privy only to participants.

MEA cuts funds to one more China think tank

Scholars fear negative impact on important area of study After cancelling a fund for the prestigious Delhi-based Institute for Chinese Studies (ICS), the Ministry of External Affairs (MEA) has reportedly informed another research group on China that it will not be able to support their programmes.

"We will overcome the challenges posed by the fund cut, but such an attitude towards conducting comprehen-



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sive academic research on China would hurt the foreign policy debates on China in India," said Jawaharlal Nehru University Professor B.R. Deepak, who has been one of the scholars of the Association of Asia Scholars (AAS). In the past few weeks, the MEA has come under criticism for its decision to revise many of the grants and funds it disburses to think tanks. While the ministry declined to comment on the criticism, a senior MEA official told The Hindu that the cuts were not the outcome of larger budget cuts from the government, but had been taken on the basis of "the performance and delivery" of think tanks that have been allocated a combined Rs. 6.5 crore in the Budget.

"Over the past few years, we have been trying to inject some accountability into the system, in an effort to get more results from the think tanks," the official explained, defending the government's decision.

'Project by project'

While the ICS had seen an annual fund outlay of Rs. 1 crore cancelled and replaced with funding on a "project by project" basis, sources said the AAS was told its seminars and programmes could not be funded as they were too "academic in nature, and not helpful in the government's policy design".

Speaking out against the government's decision on the ICS, which was started in 1969 and is one of the most respected think tanks in the field, outgoing director Alka Acharya told The Hindu: "Project-based funding is efficient in that it focuses on specific outcomes or outputs. However, that alone cannot substitute the sustained core support required to nurture the high-quality human-resources necessary — not only to pursue those projects but to build the range and depth of knowledge and expertise about China that India needs today."

Fellows of the ICS as well as the AAS did not wish to speak about whether their fund cut came because of what one official called "diametrically opposite positions to the government" on important issues like China's Belt & Road initiative as well as on border talks.

A senior China scholar, however, said such differences are a sign of academic dynamism and creativity. "Funding from the government does not make a think tank into an advocacy group. Our difference of opinion is based on the study of a particular project and therefore there is no question of agreeing on all issues with the MEA," he said. Responding to other criticism on the government's decision to support programmes organised by foreign think tanks, including a Global Technology Summit conducted by the India arm of the Carnegie think tank in Bangalore, the MEA official said recent entrants to India like Carn-

egie, Brookings Institution etc., are no longer considered foreign.

"These are hardly foreign think tanks any more, as they are staffed mostly by Indians," the official said, acknowledging that the decisions mark a shift from previous MEA policy and were part of a "revamp" of the policy planning division that now handles all think tank funding.

Indo-Russian transport plane JV grounded

MTAL was to build India's own military transport aircraft It may now be just a matter of time before Multi-role Transport Aircraft Ltd. (MTAL), the Indo-Russian company that was to have spawned India's own military transport aircraft, is wound up.

The closure of the company, when it happens, will formally bury a decade-old plan to co-design and co-develop a cargo/transport plane for the armed forces of the two nations.

The project appears to have gone cold at least a year back and there has been no official word on the status of the government-to-government deal, whereas Russia is reportedly going ahead with its new plane for its armed forces, according to sources.

MTAL, which has been idle for almost two years, has a CEO, a company secretary and a head of finance. The board of Hindustan Aeronautics Ltd (HAL), which is an equal partner in the venture, may take the matter to its closure once it gets the nod, it is learnt.

Not entirely unexpected

A hint of this came during the February Aero India 2017, when HAL chairman and managing director T. Suvarna Raju said, "The MTA (Multi-role Transport Aircraft) project is not progressing well. As of now, no work is going on and it is currently in the 'stop' mode. We will know about its future in the current year." It was up to the two governments to look at options, he said. The Indian Air Force (IAF) is yet to respond to a query on the project.

"No Indian company has designed a transport plane. We lost that opportunity," said a person familiar with aircraft design, who did not wish to be named.

Joint development of the plane, MTA, was conceived around 2006-07 and firmed up in 2010 via an inter-governmental agreement. Two years later, HAL and Russian military entities — United Aircraft Corporation-Transport Aircraft (UAC-TA) and Rosoboronexport — signed a general contract to form the special purpose MTAL, with a 50:25:25 equity split to take the project forward. Each side put in \$20 million as paid-up capital.

According to the old plan, the 15-20-tonne medium lift plane would replace the ageing Antonov /An-32 transport



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planes. The demand was estimated at 205 MTAs — 45 for the Indian Air Force, 100 for the Russian Air Force and another 60 for exports. The Indian aircraft was to be designed by HAL in Bengaluru and produced at its transport division in Kanpur. The project cost was estimated at \$600 million (then around Rs. 2,700 crore).

In 2012, over two dozen HAL engineers spent several months in Russia studying the project. Until March 2014, designers of either side had together completed the preliminary project design. Subsequent reports said problems such as an incompatible engine design, performance issues at higher altitudes and cost escalation had cropped up.

While the An-32s are now proposed to be upgraded, this can only be done with the help of Ukraine, which is in conflict with Russia. The first An-32 upgraded earlier was lost over the sea near Chennai last July.

In December 2015, three joint projects were alive between the two countries: the MTA, the Fifth Generation Fighter Aircraft and the light helicopter Kamov Ka-226. But the line for the MTA appears to have died, the sources said.

Delegation of top Chinese artists returns from India

Beijing team visits after ICCR extends invitation

A 10-member delegation of top Chinese painters and artists visited India last week and interacted with their Indian counterparts in different cities.

The delegation, which was led by Wu Shan Ming, member of China Academy of Arts, visited the country from March 5 to 11 and comprised artists from the Zhejiang Kaiming Art Gallery.

Painter Shen Shu

The delegation included famous painter Shen Shu, who had earlier presented a portrait to Prime Minister Narendra Modi during his last year's visit to Hangzhou to attend the G20 Summit.

It also included distinguished painters from Shanghai led by Luo Wei Min and Zhang Yi Ren.

Min, who is a student of eminent painter late Wang Zhijie, has contributed a set of paintings titled "India through Chinese Eyes", the Indian Consulate in Shanghai said in a statement...

The Chinese delegation visited at the invitation of the Indian Council of Cultural Relations.

During the India tour, the delegation visited New Delhi, Rajasthan and Varanasi. and interacted with Ambassador Amrendra Kathua, Director-General of the Indian Council of Cultural Relations.

They also met several other leading artists from India. Workshops with Indian artists were also organised in Varanasi and Jaipur.

Culture week

It is expected that the artists would attempt another set of impressions of their visit to India through a series of paintings to be put on display at the India Culture Week likely to be hosted in Hangzhou in mid-June this year, the consulate statement said.

'China should take a fresh look at ties with India'

A leading Chinese daily affiliated with the People's Daily signalled that China should take a fresh look at its ties with India following the recent assembly elections, which demonstrate the likelihood of Prime Minister Narendra Modi's long-term dominance over Indian politics.

An op-ed in the Global Times said the BJP's "sweeping electoral victory in Uttar Pradesh" has "not only increased Modi's chance to win the 2019 general elections, some even predict he is already set for a second term".

It highlighted that since "Beijing-New Delhi ties have recently entered a subtle and delicate phase, observers soon started to pay close attention to how the bilateral relationship will develop after Modi tightens his grip on power".

Signalling the need for re-thinking, the daily said China should read the changes in India as "an opportunity to give more consideration over how to make breakthroughs in Beijing-New Delhi relations with a hard-line Indian government".

Strong support

Long Xingchun, Director of Center of India Studies, China West Normal University, told The Hindu that the recent elections embody "the eagerness of the Indian people to pursue development and this has resulted in strong support for Mr. Modi". He added; "[Mr.] Modi is becoming a strong leader with people's support. This would enable him to make bold decisions to solve major problems with China."

Separately, a detailed analysis in the Shanghai-based Guancha Syndicate notes that the elections results show the "general trend of the BJP's rising momentum". It points out that Mr. Modi's distinct brand of "developmentalism" has a unique appeal, as voters are tired of old zero sum games and want to achieve caste reconciliation. The website lauds the "people orientation" in Mr. Modi's campaign which managed to mobilise women and

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breach the traditional "rich-upper caste-male" electoral formula.

The World Bank is keen on resolving Indus divide

After her recent visit to India and Pakistan, World Bank Chief Executive Officer Kristalina Georgieva reiterated that the Bank was keen on resolving the disagreements between the two nations over the interpretation of the Indus Waters Treaty (IWT) following the construction by India of two hydroelectric power plants. Though the two nations have had no fresh conflict over the sharing of river waters for more than five decades, differences cropped up after Pakistan opposed the construction of the Kishenganga (330 MW) and Ratle (850 MW) power plants by India on the Jhelum and Chenab in Jammu and Kashmir, over which Pakistan has unrestricted rights under the treaty.

Why did the Bank intervene?

Even before Partition, the Indus had created problems among the states of British India. The problems became international after the creation of two nations as the political boundary was drawn right across the Indus basin. The World Bank (then IBRD), under the presidency of Eugene Black, helped in 1952 to settle the dispute between the two nations on the sharing of the Indus river basin waters. He had said the escalation of the dispute would damage the economic development of the Indian subcontinent. After eight years of hard negotiations, Prime Minister Jawaharlal Nehru and President Ayub Khan signed the IWT on September 19, 1960. The Bank is also a signatory to the treaty. The IWT is a complex instrument, comprising 12 articles and eight annexures. It sets forth provisions of cooperation between the two countries in their use of the rivers, known as the Permanent Indus Commission (PIC).

Has there been any violation?

According to the IWT, India has control over three eastern rivers of the Indus basin — the Beas, the Ravi and the Sutlej — and Pakistan has control over the three western rivers — the Indus, the Chenab and the Jhelum. All six rivers flow from India to Pakistan. Among other uses, India is permitted to construct power facilities on these rivers subject to regulations laid down in the treaty. India had asked the bank for appointment of a neutral expert following Pakistan's objections to two projects, while Pakistan demanded the formation of a court of arbitration, alleging that India had violated the treaty. In December 2016, the Bank announced a 'pause' and asked both par-

ties to resolve the issue amicably by the end of January 2017.



What stand did the Bank take?

India welcomed the Bank's neutral stand, while Pakistan sought intervention of the Bank after being unable to find an amicable solution to the dispute through the commission. Given that India has remained the Bank's single largest borrower since its inception with cumulative borrowings from IBRD and IDA touching \$103 billion, the bank did not perhaps want to upset it.

With buoyancy in foreign exchange reserves, the Bank needs India more than the other way round and this has created some anxiety in the Bank circles about the future direction of their relationship.

Why is the Bank playing a role again?

This is because India and Pakistan are important partners and clients of the Bank. In South Asia, Pakistan (\$2,280 million) received the highest lending from the Bank after India (\$3,845 million) during the fiscal 2016. Moreover, there are not too many borrowers with a credible record like India

The Bank maintained its aid could be effectively used if both nations kept the peace and ensured better management of the waters, on which lakhs of farmers depend. As both nations have failed to resolve the dispute amicably, the Bank CEO has initiated a dialogue. Changing its stance, India has agreed to attend a meeting of the commission in Lahore next week. Like in the 1950s, Bank officials are again playing the role of mediator. Nagesh Prabhu

India, Pak. to review Miyar project

India and Pakistan, agreed on redesigning the Miyar Hydroelectric project, at the end of two-day talks of Indus Water Commissioners in Islamabad, the state-run media reported here as the official announcement is awaited. It was also agreed that the Lower Kalnai and the Pakal

Dul projects would be inspected again.

The Pakistani delegation was headed by Mirza Asif



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Saeed while P.K. Saxena led the Indian team.

The talks between the two countries began after 22 months when Pakistan in 2015 skipped consultations following objections on the Kishenganga and the Ratle hydroelectric projects by India.

Washington meet

Kishenganga is in arbitration while officials of the two countries are meeting in Washington next month on the Ratle project on the invitation of the World Bank.

Pakistan's request for arbitration on Ratle is still pending with the World Bank, which is the guarantor of the 1960 Indus Water Treaty.

New Delhi gets ready to welcome Turkish President

Close on the heels of a series of big visitors, New Delhi is preparing to welcome Turkish President Recep Tayyip Erdogan in the first week of May for a visit that will be significant both for its timing and impact on bilateral ties, MEA and Turkish officials confirmed to The Hindu.

The Turkish President is expected to travel to Delhi with a large entourage of ministers, officials said, for his first visit to India since 2008. In 2015, Mr. Erdogan put off his plans to travel to India after a series of protests in his country.

'Long overdue'

"This visit was long overdue, and we have been preparing for it for sometime, ever since it had to be put off in August 2015," a Turkish diplomat said, adding that President Erdogan and Prime Minister Narendra Modi share a "good relationship," having met twice already, including once in Turkey for the G-20 summit.

Officials also confirmed that the new Turkish Ambassador to India Sakir Ozkan Torunlar, who was earlier handling the India desk in the Turkish Foreign Ministry, will present his credentials to President Pranab Mukherjee on March 29 to facilitate protocol ahead of the visit.

Officials on both sides didn't wish to speak about the expected outcomes of the Erdogan visit, as discussions are ongoing, but said they would broadly follow the "road map for cooperation" in various fields, including tourism and trade, which was signed by visiting Foreign Minister Mevlut Cavusoglu and External Affairs Minister Sushma Swaraj in Delhi last August.

NSG session

Mr. Erdogan's visit will also come a month ahead of the Nuclear Suppliers Group plenary session where India will once again push its bid for membership. In June 2016, Turkey had backed a "process-based" approach for in-

ducting members, and was understood to have wanted both Pakistan and India to be considered together. Turkey's close ties with Pakistan, including a strategic partnership between them, have led to the two countries aligning themselves on several issues. During a visit to Islamabad in November 2016, President Erdogan had said that events in Kashmir "continue to hurt our conscience," in a reference to violence in the Valley as he addressed a joint session of the Pakistan Parliament, while Foreign Minister Mr. Cavusoglu said "Turkey fully supports Pakistan's position on Jammu and Kashmir."

Turkey is also a member of the Uniting for Consensus group of countries that oppose U.N. Security Council Memberships to be increased, another source of friction between the two countries, where India would like to see some flexibility.

In U.S., Doval talks terror, S. China Sea

National Security Adviser Ajit Doval and his U.S counterpart, H.R. McMaster, committed to work together to "combat the full spectrum terrorist threats", a U.S administration official said after a meeting between the two,.

Mr. Doval also met U.S Defence Secretary James Mattis and Homeland Security Secretary John Kelly during his three-day visit to the U.S capital.

The focus of Mr. Doval's meetings was terrorism, but the security situation in India's neighbourhood, including Afghanistan and maritime security issues in the Indian Ocean, were also discussed, Indian officials said.

"The new administration has taken a very strong view on terrorism. That is something that is good for the entire world as this will lead to a more united approach to tackling terrorism," one official said, adding that Islamist terrorism and cross-border terrorism specifically targeting India were also discussed.

Continuing cooperation

Tensions in South China Sea also figured. The officials spoke on broad objectives and areas of common of interests between the two countries, and according to Indian assessment, there is continuity on all fronts of cooperation between the two countries.

India, meanwhile, has asked the U.S. to provide details of the 271 undocumented migrants Washington wants New Delhi to take back. "This is an ongoing matter. The U.S. authorities had conveyed to us sometime back that out of certain statistics provided to us earlier, 271 cases remained to be addressed. However, no details of these cases were provided. We have asked for the same," External Affairs Ministry spokesperson Gopal Baglay said.



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Earlier, ahead of the meeting with Mr. Doval, Mr. Mattis said that no relationship can stay static as it either declines or grows.

"Democracies like ours need this sort of dialogue. We had a strengthening of the relationship over the last several years. No relationship stays the same, either decline or get better, they get stronger. Intent here today is to continue to strengthen the relationship and make sure that it gets stronger every year."

Indo-U.S. civil nuclear deal to miss deadline

He however said Mr. Abe's party had the necessary strength to have the agreement passed eventually, and added that he was "hopeful" it would be done by the end of the session in June, just ahead of the Westinghouse-NPCIL contract agreement deadline.

While the suspense over the NCA plays out in the east, in the west the questions are growing over the impact of a possible bankruptcy filing under 'Chapter 11' U.S. laws by Westinghouse over massive \$6.3 billion losses the company incurred last year, largely due to cost over-runs. The decision is expected to be announced this week by March 31.

Westinghouse CEO

In February, Westinghouse CEO Jose Gutierrez, who visited India, had said in an interview to the Nikkei Asian Review , that the "Government of India and the utility [NPCIL] are committed to continue working with Westinghouse on this opportunity (for six reactors in Andhra Pradesh)."

He added that, "We expect that sometime this year — calendar year — we could materialise that opportunity". However, in the same interview Mr. Gutierrez had also said that filing for bankruptcy was "not on the table", which has now become a reality.

U.S. refuses to comment

When asked, the U.S. Embassy declined to comment on how the bankruptcy issues would affect the deal.

Nuclear officials said it was "likely" the June 2017 commercial contract with Westinghouse would be "delayed", given that other financial companies, insurance companies would require clarity on the company's future before agreeing to sign on the contract.

"The truth is the picture is very hazy at the moment," a senior official of NPCIL said, adding that in the absence of land acquisition procedures for the other Indo-U.S. nuclear venture with GE-Hitachi for six 1594 MW reactors, the future of the Indo-U.S. nuclear deal is, for the moment, pinned to the future of Westinghouse itself.

India a strong partner of Dhaka: PM

Prime Minister Narendra Modi, congratulated the people of Bangladesh on its 46th Independence Day, assuring them that India was a good friend and strong partner and that both countries would continue to work together for peace, security and development in the entire region.

"It was a historic war against injustice, which was fought under the leadership of "Banga-Bandhu" [Sheikh Mujibur Rahman] and led to the unprecedented victory of the people of Bangladesh," the Prime Minister said during his radio address Mann Ki Baat.

He said it was a matter of great pride for Indians that Rabindranath Tagore had composed the national anthem of Bangladesh as well as of India. The Prime Minister paid homage to Bhagat Singh, Sukhdev and Rajguru, who were hanged to death by the British on March 23, 1931. Describing Mahatma Gandhi's Champaran Satyagraha—launched 100 years ago—as a turning point in the entire journey of India's freedom struggle, he said the British were simply unable to comprehend Mahatma Gandhi's unique style of working, which encompassed both struggle and creation together.

On maternity leave

On his government's initiatives, Mr. Modi said the maternity leave for working women had been extended from 12 to 26 weeks and it would ensure proper care of the newborn babies. It would benefit 18 lakh women working in the formal sector. "There are now only two or three countries in the world that are ahead of us in this matter," he said

Mr. Modi exhorted the citizens to work together for a "New India", stating that the dream could be fulfilled in their lifetime if everyone resolved to discharge their duties honestly. Small steps such as not using petrol or diesel one day a week would contribute to the cause.

Black money

In the context of taking "the fight against black money and corruption to the next level", the Prime Minister hailed the "Digi-Dhan" movement as a great success, stating that post- demonetisation, there was a surge in cashless transactions. Launched over two months ago, the BHIM app had been downloaded by 1.5 crore people. He urged the citizens to resolve to undertake 2,500 crore digital transactions this year.

About the reward scheme on digital transactions, Mr. Modi said about 12.5 lakh people and 70,000 traders had won prizes.

Talking about his pet "Swachha Bharat" project, Mr. Modi quoted a phone message from Gayatri, a young girl from

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Dehradun, who expressed anguish over river pollution. "How enraged she is by seeing the river strewn with trash. I consider this to be a good omen ... once there is anger, dissatisfaction, rage, we will be compelled to act against this scourge," he said expressing concern about food wastage.

Woes of depression

"This year on the occasion of World Health Day on April 7, the United Nations has focussed on depression ... according to one estimate, more than 35 crore people in the world suffer from depression," Mr. Modi said. He advised those with depression to share their woes with their family, friends and well-wishers, to devote themselves to selfless social service and do yoga for mental wellbeing.

Indian firms girding for Brexit see light

Long road: Many industries await details on how the EU intends to approach the Brexit talks.AFP

The setting of the date for triggering talks and negotiation plans have lent clarity

Ever since the referendum on leaving the European Union, the 800-odd Indian companies with operations in the U.K. — which for some serves as their European base — have been preparing for Britain's exit from the EU. However, lack of clarity on details and the timing had left many in an uncertain situation — unsure of what "leaving" would entail for the industry they operate and the workforce they employ.

Over the past few months, and since the start of the year in particular, the picture of the road ahead has begun to get clearer: Britain has confirmed its intention to leave the single market and the customs union, and end freedom of movement within the EU. It is also set on avoiding a long running transitional programme. Following Parliament's approval for the authorizing legislation earlier this month, Brexit is set to be triggered on March 29, the government has announced, with a meeting of the heads of the remaining 27 member states set for a month later. Britain will have two years to negotiate a new deal with the EU — a period which could be extended on agreement with the European Council. Britain has also indicated its eagerness to strengthen trading ties with India, including through a potential free trade agreement, discussions on which could commence after Britain leaves the EU.

For some companies it has been business as usual said Ajit Mishra, co-head of the India group at London-based firm, Penningtons Manches LLP. "We have some clients who are making acquisitions and for them the U.K. is the market and that is not going to change: there will be dif-

ficulties once Brexit is triggered but their focus is the U.K. Some are increasing their investment in the U.K., but have also increased investments in Germany and Eastern European countries," Mr. Mishra said.

"There is still a long way to go before we see the true shape of the deal but one of the main things we are seeing clients do is reviewing their talent and workforce plan, particularly those that are dependent on EU workers," said Anuj Chande, London-based head of the South Asia group at consultancy Grant Thornton. Firms in the food, drinks, healthcare and hospitality sectors would be among those most impacted, he added. "We are already seeing some EU workers going back."

Mr. Chande added that this was proving difficult for a number of companies that were looking at the potential of higher costs and the kinds of efficiencies they could achieve, in terms of cutting the size of the workforce, shift systems and so on. "There are others that are heavily reliant on the regulatory structures of Europe and they are obviously very concerned about the shape of the passporting rights that will exist for them, so many are putting investment plans on hold, for example — the opening of new branches and so on, until we see the shape of things."



Other sectors had been impacted by rising prices — triggered by the weakening of the pound against most major currencies including the U.S. dollar and the euro, and the rupee. "We have a few businesses in food manufacturing where it been a challenge passing the cost on but we've had others who have been able to pass it on," Mr. Chande said.

The IT industry was also being impacted by the nature of regulations, while those in the automotive and auto parts sectors would be looking for clarity on the impact it would have on their trading arrangements and suppliers, Mr. Chande said. "It is quite a difficult situation: I think people still feel it's uncertain times and difficult to take a position or action without knowing the full landscape... we have been hearing a one-sided view on what the U.K.

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wants but we have no idea what the EU wants." He cited the pharmaceutical sector as another example of one that would be impacted — with the European Medicines Agency in all likelihood set to leave its headquarters in the U.K. following Brexit. "They are not going as far as dismantling but for future expansion they may be looking for alternatives."

Looking for certainty

"The whole thing boils down to the certainty in the exercise, that is what firms are looking for," said Dinesh Patnaik, deputy high commissioner in London, who welcomed the clarity that had come from Prime Minister Theresa May's speech earlier this year, the white paper on Britain's negotiation plans and the setting of the date for triggering talks. Companies "are waiting for Article 50 to be invoked, then I think preparations will start in seriousness," Mr. Mishra said. "They will wait and watch and act accordingly."

'India disproportionately benefits from H-1B scheme'

Indian companies and workers are disproportionately gaining from the current method of allocation of H-1B visas and this is a distortion of the programme, said a U.S lawmaker at the forefront of an ongoing campaign against alleged abuse of the visa programme.

The current system of selecting H-1B visa recipients is neither fair nor efficient, and it must be replaced, said Congressman Darrell Issa, who has recently introduced a Bill that proposes to raise the minimum salary of H-1B employees to \$1,00,000 per year from the current level of \$60,000.

Speaking at an event organised by the Atlantic Council ,, the California Republican was not sure if his bill will be passed by the legislature, but said: "The President supports the Bill and we will have strong support in the Senate."

A distortion

"We can't have 75% of a programme going to Indianowned, Indian-operated companies and Indian employees and not say that this is a distortion. At the end of these reforms, will this programme still disproportionately favour countries that are willing to let go of their highskilled workers and come here? Yes. Will it be as extreme as it is now? No," the lawmaker said.

The Congressman had proposed to expand the number of visas in a Bill in 2013, but he said that proposal is not desirable now. "We were then saying that we are pushing to get the best and the brightest to the country. We had a

lot of good people going away even after graduating from U.S. universities, including the medical doctors," he said adding that due to the abuse of the programme, American people have lost confidence in the H-1B programme.

Raising the salary

Mr. Issa said once there are enough people being recruited under higher salaries proposed in the bill, the proposal to expand the programme could be considered. "By raising the salary to a level more in-line with the average American salary for these positions, it would help cut down on abuse and ensure these positions remain available for companies who truly need them," he said.

"The demand for H1-B is oversubscribed by several times every year. But the current levels of salary are way too low a price for a way too valuable product. Who gets that valuable resource should be based on a fairer mechanism," he said, adding that the selection must move to a bidding system.

The current Bill does not propose that but in the future Mr. Issa would be working towards legislation that mandates bidding. "It can be done at multiple stages. A company that is willing to pay, say \$2,00,000 will get the first lot of visas, and then it could come cheaper to the next lot," he said.

Impact on economy

Asked whether the restrictions that he proposes could negatively impact the U.S. economy, the lawmaker said: "The impact on economy can only be positive. If you bring in a worker at \$60,000 you are bringing in a less-valuable worker. Sometimes they are unemployable. Raising the salary floor only raises the quality of the worker that comes into the country through this programme," he said. The lawmaker said the current cap of 65,000 is an arbitrary number that needs to be removed.

"We need to change the system from having an arbitrary number to a number that reflects the actual demand in a given year," he said, adding that some years when the demand is higher it could be raised and when there is recession, the numbers could be reduced.

The lawmaker said his current Bill seeks to the address the "simple problem of H-1B abuse through a simple solution", but a broader look on how America admits 1.2 million immigrants into the country must be reformed too. Mr. Issa said the current priority on family unification in immigration must be replaced with skill oriented permanent immigrants.



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Truecaller announces partnerships in India

Stockholm-based Truecaller, announced partnerships in India with Bharti Airtel, ICICI Bank and Google, besides rolling out the latest verison of its application with new features.

The partnership with Bharti will allow the operator's subscribers to access the Truecaller app even on feature phones without data, while the collaboration with ICICI Bank will enable Truecaller users to transfer money from within the app. Google's video calling service Duo has also been integrated into the Truecaller app, allowing users to make video calls directly through it. India is the biggest market for the app with 150 million users.

"Indian economy is moving to cashless," Truecaller co-founder Nami Zarringhalam said. "The country is leapfrogging a lot of other markets to move directly to mobile. Truecaller users will be able to create their unique Virtual Payment Address in the app, and instantly send or receive money using any Unified Payments Interface-supported bank." The feature will be available to ICICI as well as non-ICICI users.

Abonty Banerjee, Senior General Manager & Head – Digital Channels, ICICI Bank said, "There is a segment of users, mostly young users, that prefer using such platforms rather than leaving what they are doing and going to a separate application for small payments."

According to the pact with Bharti, the caller ID feature of Truecaller will be extended to Bharti's non-data users using feature phones. Truecaller also rolled out the latest version of the app – Truecaller 8, which extends the caller ID to SMSes while also enabling users to filter out all spam messages.

Army Chief to be honoured in Nepal

The Chief of the Army Staff, General Bipin Rawat, will be conferred the honorary title of General of the Nepalese Army during his ongoing visit to the Himalayan country.

Gen. Rawat is on an official visit to Nepal and Bangladesh from March 28 to April 2, his first foreign visit after assuming office. He arrived in Kathmandu, morning.

,, the President of Nepal, Bidhya Devi Bhandari, will confer the title of "Honorary General of the Nepalese Army" to Gen. Rawat at an investiture ceremony. General Rajendra Chettri, the Chief of the Nepalese Army, was conferred the title of "Honorary General of the Indian Army" on February 3 during his first visit to India after assuming office.

Reciprocal tradition

This tradition, a reciprocal arrangement to honour each other's Army chief's with the honorary titles, has been continuing uninterrupted since it began in 1969.



During his visit to Nepal and Bangladesh, Gen. Rawat will be visiting several important military installations and meeting high-ranking dignitaries, including the Prime Minister, Defence Minister and the Chief of the Army Staff.

A delegation led by Gen. Rawat will visit the Nepalese Army Mountain Warfare School at Jomsom and the Pension Paying office at Pokhra.

Gen. Rawat will address a gathering of Indian Army ex-servicemen of Nepalese origin in Pokhra.

From Nepal, Gen Rawat will proceed to Bangladesh, where he will meet the President, the Prime Minister and the Chief of the Bangladesh Army.



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Science, Tech. and Environment

Interceptor missile test successful

The Defence Research and Development Organisation (DRDO), successfully carried out a test of an interceptor missile, further validating the reliability of the under-development, two-layered Ballistic Missile Defence (BMD) in shooting down enemy missiles.

Defence sources said the endo-atmospheric missile, which can intercept missiles at ranges of 15-30 km, was launched at 10.15 a.m. from the Abdul Kalam Island off the Odisha coast in response to an incoming 'enemy' missile which was launched from the Integrated Test Range (ITR) in Chandipur.

The missile intercepted the incoming missile at an altitude of 15 km scoring a direct hit, a source said.

Last month, the DRDO carried out a successful test of the exo-atmospheric interceptor missile destroying the target outside the earth's atmosphere at an altitude of over 85 km.

Research Centre Imarat (RCI) of the DRDO which had played a role in the development of all strategic missiles has speared the design and development of the BMD programme.

Two missiles

The BMD consists of two interceptor missiles, the Prithvi Defence Vehicle (PDV) for exo-atmospheric ranges and the Advanced Area Defence (AAD) missile for endo-atmosphere or lower altitudes.

The BMD is critical to protect the country from the longrange ballistic missiles proliferating in the neighbourhood. DRDO expects to have shield ready for deployment by 2022.

DRDO inks deal to make key alloy

The Defence Research and Development Organisation (DRDO), signed a technology transfer agreement with Jindal Stainless (Hisar) Limited (JSHL) for manufacturing High Nitrogen Steel (HNS). The alloy has significant ap-

plications in the defence sector, but currently the country is largely dependent on imports.

The "non-exclusive" licencing agreement for armour applications was signed between the Defence Metallurgical Research Laboratory (DMRL), the Hyderabad-based laboratory of the DRDO and the JSHL.

Officials said HNS steel, which has a much higher ballistic strength than normal steel, will free the country of imports.

"HNS is not only tough but also has good strength. In addition to being non-magnetic and corrosion-resistant, the HNS cost is about 40% less compared to Rolled Homogenous Armour Steel (RHA)," DRDO said in a statement.

Better materials

Dr. Subhash Bhamre, Minister of State for Defence, noted that the HNS technology would further the Army's quest for lighter and high-performance armouring material compared to materials currently in use.

The JSHL said in a statement that HNS had passed multiple levels of ballistic tests in different calibres, with 8-10 times higher impact/blast protection.

"We are looking at production of 15,000 to 20,000 tonnes of HNS per annum initially, which will be increased gradually. It will be priced 30-40% cheaper than the imported material," Mr. Abhyuday Jindal, Vice-Chairman JSHL, said

HNS, by virtue of its strength and characteristics, has potential application in all armoured vehicles, and the JSHL has several upcoming programmes, including the Infantry Combat Vehicle (ICV), Light Specialty Vehicle (LSV) and such others.

Google Street View helps manage urban ecosystem

Scientists have used over 100,000 images extracted from Google Street View to map and quantify how street trees regulate urban ecosystems in megacities like Delhi and Shanghai.

While it was generally accepted that trees and plants helped in regulating urban ecosystems, until now researchers had very little data to to quantify its extent.

Most of the research has been conducted in the temperate zones of Europe and North America, but little is known about how trees contribute to urban ecosystems in tropical regions.

Researchers in the Future Cities Laboratory at the Singapore-ETH Centre, a research outpost of ETH Zurich, developed a method to map and quantify how street trees regulate ecosystem services. Scientists analysed hemi-

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spherical photographs using an algorithm to quantify the proportion of green canopy coverage at 50 metre intervals across more than 80% of Singapore's road network.

High spatial resolution

Google Street View's technology allowed researchers to tap into a standard dataset of panoramic photographs and streetscapes that use a global positioning system (GPS) to map images to specific locations.

The high spatial resolution of the images allowed researchers to estimate the amount of solar radiation that reaches the Earth's surface.



"In addition to cooling urban micro climates, these trees, which are integrated within dense urban street networks, also reduce the risk of flash flooding and helps in cleaning the air," said Peter Edwards, Principal Investigator at the Future Cities Laboratory.

Researchers said that increasing the cover of the street tree canopy could reduce ground surface and air temperatures on Singapore's streets.

"Providing trees to help cool the environment is important in tropical cities like Singapore, which suffers heavily from the urban heat island effect," said Dan Richards, from the Future Cities Laboratory.

This new and relatively inexpensive method of rapidly estimating the amount of shade provided by street trees could help urban planners to identify areas of a city with low shade and prioritise the planting of new trees, researchers said

Penicillin mould created by Fleming sells for Rs. 97.5 lakh

Microbes preserved in a glass case that features the doctor's writing on the back

How much is an old, dried out piece of mould worth? Apparently more than £11,875 (Rs. 97.5 lakh) if it was created by the doctor who discovered penicillin.

The nearly 90-year-old swatch of mould has a rather ex-

traordinary history. It came from the laboratory of Dr. Alexander Fleming whose revolutionary discovery brought the world its first antibiotic, credited with saving millions of lives worldwide.

The patchy bit of mould from his niece's collection was auctioned in London,. The buyer was not identified. The mould is preserved in a round glass case and features an inscription by Fleming on the back, describing it as "the mould that first made penicillin."

That, however, may be a stretch. The Scottish-born doctor likely made at least dozens of such mould mementos, derived from his original sample of the fungus.

Fleming "sent these samples out to dignitaries and to people in the scientific world, almost as a kind of holy relic," said Matthew Haley, director of books and manuscripts at the auction house Bonham's.

Miracle drug

Before the discovery, infections like pneumonia and rheumatic fever were almost death sentences.

"When it first became available, penicillin was called a miracle drug," said Kevin Brown, archivist at the Alexander Fleming Laboratory Museum . "Its discovery began a new, life-saving era in medicine."

In some ways, the discovery was accidental. Fleming found mould growing in an experiment when he returned to his cramped lab after a stay at his country house.

One petri dish was full of bacteria except for an area where mould was growing. He later realized the mould — a rare strain of penicillin — was killing off the bacteria around it. He suggested that it might be used as an antiseptic in wounds, and published an account of this work in 1929.

"Fleming noticed something that other people would have missed and saw the potential of penicillin to treat patients," said Mr. Brown.

However, Fleming couldn't find a way of extracting enough of the penicillin to be of therapeutic use without it becoming ineffective. Scientists at Oxford University further developed penicillin, and production was ramped up so that enough of the antibiotic would be available for the Allied invasion in 1944. Fleming and Oxford scientists Ernst Boris Chain and Howard Walter Florey were awarded the Nobel Prize in medicine in 1945.

Brown noted that not everybody was thrilled to receive the preserved mould medallions and that some got multiple copies, including Queen Elizabeth's husband, Prince Philip. "Every time he met Fleming, he got another one of these things," Mr. Brown said.



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NASA releases key software for free public access

The code will benefit entrepreneurs, academics and students

NASA has made a range of software products publicly available, including codes for more advanced drones and quieter aircraft, which people can use for a wide variety of technical applications — without any royalty or copyright fees.

The 2017–2018 software catalogue has contributions from all the NASA's centres on data processing, business systems, operations, propulsion and aeronautics.

It includes many of the tools NASA uses to explore space and broaden our understanding of the universe.

A number of software packages are being presented for release for the first time. Each catalogue entry is accompanied with a plain language description of what it does. Aerospace applications

The catalogue includes the code LEWICE, developed to help study the effects of ice on an aircraft in flight and to create ice detection systems.

"The software catalogue is our way of supporting the innovation economy by granting access to tools used by today's top aerospace professionals to entrepreneurs, small businesses, academia and industry," said Steve Jurczyk, associate administrator for NASA's Space Technology Mission Directorate in Washington.

"Access to these software codes has the potential to generate tangible benefits that create American jobs, earn revenue and save lives," said Mr. Jurczyk.

NASA published the first edition of its software catalogue in April 2014, becoming the first comprehensive listing of publicly available software to be compiled by a U.S. federal government agency.

"Software has been a critical component of each of NA-SA's mission successes and scientific discoveries. In fact, more than 30 % of all reported NASA innovations are software," said Dan Lockney, technology transfer programme executive. "We're pleased to transfer these tools to other sectors and excited at the prospect of seeing them implemented in new and creative ways."

'Kalvari' test-fires anti-ship missile

Kalvari, the first of the Scorpene submarines being built in India, successfully conducted its maiden test-firing of an anti-ship missile in the Arabian Sea on Thursday.

Kalvari is is scheduled to be commissioned into the Navy very soon. However, the submarines are still without a

heavy weight torpedo, their primary weapon. Navy sources said the missile fired was a French SM-39 Exocet antiship missile. "This launch is a significant milestone," the Navy said.

Australia wants India to be a 'consistent buyer' of its cotton

Australia, the fifth-largest exporter of cotton, is looking at India to emerge as a consistent and major buyer of the commodity.

An eight-member delegation representing the Australian Cotton Shippers' Association held meetings in Ludhiana, Mumbai, and Coimbatore between February 27 and March 3.

"We came to promote and enhance the use of Australian cotton," Matthew Bradd, chairman of Australian Cotton Shippers' Association, told The Hindu here on Thursday. "We want India to become a consistent buyer of our cotton."

Australia has close to 1,200 cotton growers and can supply even small quantities to India. China purchased more than 30% of Australia's cotton production last year. However, this was lower than its usual purchase.

"India is a big market for cotton and spinners in India said they have had good experience with Australian cotton," he said.

Hamish McIntyre, vice-chairman of Cotton Australia and a member of the eight-member delegation, said India used to purchase 5-7% of cotton produced in Australia every year. In 2016, it shot up to close to 23 % due to a drop in production in India.

Indian textile mills can use Australian cotton as a blend to produce high-value garments. The area under cotton production was increasing in Australia, Mr. McIntyre said. K.N. Viswanathan, vice-president of Indian Cotton Federation, said that Australia's output was limited until last year. India is the largest producer and consumer of cotton globally.

U.S. nixed India's plea on reforms in medicine

At WHO meet, New Delhi proposed discussion on 'Access to Medicines' report by UN panel

A month after the 140th World Health Organisation's (WHO) Executive Board meeting, a Freedom of Information Act (FOIA) response has revealed that the United States government had opposed including agenda items proposed by India, which aimed at reforming medical in-



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novation that currently pump up drug prices to unaffordable levels.

The Indian government — along with 10 South East Asian countries — had proposed a discussion on an 'Access to Medicines' report by the United Nations High Level Panel that had recommended reforms in the funding of biomedical research and development.

However, the set of documents released by Knowledge Ecology International (KEI), a not for profit organisation that gives technical advice to governments, reveals that both the United States and the WHO opposed including the proposal by India.



Email exchange

An email exchange dated September 28, 2016, between Dr. Thomas Frieden, CDC Director and Vice-Chairman of the WHO EB, and Ambassador Jimmy Kolker, Assistant Secretary for Global Affairs at the U.S. Department of Health and Human Services, sets out the position of the U.S. government, stating that, "Access to medicines (oppose proposal by India): The USG should be on the record opposing this proposal from India that seeks to take forward recommendations from in the U.N. Secretary General's High Level Panel on Access to Medicines report, which was released in September. We have serious concerns about the narrow mandate of the Panel and its recommendations ..."

The 11 member-states — Bangladesh, Bhutan, South Korea, India, Indonesia, Maldives, Myanmar, Nepal, Sri Lanka, Thailand, and Timor-Leste — as well as Brazil, Iran, and South Africa supported the inclusion of the agenda item.

The delays by WHO to place the UN HLP recommendations on the agenda of the WHO's EB and subsequently at the World Health Assembly have drawn widespread criticism from Asian civil society organisations.

"The U.N. report says there is a need for an RD treaty and it recommended reforms in the area of biomedical R&D. The U.S. government has a policy of blocking all reforms that would lead to funding the R&D system in

a way that it prioritises diseases that kill millions of people in the developing world. The U.S. government is not just a member-state of WHO but also a big donor. This is consistent with the U.S. policy to pressure countries like India to have more IP barriers while blocking all attempts at reforms," said Leena Menghaney, lawyer and access campaigner.

Policy incoherence

The U.N. Access to Medicines report had recommended solutions for remedying the policy incoherence between justifiable rights of inventors, trade rules and global public health targets. The report recommended that "governments and the private sector must refrain from explicit or implicit threats, tactics or strategies that undermine the right of WTO Members to use TRIPS flexibilities."

On March 1, India delivered a statement during WTO TRIPS Council discussions on the Access to Medicines report, urging member-states to discuss the report's recommendations.

This article has been corrected for a factual error.

Mumbai researchers identify a protein critical for sperm motility

Revealing study Dr. Deepak Modi (left) and Vrushali Sagare-Patil found men with poor sperm motility had less of the protein in sperm.

Low levels of the heat shock protein 90 (HSP90) in sperm causes infertility in men

A Mumbai-based team of researchers has identified one more protein — heat shock protein 90 (HSP90) — found in human sperm that determines the ability of sperm to vigorously whip their tail and move or swim (motility) faster towards an egg to fertilise it.

The reduced ability of sperm to move towards the egg is one of the causes of infertility in men. The results were published recently in Journal of Assisted Reproduction and Genetics.

Studying groups of infertile men to find the causes of male infertility, the researchers observed that men with poor sperm motility have very low amounts of HSP90 in the sperm. In men with a greater percentage of highly motile sperm, the amount of the protein in the sperm was higher.

Two forms

The protein is present in two forms — HSP90 alpha and HSP90 beta. While the alpha form is present in the junction between the head and mid-piece of a sperm, the beta form is found in the tail. This is the first time the presence

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and abundance of the two forms of the protein in certain parts of the sperm has been reported.

"HSP90 beta is dominant in the tail. So we thought the motility is regulated by HSP90 beta isoform," says Dr. Deepak Modi at ICMR's National Institute for Research in Reproductive Health (NIRRH), Mumbai and the corresponding author of the paper.

At any time, sperm keep moving at a slow speed (basal motility) but in the presence of progesterone hormone, which is found in the female reproductive tract, the motility of sperm suddenly increases. It is this increased motility due to the hormone that helps sperm travel the long distance to reach the egg.

To ascertain whether the protein is needed for motility, the researchers used two drugs to inhibit the protein in vitro. "The basal motility of sperm was unaffected. But when we added progesterone hormone to sperm (which had the functions of HSP90 already inhibited by the drugs) we did not see sperm move faster and forward," Dr. Modi says.

Basal motility

"HSP90 protein is not the only one that is responsible for motility. So inhibition of this protein alone may not affect basal motility. Thus we got interested in looking at the effect of progesterone-induced motility," says Vrushali Sagare-Patil from NIRRH and the first author of the paper While the basal motility is not dependent on HSP90, the protein is required to increase the motility of sperm when exposed to progesterone hormone. "If a man has low amounts of HSP90 protein in his sperm, the sperm will be unable to swim upwards to the tubes and fertilize the egg because it cannot feel the effects of progesterone. This will be a cause of infertility," Dr. Modi says.

"So the progesterone-driven motility requires additional machinery. One of the components is the HSP90 protein," he says.

Drug development

The information about the crucial role of HSP90 protein can help scientists to develop drugs to make sperm move faster and forward in the female reproductive tract in people who low sperm motility.

"At present there is no treatment for male infertility due to poor sperm motility caused by genetic causes," says Dr Indira Hinduja an IVF expert at Mumbai's Hinduja Hospital and a co-author of the paper. There is a possibility that this work might help the development of drugs that would help enhance sperm motility by restoring the functions of the protein.

Conversely, contraceptives can be developed to inhibit

the protein so that sperm do not move faster and reach the egg to fertilise it even in the presence of the hormone.

India runs out of life-saving HIV drug for children

Cipla, sole manufacturer of Lopinavir syrup, stopped production of the drug after govt. failed to clear dues

Desperate over withdrawal of a life saving drug, children living with HIV (CLHIV) have written to Prime Minister Narendra Modi for help.

The letter, written on March 4, is signed by 637 children ranging from ages 3 to 19 and states that, "the pharmaceutical company Cipla has in various forums cited delay in payments by the national programme for the HIV medicines by several years and even non-payment of its dues in many cases. Profits on child doses of HIV medicines are small and delayed payments are having a chilling effect on the ability of the National AIDS Control Organisation (NACO) to convince the company to participate in the bids it invited annually."

Stocks of Lopinavir syrup — a child friendly HIV drug — ran out after Cipla, the sole manufacturer of the drug, stopped manufacturing it over the issue of non-payment from the Health Ministry. Cipla is the dominant player in the Indian market across the HIV segment and has not stopped participating in government tenders after the Health Ministry failed to pay Cipla for consignments sent in 2014.

Emergency tender

Faced with a crisis, the Health Ministry says it has instructed State AIDS Control Societies (SACS) to purchase from local markets. "An emergency tender has been placed but we have instructed SACS and State Governments to purchase from local markets," said Arun Panda, Additional Secretary, Health Ministry.

However, since the syrup has gone out of production, they are not available in retail markets. "Across the country, in every State, there is no one to make this drug. How can we buy this from retail shops? The sole producer is not manufacturing it," said Paul Lhungdim of DNP+.

While Cipla has declined to comment, emails made available to The Hindureveal that Cipla asked for guarantees of payment from HIV patients. In an email exchange between by Umang Vohra, Chief Executive Officer (CEO), Cipla Pharmaceuticals, and patient-activist Loon Gangte, Mr. Vohra states that, "Cipla has always stood for the patients — not just in India but also all per the World (sic). Quite naturally, we also expect that issues regarding pay-

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ments are also addressed expeditiously," indicating that Cipla will not move from its stand until either Global Fund or the Indian government settles the bills.

The heated three-way communication between Cipla, the Indian government and the HIV community ended on March 4, with an email being marked to the entire top brass of Cipla Pharmaceuticals, Indian government officials and Clinton Health Access Initiative (CHAI) with Mr. Loon Gangte, making it clear that he was "in no position" to guarantee payments. Mr. Gangte writes that he had "been told by officials in Cipla that we should ensure payment for any future procurement of the medicine from Cipla. I would like to tell you that the community is in no position to do so. We can neither force the government nor donors like the Global Fund. But at the end of the day, we are the ones who are hit by these shortages and stock-outs."

Experts say the critical shortages are proving to be both tragic and embarrassing for India's HIV programme. "The government is abdicating its constitutional responsibility to make available life saving medicines for the HIV community. It is also unfortunate that the present management of Cipla is walking away from its commitment to access to medicines all over the world, for which they are globally renowned," said Anand Grover, Senior Counsel at Lawyers Collective's HIV/AIDS Unit.

For the HIV-infected children, the letter to Mr. Modi, Finance Minister Arun Jaitley and Health Minister JP Nadda is a last resort. "We humbly request you to look into the matter of HIV drug stock out, in general, and in particular paediatric HIV medicines to ensure that they are not merely exported but also actually available to the children in this country."

Global fund to help solve India's HIV drug crisis

After running out of the child-friendly HIV syrup, Lopinavir, India is likely to procure the drug from a rapid supply facility routed through the Global Fund for AIDS, Tuberculosis and Malaria (GFATM), a multilateral donor agency.

Meanwhile, the Health Ministry , released the first installment of the Rs. 6 crore payment due to Cipla Pharmaceuticals — the sole manufacturer of the drug. While the immediate crisis triggered by unpaid bills is being sorted, the shortage of the drug itself still looms large over India's national HIV programme. India has a cohort of over 600 children who require 36,000 bottles of Lopinavir syrup annually.

Speaking to The Hindu, Dr. Denis Broun, Global Director

for access and public affairs at Cipla Pharmaceuticals, clarified that the company did not have a position in principle that they ever participate in government tenders. "Cipla has been supplying anti retrovirals to governments and we have been upfront with our issues of payments over the past several months. The last payment was the proverbial straw that broke the camel's back," said Dr. Broun

"We did not participate in the last tender because of the payment issues. We understand that the government is trying to sort out the financial situation and I want to clarify that we do not have a position, in principle, that we will not participate in government bidding."

A relief

In what is a relief to HIV community, he added that Cipla Pharmaceuticals will be re-submitting the application seeking registration of the Lopinavir pellets — a better paediatric formulation as it can be added to meals and will not require refrigeration.

The Drug Controller General of India (DCGI) is likely to give the approvals accelerated attention, given the dire shortage.

The developments follow a March 6 report by The Hindu, 'India runs out of life-saving HIV drug for children', that 637 children living with HIV (CLHIV) ranging from ages 3 to 19, had written to Prime Minister Narendra Modi after Cipla stopped production of the drug due to non-payment of bills from 2014. Upset with continued non-payment, Cipla Pharmaceuticals had stopped participating in government tenders, resulting in the current stock-out.

The Health Ministry has maintained that the supply of Lopinavir should resume by the end of this week, informed Arun Panda, Additional Secretary, Ministry of Health and Family Welfare.

PAU develops country's first BT cotton varieties

Punjab Agricultural University, Ludhiana, said it has successfully developed the country's first Bt cotton varieties. The ICAR has identified three varieties, namely PAU Bt 1, F1861 and RS 2013, for cultivation in Punjab, Haryana, Rajasthan. It is a cheaper alternative to Bt cotton hybrid seed.PTI

Frog species named after Attenborough

A new frog species, which measures just about two centimetres and was discovered in the Peruvian Andes, has been named after noted British broadcaster and naturalist Sir David Attenborough.



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While there are already a number of species, including mammals, reptiles, invertebrates and plants, both extinct and extant, named after the host of the BBC Natural History's Life series, not until now has he been honoured with an amphibian namesake.

The frog is formally described as Pristimantis attenboroughi, while it is to be referred to as Attenborough's rubber frog.

Living in Peru

Scientists from Illinois Wesleyan University and University of Michigan in the U.S., spent two years surveying montane forests in central Peru, in order to document the local amphibians and reptiles and evaluate their conservation statuses.

Their efforts were rewarded with the discovery of several new species of frogs and a lizard species.

Each of these discoveries, including the Attenborough's rubber frog, prove how beneficial it is to take into account both morphological and the genetic data, while looking for species new to science.

The Attenborough's rubber frog is known to inhabit several localities across the Pui Pui Protected Forest, a nature reserve located at elevations between 3,400 and 3,936 metres above sea level in central Peru. The adult males reach size of 14.6-19.2 millimetres in length, while the females are larger measuring between 19.2 and 23 mm. Their colour ranges from pale to dark grey or reddish brown to brownish olive with dark grey scattered flecks. The study was published in the journal ZooKeys.

A new 'nanodote' for all kinds of snakebite

Scientists have developed a 'nanodote'—a low-cost molecular gel — to counter snakebite in a manner far more effective than existing anti-venoms, an advance that may save thousands of lives in rural parts of India.

Worldwide, an estimated 4.5 million people are bitten annually.

Around 2.7 million suffer crippling injuries and more than 1,00,000 die, most of them farm workers and children in poor, rural parts of India and sub-Saharan Africa that have little healthcare.

"Current anti-venom is very specific to certain snake types. Ours seems to show broad-spectrum ability to stop cell destruction across species on many continents, and that is quite a big deal," said Jeffrey O'Brien of University of California, Irvine, U.S. Researchers synthesised a polymer nanogel material that binds to several key protein toxins, keeping them from bursting cell membranes and causing widespread destruction.

The human serum in the test tubes stayed clear, rather

than turning scarlet from the venom's typical deadly rupture of red blood cells.

"The venom, a 'complex toxic cocktail' evolved over millennia to stay ahead of prey's own adaptive strategies, is absorbed onto the surface of nanoparticles in the new material and is permanently sequestered there, diverted from doing harm," said Ken Shea from the university. Thanks to the use of readily available, non-poisonous components, the "nanodote" has a long shelf life and costs less, researchers added.

NASA to explore Jupiter's icy moon

NASA's 'Europa Clipper' set to launch in the 2020s will probe the habitability of Jupiter's icy moon Europa. When the mission was still in the conceptual phase, it was informally called Europa Clipper, but NASA has now adopted that name as the formal title for the mission.



The moniker harkens back to the clipper ships that sailed across the oceans of Earth in the 19th century. The mission plan includes 40 to 45 flybys, during which the spacecraft would image the moon's icy surface at high resolution and investigate its composition and the structure of its interior and icy shell.

Europa has long been a high priority for exploration because it holds a salty liquid water ocean beneath its icy crust.

Is it habitable?

The ultimate aim of Europa Clipper is to determine if Europa is habitable, possessing all three of the ingredients necessary for life: liquid water, chemical ingredients, and energy sources sufficient to enable biology.

"During each orbit, the spacecraft spends only a short time within the challenging radiation environment near Europa. It speeds past, gathers a huge amount of science data, then sails on out of there," said Robert Pappalardo, Europa Clipper project scientist at NASA's Jet Propulsion Laboratory in California.



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'Lost' Chandrayaan-1 orbiting Moon: NASA

Chandrayaan-1 is very small and cuboid in shape, about 1.5 metres in length on each side. Although the interplanetary radar has been used to observe small asteroids several million miles from the earth, researchers were not certain that an object of this size could be detected as far away as the moon, even with the world's most powerful radars.

Chandrayaan-1 proved the perfect target for demonstrating the capability of this technique.

To find a spacecraft 380,000 km away, JPL's team used the 70-metre antenna at NASA's Goldstone Deep Space Communications Complex in California to send out a powerful beam of microwaves towards the moon. Then the radar echoes bounced back from lunar orbit were received by the 100-metre Green Bank Telescope in West Virginia.

JPL's orbital calculations indicated that Chandrayaan-1 is still circling some 200 km above the lunar surface, but it was generally considered "lost." However, the radar team utilised the fact that this spacecraft is in the polar orbit around the moon, so it would always cross above the lunar poles on each orbit.

On July 2 last year, the team pointed Goldstone and Green Bank at a location 160 km above the moon's north pole and waited to see whether the lost spacecraft crossed the radar beam. Chandrayaan-1 was predicted to complete one orbit around the moon every two hours and eight minutes. Something that had a radar signature of a small spacecraft did cross the beam twice during four hours of observations, and the timings between detections matched the time it would take Chandrayaan-1 to complete one orbit and return to the same position above the moon's pole.

The team used data from the return signal to estimate its velocity and the distance to the target. This information was then used to update the orbital predictions for Chandrayaan-1.

A mass coral bleaching again

Great Barrier Reef threatened by heat wave for second consecutive year

Australia's Great Barrier Reef is experiencing an unprecedented second straight year of mass coral bleaching, scientists said Friday, warning many species would struggle to fully recover.

The 2,300-km reef suffered its most severe bleaching on record last year due to warming sea temperatures during March and April.

Bleaching is once again occurring, the government's

Great Barrier Reef Marine Park Authority said after an aerial survey off Australia's eastern coast .

"Regrettably, the temperatures have been high on the Great Barrier Reef this summer as well and unfortunately (we) are here to confirm... a mass coral bleaching event for the second consecutive year," the Authority's reef recovery director David Wachenfeld said.

"And importantly, this is the first time we've ever seen the Great Barrier Reef bleached two years in sequence. We've seen heat stress build since December."

The agency said more bleaching was being observed in the central part of the reef, which last year escaped widespread severe bleaching. The 2016 bleaching was more severe in the northern areas of the bio-diverse site.



The back-to-back occurrence of widespread bleaching also meant there was insufficient time for corals to fully recover, Neal Cantin from the Australian Institute of Marine Science said. "We are seeing a decrease in the stress tolerance of these corals," Mr. Cantin added.

"This is the first time the Barrier Reef has not had a few years between bleaching events to recover.

Algae expelled

Bleaching occurs when abnormal environmental conditions, such as warmer sea temperatures, cause corals to expel tiny photosynthetic algae, draining them of their colour.

Corals can recover if the water temperature drops and the algae are able to recolonise them.

But researchers said in January coral reefs which survive rapid bleaching fuelled by global warming would remain deeply damaged with little prospect of full recovery. The Barrier Reef — already under pressure from farming run-off, development and the crown-of-thorns starfish — escaped with minor damage after two other bleaching events in 1998 and 2002.

Conservation group WWF-Australia said , the latest bleaching increased the urgency of tackling climate change in Australia, one of the world's worst per capita greenhouse gas polluters.



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"I did not anticipate back-to-back bleaching this decade," WWF-Australia's oceans division head Richard Leck said. "Scientists warned that without sufficient emissions reductions we could expect annual mass bleaching of the Great Barrier Reef by 2050. Consecutive bleaching events have arrived 30 years early."

The reef scientists plan to conduct further surveys over the next few weeks to determine the extent and severity of the bleaching.

Nearly two-thirds of shallow-water corals in a 700-km stretch of the reef's northern section were lost to last year's bleaching event, scientists have said.

New clone of MRSA identified in Kerala aquatic environment

If the concentration of the bacterium increases, it can reach the seafood chain

A new clone of methicillin-resistant Staphylococcus aureus (MRSA), which is exclusive to Kochi, has been identified. The new clone, christened 't15669 MRSA', is unique to seafood and the aquatic environment of Kerala. Scientists at the Central Institute of Fisheries Technology (CIFT), Kochi, identified the new clone while assessing the prevalence of MRSA in seafood and the environment. The study team comprised V. Murugadas, Toms C. Joseph, K.V. Lalitha and M. M. Prasad, all researchers at the Institute.

MRSA can lead to diseases ranging from milder form of skin infections, boils, furunculosis to life-threatening septicemia and bacteraemia from post-surgical contamination. The situation turns worse given their resistance to wide range of drugs, warned the researchers. However, as S. aureus causes disease by producing enterotoxin in the food, there is no immediate threat in consumption of seafood contaminated with MRSA.

"[The emergence of MRSA] has been identified as a health concern globally since the 1960s. However, little information is available on the prevalence of MRSA and its clonal characteristics in seafood and the aquatic environment," the researchers say in a paper published in the Journal of Food Protection.

According to Dr. Murugadas, if the new clone, which is currently low in concentration in the Kochi geographical area, gets established and becomes widely prevalent then it can reach the seafood chain starting from the fish landing centres to the retail outlets very frequently.

The presence of MRSA in fish meant for human consumption is a potential health hazard for food handlers.

The fingerprinting of MRSA can be useful for tracing local source and spread of MRSA isolates in a defined geographical area, they said.

Accidental discovery

According to C.N. Ravishankar, director of the CIFT, the scientists stumbled upon the new clone during a regular screening of fish samples, which the institute has been undertaking as part of its research and social responsibility activities. Fish samples collected from the landing centres as well as the markets are regularly screened at the CIFT labs to identity potential health hazards. Extensive research is being undertaken on MRSA.

Indian researcher uses novel strategy to increase wheat yield

Besides increased yield, the treated plants also proved to be more resilient to drought-like conditions

Using a novel route, an Indian researcher has been able to increase wheat grain yield by 20% and also improve the resilience of wheat to environmental stress such as drought. By using a precursor that enhances the amount of a key sugar-signalling molecule (trehalose-6-phosphate (T6P)) produced in wheat plant, Dr. Ram Sagar Misra, from the Department of Chemistry, University of Oxford and currently with the Department of Chemistry, Shiv Nadar University, Greater Noida, has been able to increase the amount of starch produced and, therefore, the yield.

The technique

The T6P molecule stimulates starch synthesis, which in turn, increases the yield. Since the pathway of T6P molecule is the same in other plants, the yield can potentially be increased by using suitable precursors. The results were published in the journal Nature. Dr. Misra is one of the authors of the paper.

Dr. Misra and researchers from UK used four precursor compounds to increase the amount of T6P produced in the plant. While genetic methods can increase the T6P level two-three fold, the four precursor compounds were able to achieve 100-fold increase in the sugar-signalling molecule level compared with plants that did not receive the molecule. Dr. Misra and others tested the effect of four precursors by dissolving the molecule in water and feeding this to the roots of Arabidopsis thaliana plants. Compared with controls, the precursor-treated plants produced higher amount of T6P molecule and starch when exposed to sunlight.

In field trials using wheat, a tiny amount of precursor given to the plant increased the yield significantly — the grains



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produced were bigger as the amount of starch content in the grains increased by 13-20% compared to controls that got only water. "A particular precursor molecule — ortho-nitrophenyl ethyl — showed the best results in both A. thaliana plants and wheat studies," he says. "The uptake of this molecule by the plants was much more than the other three molecules and the precursor took less time to release T6P."

Tostudy the resilience of wheat to drought-like conditions when treated with the precursor molecules, the researchers carried out two different studies.

Resilence to drought

In the first case, four-week-old wheat plants already treated with the precursor molecules were not watered for nine days to simulate a drought-like condition. "The plants were almost dying. When we watered the plants after nine days, only those that were pre-treated with the precursors were able to regrow while the control plants did not survive," says Dr. Misra.

In another experiment, four-week-old wheat plants that were not watered for nine days were sprayed with the precursor molecules. "The regrowth of plants sprayed with the molecule was substantial when the plants were watered a day after treatment. We saw regrowth of new tissue and also survival and growth of existing tissue," Dr. Misra says. "This also showed that the molecule could enter the plants directly when sprayed."

"These two studies showed that wheat plants were able to survive environmental stress if treated with the precursors. The molecule 2 (dimethoxy(ortho-nitro)benzyl) was better in battling stress," he says. More trials on a larger scale are needed to confirm the role of the precursor molecules in increasing yield and withstanding drought-like conditions.

Study on fish reveals key to cure blindness

Scientists have discovered a chemical in the zebra fish brain that helps reveal how it regrows its retina, a finding that can potentially cure blindness in humans.

The findings showed that the levels of GABA (gamma aminobutyric acid), a neurotransmitter, best known for its role of calming nervous activity, drop when the unique self repair process kicks in.

Thus, blocking the chemical (GABA) could lead to new treatments for AMD (age-related macular degeneration), the most common cause of blindness and and retinitis pigmentosa.

The structure of the retinas (the light-sensing tissue at the back of the eye) of fish and mammals are basically the same and a reduction in GABA might be the trigger for retinal regeneration, the researchers said.

"Our theory is that a drop in GABA concentration is the trigger for regeneration," said James Patton, Professor at Vanderbilt University, in Tennessee, US.

"If we are correct, then it might be possible to stimulate human retinas to repair themselves by treating them with a GABA inhibitor," Patton added.

In the study, the scientists injected drugs that kept GABA concentrations in the retinas of newly blinded fish at a high level,

They found that doing so suppressed the regeneration process.

After injecting an enzyme that lowers GABA levels in normal fish, they found that the Muller glia (retinal cells) began changing and proliferating, the first stage in the regeneration process.

The Muller glia (which in fish plays a key role in regeneration) is a special type of adult stem cell.

When regeneration is triggered in zebrafish, the Muller glia begins proliferating and then differentiating into replacements for the damaged nerve cells.

Bio-inspired glue works under water

Scientists, drawing inspiration from substances shellfish create to stick to surfaces, have developed a super strong adhesive that works under water.

The bio-based glue performed better than 10 commercial adhesives when used to bond polished aluminium.

"Our current adhesives are terrible at wet bonding, yet marine biology solved this problem eons ago," said Jonathan Wilker, a professor at Purdue University in the US.

"Poly (catechol-styrene) is looking to be, possibly, one of the strongest underwater adhesives found to date," he said.

Reforming trade in agro-products

Trading of agricultural commodities in India has been crippled by multiple structural and regulatory issues. Traditionally, the lack of liquidity, quality testing and assurance, and guarantee of delivery kept small farmers as well as institutional traders sceptical of the market. The grant of repository licences to CDSL and NCDEX and the ongoing discussions by SEBI to introduce commodity options are positive signs.

Currently, a farmer can take the produce from the farm to a certified warehouse, get the quality inspected and receive a negotiable warehouse receipt (WR) with a unique identity (ISIN). This WR can be traded on the exchange



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like any other negotiable instrument.

Theoretically, this works fine and has several advantages. It provides better price realisation for farmers, safer collateral for lenders like banks and NBFCs, a more efficient market place for hedgers and speculators, and better quality and lower disruptions in supply for the end customer. But, in practice, the system faces many issues, as below:

Participation by farmers

The typical farm size in India is very small and the total produce of a farm would probably be lower than a single tradable lot at the exchange. Creating a pool of farmers through initiatives like Farmer Producer Companies (FPC) is a good idea, but the initiatives have been slow to take off.

Usually the farmer, either directly or through a broker, sells the produce based on the prevailing MSP. Storing produce in a warehouse is often not an option for these farmers. The main reason for this is that the MSP has become the market price instead of being the minimum assured price. It means that the farmer is not incentivised to carry the goods.

In countries like Australia and Canada, there are "pool" programs that allow the farmer to sell their harvest at the average price of grain over a period of time. The government could consider enhancing the MSP with more contracting options to allow the farmer to participate in the market movement.

Private participation

Market intervention by the government is a major deterrent to private participation. The suspension of forwards contracts, ban on trading of chanaand castor in 2016 have had an impact on the volumes and market confidence.

The other issue is that the storage cost at certified warehouses is higher than the cost at the non-certified ones, this directly impacts the percentage of produce that gets dematerialised.

Finally, in order to encourage private companies to directly buy from the farmers, the rules for purchase and payments at various APMCs need to be standardised and the government should consider introducing standard price adjustments based on location of the farm and the quality parameters. This will help the farmer sell goods at the farm gate conveniently with minimum wastage, and will help private companies adjust the MSP based on the pre-set transportation costs and quality of produce.

Currently, due to the above issues, only a niche set of private companies use the agriculture contracts on the exchanges.

In summary, our current state is a reflection of the journey

we have chosen based on our needs as a country. Food security and rural economy have rightly been the main factors influencing government policies in this sector. The government now needs to create an efficient and robust market to attract investments and talent required for ensuring a bright future for agriculture in India.

(The author is director, business consulting, Sapient Global Markets)

Archaeological find turns metro station site into museum

Set in stone:Material found at an archaeological site in Martyrs Square in Algiers.AFPSTRINGER

2,000 years of history unearthed in central Algiers, where authorities have shown that development and history can go hand-in-hand

An archaeological treasure trove on the site of a planned metro station in central Algiers is set to become a museum, opening a window on 2,000 years of history.

The site, close to the Algerian capital's UNESCO-listed casbah, has yielded remains from the city's Roman, Byzantine, Ottoman and French periods.

Spectacular view

"It was spectacular," said archaeologist Kamel Stiti, codirector of the excavations. "In one look, you could see two millennia of Algiers' history."

The remains, on the location of a Roman port town called lcosium, were discovered in 2009 when the Ministry of Culture ordered surveys along the planned metro line.

Archaeologists have since discovered coins, weapons, a public building paved with 5th century mosaics and a large 7th century Byzantine necropolis containing several dozen graves.



They also found parts of the Ottoman-era Es Sayida mosque, which French authorities flattened in 1831, shortly after their conquest of the North African country. The colonial government put a public square in its place and called it King's Square and later, Government Square. It was re-named Martyrs Square after the country's hard-won independence in 1962.

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Experts had believed that few pre-colonial artefacts remained on the site, but many of the ruins turned out to be surprisingly well-preserved, Mr. Stiti said.

Where there is a will

The 3,000-sq.m. Site was deemed so important that the municipality adapted its plans for the metro station, a move Mr. Stiti said was a first in Algeria.

The site will now become a museum incorporated into the station, which, in turn, will take up less than half its planned 8,000 sq.m. The tunnel will go as deep as 35 metres in order to work around the remains.

The Martyrs Square station is set to open in November, part of an extension to the main metro line inaugurated in October 2011. The museum will open shortly afterwards, covering 1,200 sq.m. And organised chronologically. Some of the remains will be exposed to a depth of over seven metres.

"In Rome or Athens, museums present particular periods, whereas here the visitor can embrace the whole history of Algiers over 2,000 years," Mr. Stiti said.

He said the project showed that archaeology is not incompatible with development.

"It gives added value. One accompanies the other without slowing it down," he said.

"So as not to delay the work, which would add costs to the subway project, archaeologists have worked hard, including on public holidays."

The National Archaeological Research Centre (CNRA) and France's National Institute for Preventive Archaeological Research (INRAP) have been working on the dig since 2013.

More than 150 people of different nationalities and specialities have taken part, giving young Algerian archaeologists valuable opportunities to work on an important excavation.

Aicha, 70, who lives near the site, said she is looking forward to seeing the museum open.

"There will be no more hassle because of the building work, and I'll be able to travel by subway and visit the museum with my two granddaughters," she said.

Said, a 50-year-old high school history teacher, said he hopes there will be guided visits for young people "so they can take ownership of our city's several millennia of history."

Cotton looks stable in FY18: Ind-Ra

India Ratings (Ind-Ra) has maintained a stable outlook for cotton textiles for the next financial year following steady input prices, healthy capacity utilisation and healthy domestic demand.

The agency has revised its cotton outlook to stable for fiscal year 2017-18 from negative for the fiscal year 2016-17.

The status will stem from fiscal incentives and implementation of the Goods and Services Tax (GST) that will improve the industry's export competitiveness, Ind-Ra said. Favourable trade agreements with the U.S. and Europe will also lead to a significant increase in India's exports and a higher-than-expected domestic demand would be positive for the sector, it added.

Moreover, Ind-Ra said, the U.S.' exit from the Trans-Pacific Partnership is likely to realign textile trade and investments, which were diverted to Vietnam over FY16-FY17, towards the Indian subcontinent.

The stable cotton outlook is in view of an increase in acreage, a rise in supply in the first quarter of FY18 (due to demonetisation) and a decline in global inventory assisting with a balanced supply, Ind-Ra said. It also expects operating profitability levels of Indian cotton ginners and exporters to moderate in FY18.

Summit sheds light on PCSK9i to reduce LDL cholesterol

The drug lowers cholesterol by 60% when combined with statin

The recently concluded International Diabetes Summit at the city-based Chellaram Diabetes Institute (CDI) shed light on the use of PCSK9 inhibitors (PCSK9i) to lower cholesterol levels and reduce the risk of heart attacks.

The PCSK9i are a new class of injectable drugs that reportedly reduce 'bad' cholesterol levels by up to 60% when combined with a statin (another class of drugs prescribed to help lower cholesterol levels).

"Statins are said to reduce the risk of heart attack by 25% to 30%. These block the enzyme that control production of LDL cholesterol. However, they do not completely remove the risk of heart attacks, which makes research of new products necessary," said Dr. Vinaya Simha, consultant, Endocrinology, and assistant professor, Department of Internal Medicine at the U.S.-based Mayo Clinic. Low-density lipoprotein cholesterol, abbreviated as LDL-c, is considered the 'bad' variant of cholesterol as it contributes to plaque deposition, leading to the hardening and narrowing of arteries or 'atherosclerosis' (thickening of artery walls owing to accumulation of white blood cells).

Function of the drugs

The drugs inactivate a protein in the liver called proprotein convertase subtilisin/kexin type 9 (PCSK9). The pro-



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tein de-activates the receptors on the liver cell surface that transport LDL into the liver for break down. Without these receptors, more 'bad' cholesterol remains and accumulates in the blood.

PCSK9 inhibitors may be used alone or in combination with statins to lower the 'bad' cholesterol levels in patients who cannot tolerate any statin drug.

Dr. A. G. Unnikrishnan, CEO and chief Endocrinologist at CDI, said, "Controlling cholesterol level with diet and exercise is important. PCSK9 inhibitors are not available in India as of now, [but] they seem to be a promising mode of reducing risk of heart attacks."

PCSK9 inhibitors are currently under clinical trial in India.

India hosts world's oldest algae fossil

New find in the Chitrakoot region of U.P. and M.P. may rewrite evolution timeline

Scientists in India have uncovered a pair of 1.6 billionyear-old fossils that appear to contain red algae, which may be the oldest plant-like life discovered on Earth.

Until now, the oldest known red algae was 1.2 billion years old, said the paper in the journal PLOS Biology .

Scientists often debate the question of when complex life began on Earth, but they generally agree that large multicellular organisms became common about 600 million years ago.

This discovery could lead experts to rewrite the tree of life, said lead author Stefan Bengtson, Professor Emeritus of palaeo-zoology at the Swedish Museum of Natural History.

No DNA remains

"The 'time of visible life' seems to have begun much earlier than we thought," he said. No DNA remains in the fossils to be analysed but the material structurally resembles red algae, embedded in fossil mats of cyanobacteria inside a 1.6 billion-year-old phosphorite, a kind of sedimentary rock.

"You cannot be a hundred percent sure about material this ancient, as there is no DNA remaining, but the characters agree quite well with the morphology and structure of red algae," said Professor Bengtson.

Advanced tools — such as synchrotron-based X-ray tomographic microscopy — allowed scientists to observe regularly recurring platelets in each cell, which they believe are parts of chloroplasts, the organelles within plant cells where photosynthesis takes place.

Distinct structures at the centre of each cell wall are also apparent, and are typical of red algae.

The fossils were discovered in sedimentary rocks in the

Chitrakoot region of Uttar Pradesh and Madhya Pradesh. The earliest traces of life on Earth — in the form of single-celled organisms — go back some 3.5 billion years.

Mammals shrink in size when Earth heats up, study shows

An artist's conception shows a comparison of a Sifrhippus sandrae (right) with a modern Morgan horse that stands about five feet tall.Florida Museum of Natural History/AP Warm-blooded animals would need to shed heat and so turn smaller

Global warming shrank certain animals in the ancient past, and scientists worry it could happen again. Warmblooded animals got smaller at least twice in Earth's history when carbon dioxide levels soared and temperatures spiked as part of a natural warming, a new study says.

University of New Hampshire researcher Abigail D'Ambrosia warned that mammals but not people could shrivel in the future under even faster man-made warming.

"It's something we need to keep an eye out for," said Ms. D'Ambrosia, who led the new work. "The question is how fast we are going to see these changes."

Dwarfing phenomenon

Three different species shrank noticeably about 54 million years ago when the planet suddenly heated up.

One of them an early, compact horse got 14% smaller, going from about 17 pounds (7.7 kilograms) to 14.6 pounds (6.6 kilograms), according to an analysis of fossil teeth in Wednesday's journal Science Advances.

"These guys were probably about the size of maybe a dog, then they dwarfed," said Ms. D'Ambrosia. "They may have gone down to the size of a cat."

Another creature that contracted was a lemur-like animal that's the earliest known primate.

It shrank about 4%; while it may not seem like much, it's noticeable because studies of the animal over millions of years showed it was usually getting bigger over time, Ms. D'Ambrosia said.

Equine ancestor

Previous studies have documented a similar shrinking of mammals, including another early horse ancestor, during an earlier warming about 56 million years ago. Scientists and farmers have also long tracked animals, such as cows, that shrink and give less milk during hotter stretches.

This latest work shows heating and shrinking are connected over millions of years.

"These results are very significant because they pro-



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vide another independent test of whether climate drives changes in body size in mammals," said Jonathan Bloch, curator of vertebrate palaeontology at the Florida Museum of Natural History, who wasn't part of the study.

"If we start to see patterns repeat themselves, we can learn from that. And what we learn from these lessons will certainly be important as we think about the possible response of plants and animals to future climate change." Shedding skin or fur

Both Ms. D'Ambrosia's study and that of the earlier warming are based on fossils recovered from the Bighorn Basin of Wyoming. Ms. D'Ambrosia said it's unlikely that the shrinking only happened there.

In hotter climates, mammals and other warm-blooded animals need to shed heat so they shrink. Smaller animals have more skin or fur per pound than bigger animals so more heat can escape, making them better adapted for warmer climate.

Larger animals do better in the cold because they have less skin per pound and keep their heat.

The bigger natural warming 56 million years ago saw temperatures rise 5.8 degrees Celsius or more probably from giant belches of methane from dead plants and animals that had accumulated on the sea floor, said Princeton University climate scientist Michael Oppenheimer.

Shell to expand into renewables in India

Sees good opportunity in synergy with clean fuel sources Royal Dutch Shell is looking at opportunities in India to build its renewable energy portfolio, especially in light of the country's renewable energy targets to be achieved over the next decade, according to Mark Gainsborough, executive vice- president, New Energies, Royal Dutch Shell.

"India has a very ambitious target for the growth of the renewable sector," Mr. Gainsborough told The Hindu during a clean energy forum organised by Shell during its 'Make the Future Singapore' event.

"I think India is a really important market for renewables in the future. There is a huge opportunity there. There is a lot of coal being burnt there, which is a challenge and we are interested in looking at opportunities in India." "We already have a presence in the oil and gas business and potentially there is a good opportunity for us in the synergy with renewables," Mr. Gainsborough added.

"It is one of the biggest growth markets in terms of growth in demand in power. So anybody who is interested in power will be interested in India," he said.

Storage technology

One of the key issues with renewable energy, Mr. Gainsborough added, was that storage technology is currently not up to the mark.

"Batteries have a long way to go. To be cost-effective storage, there needs to be a lot of work," he said.

"The lithium ion batteries we use are good for only very short duration storage. And what you need is much longer storage."



Speaking at the forum, John Abbott, downstream director and executive committee member, Royal Dutch Shell, spoke about the critical role gas will play in India's energy mix in the coming years.

"Gas will play a very important role in helping India reach its aim of achieving 40% of its energy from renewables and clean sources by 2040," Mr. Abbott said.

"And biofuels will be key to the transport sector. Gas is cleaner during burning than coal and is the perfect partner for renewables. It is flexible and abundant."

Mr. Abbott said that Shell had planned to reduce its carbon emissions at its retail outlets by 50%, although he did not specify a timeframe for this.

(The correspondent is in Singapore at the invitation of Shell)

ICRISAT, ICAR join hands for crop improvement

In a bid to benefit small farmers in India and globally, Indian Council of Agricultural Research (ICAR) and the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) would work together on crop improvement and agronomy programmes for grain legumes and dryland cereals.

ICAR and ICRISAT, recently signed an agreement in New Delhi, in which climate smart crops, smart food and digitalisation of breeding database were identified as some of the core areas of research.

ICAR director General Dr Trilochan Mohapatra said that the collaboration will benefits Indian farmers and they are committed to achieve real impact through the partnership



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with continuous monitoring by both sides.

He said other areas of focus over the next three years include - integrating systems modelling tools for upscaling climate resilient agriculture, developing genetic and genomic resources of finger millet and enhancing genetic gains for priority traits.

Meanwhile, ICRISAT director general Dr David Bergvinson said that dryland cereals and grain legumes are branded as smart foods – good for consumers, farmers and the planet as they diversify farming systems and help smallholder farmers adapt to climate change.

"We enjoy a strong partnership with ICAR so we can deliver real results to improve the lives of farmers," he added.

On crop improvement front, the pact will facilitate research on pigeonpea and chickpea for insect resistance.

Long-term supply pact for Sukhoi jets inked

Agreement expected to address India's concerns with respect to Russian-origin military equipment

In a move to address a long-lasting concern of India with respect to Russian-origin military equipment, the two countries, signed two long-term supply agreements for the Sukhoi fighter aircraft fleet of the Indian Air Force (IAF) to address issues of life-cycle support and maintenance.



The deals were signed between Hindustan Aeronautics Limited (HAL) from India and the United Aircraft Corporation and United Engine Corporations of Russia at the first India-Russia Military Industrial Conference in the national capital.

"Since most of our defence platforms and weapon systems are of Russian-origin, their maintenance and lifecycle support is extremely important for us from the point of view of our defence preparedness," Defence Minister Arun Jaitley said after inaugurating the conference. Observing that India has the third largest armed forces in the world, Mr. Jaitley said, "We are also one of the largest importers of defence equipment and this definitely is not

a label we are happy with."

This agreement covers about 57,000 spares and components related to the Su-30 aircraft, a defence official said. Direct agreement

The deal follows a Russian legislation permitting its companies to enter into direct agreement with foreign companies for long-term support agreements. Currently, procurement of spares is a long and cumbersome process as India cannot deal directly with the Original Equipment Manufacturers but designated intermediaries like Rosoboronexport. Officials said they were exploring the possibility of Russian OEMs allowing licence manufacture of the spares locally by Indian vendors.

India has contracted 272 Su-30 fighter jets from Russia in various batches and has so far inducted over 230 jets. However, their serviceability rate has been an issue of constant concern with availability rates dropping below 50% at one point and has improved to over 60% over the last couple of years.

Flexing nanotech to prevent steel corrosion

Turning to nanotechnology, a group of marine researchers from Kerala is attempting to combat corrosion of steel used for making fishing boats. Corrosion of steel has been a major cause of concern for the fishing sector of Kerala where steel vessels have almost replaced wooden ones.

There is enhanced threat of corrosion in the case of welding joints and the hull of a vessel. The non-availability of good quality steel (BIS 2062 Grade B steel) as specified for boat-building has compounded the problem.

Scientists at the Central Institute of Fisheries Technology (CIFT), Kochi, have successfully tried applying nanomaterials like nano iron oxide, zinc oxide, cerium oxide and titanium oxides on steel surfaces under lab conditions. According to Dr. C.N. Ravishankar, director of the institute, these nanomaterials have high surface area and increased adhesiveness to the substrate. According to Dr. P. Muhammed Ashraf, Principal Scientist at CIFT, who led the research programme, the boat-building steel was coated with nano-trimetal oxide mixtures, and its evaluation in laboratory showed about 40% corrosion inhibition under marine environments. He said that the coating also exhibited healing stress at a faster rate.

Conventional methods of coating of steel materials with ceramic, polymeric and electro-deposition are effective only to a limited extent. Corrosion-protection methodologies usually employ organic or inorganic-based coatings on steel. The researchers pointed out that the major disadvantages shown by these coatings are poor adhesion,



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coating defects, poor scratch resistance, optical transparency, low coating flexibility and vulnerability to abrasion. Even the recently introduced nanomaterial-incorporated polymer coatings have their own set of challenges — they tend to develop pinholes and pores, which could lead to the penetration of corrosive agents into the matrix followed by corrosion.

Stayzilla — what lies beneath the ecosystem

Dispute raises questions on access to working capital for start-ups, prevailing sense of fairness

Even as the arrest of Yogendra Vasupal, founder of startup firm Stayzilla, on charges of non-payment of dues to its vendor, has seen the entire start-up ecosystem fuming, the demand for an environment that provides for a collateral-free working capital assistance of a specified limit is gaining ground.

Such assistance could be made available through organised banking channels, said investment banker S. Ramabadran. According to him, a Stayzilla-like episode could have been avoided if the start-up had had access to working capital funding.

Observers said that the happenings at Stayzilla also reflect the absence of a proper foundation for the start-up ecosystem to effectively address the ups and downs of business. The Stayzilla imbroglio, they point out, also underscores the need for educating the entire set of stakeholders in the start-up ecosystem — right from investors to entrepreneurs and vendors besides the law-enforcing authorities — on their rights and responsibilities.

Big picture

In this instance, the arguments have been restricted only to whether it is a civil or criminal dispute. However, one needs to look at the larger picture - the issue of accountability, role of private equity players and the available mechanism to settle such disputes.

On one side of the dispute is a company which has raised \$30 million from private investors and which recently announced that it would shut down and revamp its business model. On the other is an unfunded media agency start-up Jigsaw, which is desperate to get back its dues.

While questioning the choice of the law to be enforced in this instance, Aarthi Sivanandh, Partner, JSA, a legal firm, wondered if the investors could not have bailed the entrepreneur out of an ugly situation.

The episode has forced the funded start-up fraternity to close ranks. Will this prompt more vendors to take criminal action against failing start-ups? This fear must be seen in the context of a recent trend. According to data from start-up tracker Tracxn, 314 start-ups downed shut-

ters in 2016. The count is 5 so far in 2017.

According to Kartik Maheshwari of Nishith Desai Associates, a law firm, closing down operations or posting a blog entry will not help Stayzilla escape liability arising from outstanding obligations. Under law, even if Stayzilla were to undergo voluntary winding up, it would have to first set off its liabilities towards creditors, he says. A civil case to claim unpaid monies stretches for years before a final order is passed. Given this, an increasingly large number of individuals are now choosing to file criminal cases alleging fraud, he says. "Irrespective of the veracity of the claims made by both the parties, technically there is nothing in the law that prevents a person from pursuing criminal action in cases where there is an alternative civil remedy available," he added.

Lawyers aver that there are no quick-fix solutions in such disputes as the current legal process is cumbersome even though it allows for winding-up. The upcoming Insolvency and Bankruptcy Code could go a long way in addressing such situations.

"Parties could consider building in alternative dispute resolution mechanisms such as arbitration in their contracts as these are gaining popularity due to heavy backlog of cases in civil courts," according to Sharanya Ranga, Partner, Advaya Legal. "Also, try to clear dues to the greatest extent possible — whether it is employee salaries, vendor payments or office rents. However, this may not solve the issue of intimidatory criminal filings," she said.

Now most start-ups prefer having a structure of private limited companies or limited liability partnerships, when compared with proprietorship concerns as prevalent in the early 1990s, according to Nishit Dhruva, managing partner, MDP & Partners. The private limited company or limited liability partnerships structure helps promoters limit their liabilities.

Serial entrepreneur Chandu Nair said that promoters should not forget their moral responsibilities towards settling liabilities, even if the company structure gives leeway. "There seems to be a culture of supporting and celebrating the funded start-ups when compared with the unfunded ones. Also, the war is between the newage versus traditional companies. A CIBIL-like system to measure credibility of the organisation as well as the founder should be explored," he said.

Tranche funding

According to Mr. Dhurva, Stayzilla is a prime example of a start-up malfunction and not meeting with its vendor obligations. "The funding structure of such start-ups entails tranche funding from venture capitalists whereby the start-up broadcasts the funding figures even before



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the capital is received. However, with VCs placing preconditions to be met for such disbursements, the funding does not accrue in toto. This creates an uncertain environment in the start-up ecosystem which inflates the apparent creditworthiness of a start-up," he said.

Prabhakar Mundkur, Chief Mentor, HGS Interactive Solutions, said that media agencies enjoy wafer-thin margins and non-payment from clients affected their reputation badly. "May more ad agencies be as tough with their clients? A long time ago, political parties drowned a few Indian agencies by defaulting on media payments. Then the ad agencies took a stance with political parties: to accept business only on advance payments. The ad agencies should perhaps be doing the same with start-ups," he added. A start-up ecosystem that practices fairness is what is needed now.

Scientists discover five new sub-atomic particles

The find will contribute to understanding how three constituent quarks are bound inside a baryon

Scientists using the world's largest and most powerful particle accelerator have discovered a new system of five particles all in a single analysis.

The uniqueness of this discovery is that observing five new states all at once is very rare, researchers said.

The LHCb experiment is one of seven particle physics detector experiments collecting data at the Large Hadron Collider accelerator at CERN (European Organisation for Nuclear Research).

The collaboration has announced the measurement of a very rare particle decay and evidence of a new manifestation of matter —antimatter asymmetry, to name just two examples.

The new particles were found to be in excited states — a particle state that has a higher energy than the absolute minimum configuration (or ground state) — of a particle called Omega-c-zero.

Excited states

Omega-c-zero is a baryon, a particle with three quarks, containing two "strange" and one "charm" quark.

Omega-c-zero decays via the strong force into another baryon, called Xi-c-plus, (containing a "charm", a "strange" and an "up" quark) and a kaon K-.

Then the Xi-c-plus particle decays in turn into a proton p, a kaon K- and a pion p+.

From the analysis of the trajectories and the energy left in the detector by all the particles in this final configuration, the LHCb collaboration could trace back the initial event — the decay of the Omega-c-zero — and its excited states. These particle states are named, according to the standard convention, Oc(3000)0, Oc(3050)0, Oc(3066)0, Oc(3090)0 and Oc(3119)0. The numbers indicate their masses in megaelectronvolts (MeV), as measured by LHCh

The next step will be the determination of the quantum numbers of these new particles — characteristic numbers used to identify the properties of a specific particle — and the determination of their theoretical significance. This discovery will contribute to understanding how the three constituent quarks are bound inside a baryon and also to probing the correlation between quarks, which plays a key role in describing multi-quark states, such as tetraquarks and pentaquarks.

New Wi-Fi system to offer super-fast connectivity

The wireless network is based on harmless infrared rays Scientists have developed a new wireless Internet based on infrared rays that is reportedly 100 times faster than existing Wi-Fi networks.

The wireless network developed by researchers at Eindhoven University of Technology in The Netherlands not only has a huge capacity — more than 40 Gigabits per second (Gbit/s) — but does away with the need to share Wi-Fi as every device gets its own ray of light.

The wireless data comes from a few central 'light antennas', which can be mounted on the ceiling, that are able to precisely direct the rays of light supplied by an optical fibre

The antennas contain a pair of gratings that radiate light rays of different wavelengths at different angles ('passive diffraction gratings').

Changing the light wavelengths also changes the direction of the ray of light. A safe infrared wavelength is used that does not reach the retina in the eye.

If a user is walking about and a smartphone or tablet moves out of the light antenna's direction, then another light antenna takes over, researchers said.

Tracks precise location

The network tracks the precise location of every wireless device using its radio signal transmitted in the return direction, they said.

Different devices are assigned different wavelengths by the same light antenna and so do not have to share capacity.

Current Wi-Fi uses radio signals with a frequency of 2.5 or five gigahertz. The new system uses infrared light with



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wavelengths of 1,500 nanometres and higher. Researchers managed to achieve a speed of 42.8 Gbit/s over a distance of 2.5 metres. The team said that even with the best Wi-Fi systems currenly available, users would not get more than 300 Megabit/s in total, which is some hundred times less than the speed per ray of light achieved by the new system.

The system has so far used the light rays only to download; uploads are still done using radio signals since in most applications much less capacity is needed for uploading.

Clearance for Neutrino project suspended

"The claim is that the site is within 4.9 km of the Madhikettan Shola Natural Park. This is very close to the guideline limit of 5 kilometres. So we have to verify that the project actually falls within this distance. If it does, we will surely get the clearance as instructed. We have no intention of flouting any rules," said D. Indumathi, Spokesperson of the INO, Faculty at the Institute of Mathematical Sciences.

Sekhar Basu, Chairperson of the Department of Atomic Energy said that as he had not seen the judgment, he could not comment. He, however, added that if the INO cannot come up anywhere in India, the people would just lose in terms of science.

Dr. Basu also dismissed fears that there was a plan to store nuclear waste in the tunnels of the INO. "It is really a pity that such a fear exists, and it is a story without a basis," he said.

Dr. Indumathi also said, "The judge has requested to conduct the case expeditiously. So we are hopeful that things will move quickly now."

Archaeologists shine light on life in the time of Christ

Nails used in crucifixions, jewellery and ossuaries tell the story

The Israel Antiquities Authority has offered a rare glimpse into its storerooms, where staff said recent archaeological discoveries have cast new light on life in the time of Christ.

The event was organised ahead of the upcoming Christian holiday of Easter, which marks the resurrection of Jesus following his crucifixion.

Among finds from the first century discovered around Jerusalem and the Galilee, where the Bible says Jesus lived and preached, are vases, cooking utensils, a wine press, nails used in crucifixions, jewellery and ossuaries. "Nowadays we can restore in a very clear way the daily life during that period, from the moment of birth, through the person's life, his dining customs, where he travelled across the land, and until his day of death including his burial," said Gideon Avni, head of the authority's archaeology division.



New discoveries

"Over the past 20 years we have made a great leap in understanding the way of life of Jesus and his contemporaries," he said.

"Every week new elements are discovered which allow a better understanding of this period. "The names on the ossuaries were recognisable, with known figures that are mentioned in the Talmud for example, and this is how you create the connection between what you find nowadays and the people who lived here 2,000 years ago."

Mr. Avni said that the authority is custodian of more than one million objects.

Mars may have had rings that it can possibly regain

A new model developed by scientists at Purdue University in the U.S. suggests that debris that was pushed into space from an asteroid slamming into Mars around 4.3 billion years ago alternates between becoming a planetary ring and clumping together to form a moon.

According to one theory, Mars' large North Polar Basin or Borealis Basin — which covers about 40% of the planet in its northern hemisphere — was created by that impact, sending debris into space.

"That large impact would have blasted enough material off the surface of Mars to form a ring," researcher Andrew Hesselbrock said.

Moon formed

As the ring formed, and the debris slowly moved away from the planet and spread out, it began to clump and eventually formed a moon.



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Over time, Mars' gravitational pull would have pulled that moon towards the planet until it reached the Roche limit, the distance within which a planet's tidal forces will break apart a celestial body that is held together only by gravity. In 70 million years

Phobos, one of Mars' moons, is getting closer to the planet. According to the model, Phobos will break apart upon reaching the Roche limit, and become a set of rings in roughly 70 million years.

Depending on where the Roche limit is, Mr. Hesselbrock and David Minton believe this cycle may have repeated between three and seven times over billions of years. Each time a moon broke apart and reformed from the ring, its successor moon would be five times smaller than the last.

Mother Dairy eyes nutrition products

Mother Dairy Fruit & Vegetable. a wholly-owned subsidiary of National Dairy Development Board (NDDB), is planning a foray into the nutrition products segment, managing director S. Nagarajan said.

Lifestyle changes and the "gender-specific" needs of people in the 11 to 59 years age-group, has created the need for products which will help overcome deficiencies in calcium, iron, vitamins and micronutrients, Mr. Nagarajan said after unveiling the company's milk portfolio here, under a new brand 'Dailycious.'

Although a three- to five-year timeline was being looked at for entering the nutrition product segment, no firm dates had been fixed yet, he said.

Indications are that fibre-packed vegetable juices may be among the initial offerings.

Mother Dairy has an innovation centre near Delhi, where a Rs. 15 crore investment was made this year, he said.

The firm, eyeing a Rs. 10,000 turnover in 2019 (from about Rs. 8,000 crore estimated this fiscal), has four product segments — milk, value-added products, edible oil (Dhara brand) and fruits and vegetables. "The fastest growth is from value-added segment of ice cream, dahi, butter milk, followed by edible oil, fruits and vegetables, and milk" Mr. Nagarajan said.

Sandeep Ghosh, Business Head, said that the introduction of the milk portfolio will strengthen the company's position in Kolkata.

NDDB ran the 'Operation Flood' project in West Bengal till the '90s when it handed over the brand to the state government, on the understanding that the latter would have exclusive rights to the Mother Dairy brand for milk products.

ICHR to study if Ram Setu is man-made or natural

The Indian Council of Historical Research (ICHR) is set to undertake an archaeological exploration to find out whether the Ram Setu is a natural or man-made phenomenon.

It will undertake the exploration in October and November, before deciding whether a detailed underwater archaeological excavation is required to probe deeper, said ICHR chairman Y. Sudershan Rao.



Also known as Adam's Bridge, Ram Setu is a stretch of limestone shoals running from Pamban Island near Rameswaram in Tamil Nadu to the Mannar Island near the northern coast of Sri Lanka. While there are geological theories on its natural formation, many Hindus believe it was built by the army of Lord Ram to go to Lanka to wage war with its king, Ravana.

"In October and November, we will try to figure out whether more is required on this. We will also publish our findings," Professor Rao told journalists.

The ICHR linked the excavation to a two-week session on ocean archaeology it will hold in May or June. Professor Alok Tripathi of Assam University at Silchar is being roped in to impart training to 15-20 researchers into theoretical aspects of ocean archaeology. After the training, the researchers will be roped in to undertake the excavation of Ram Setu.

The plan for a Sethusamudram shipping canal project to cut travel time for ships — as they could not cross the shallow Ram Sethu otherwise — is hanging fire as both Hindu groups and environmentalists have opposed it.

INS Vikramaditya fires surface-to-air missile

Over three years after joining the Navy, the country's sole aircraft carrier INS Vikramaditya, successfully carried out the maiden test of the newly installed Barak short range surface-to-air missile.

"During the firing carried out in the Arabian Sea, the missile was fired against a live, low-flying, high-speed target.



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The target was successfully engaged and destroyed," a Navy officer said.

The 44,500 tonne carrier was commissioned into the Navy in November 2013 at Severodvinsk in Russia and was originally scheduled to have the long range surface-to-air missile system under joint development with Israel. But delay in its development resulted in the carrier being inducted into the force without its own air defence system, and forcing it to rely on support ships in the carrier battle group for air cover.

The firing was conducted as part of the operational readiness inspection of the Western Fleet by Vice-Admiral Girish Luthra, Flag Officer Commanding-in-Chief of the Western Naval Command, from March 21-23, the Navy said in a statement.

'U.S. should keep UN commitments'

It is necessary for the United States to keep its commitment to the United Nations, said India's former diplomats at the UN, including former U.S. Under-Secretary Generals and key peacekeeping officials at a function in the national capital ,.

"The U.S., that has been the unipolar dominant power at the U.N., remained broadly committed to its U.N. responsibilities despite feeling frustrated by the UN Security Council, so far. But now that has changed. Serious questions like whether the U.S. will withdraw from the U.N. are being asked," said Mr. Shashi Tharoor, Member of Parliament, referring to the Trump administration's reported plans to cut funding to the United Nations.

Budget cut

According to a report published by online portal Foreign-Policy.com this week, the U.S. government plans to cut its U.N. contribution by as much as 40% in the upcoming budget year, which would severely cripple U.N. programmes given that the U.S. contributed over \$2 billion to the U.N.'s \$8 billion budget last year.

Adding to the debate, during the function, which was held to launch a book on India's engagement with the United Nations, Seven decades and beyond: The UN-India connect, Puducherry governor Ms. Kiran Bedi, who had served as the United Nations' Civilian police advisor on peacekeeping, said that terrorism, not funding, is the biggest challenge to the U.N.'s survival in the future.

'Biggest challenge'

"The biggest challenge before the U.N. Secretary General today is how he addresses the global war on terrorism and finds a common definition for terrorism. What is lacking is not just U.S. presence, but how it can stay relevant without taking a stronger position on terrorism,

and help pass the Comprehensive Convention on International Terrorism, which India has sponsored," Ms. Bedi said at the function.

The book was launched by the U.N.'s resident coordinator Yuri Afanasiev, along with an array of famous Indian diplomats who have served in the most senior capacities in the United Nations, including Special Advisor on Myanmar Vijay Nambiar, former Commander of U.N. forces in Yugoslavia Lt. Gen (Retired) Satish Nambiar, former Chef de Cabinet to the United Nations Secretary General Virendra Dayal and former Under Secretaries General Chinmaya Gharekhan and Nitin Desai.

Gravitational waves jettison black hole

NASA's Hubble space telescope has detected a supermassive black hole that has been kicked out of the centre of a distant galaxy by what could be the power of gravitational waves.

Weighing more than one billion suns, the rogue black hole is the most massive black hole ever detected to have been kicked out of its central home.

Researchers estimate that it took the equivalent energy of 100 million supernovas exploding simultaneously to jettison the black hole.

The most plausible explanation for this propulsive energy is that the monster object was given a kick by gravitational waves unleashed by the merger of two hefty black holes at the centre of the host galaxy, according to the scientists.

Hubble's observations of the black hole surprised the research team. "When I first saw this, I thought we were seeing something very peculiar," said team leader Marco Chiaberge of the Space Telescope Science Institute (ST-ScI) and Johns Hopkins University, in Baltimore, Maryland, U.S.

"When we combined observations from Hubble, the Chandra X-ray Observatory, and the Sloan Digital Sky Survey, it all pointed towards the same scenario," said Mr. Chiaberge.

Hubble images taken in visible and near-infrared light provided the first clue that the galaxy was unusual.

Bright quasar

The images revealed a bright quasar, the energetic signature of a black hole, residing far from the galactic core. Black holes reside in the centre of galaxies, so it's unusual to see a quasar not in the centre," Mr. Chiaberge added. The team calculated the black hole's distance from the core by comparing the distribution of starlight in the host galaxy with that of a normal elliptical galaxy from a computer model.



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The black hole had travelled more than 35,000 light years from the centre, which is more than the distance between the sun and the centre of the Milky Way, according to the study.

First predicted by Albert Einstein, gravitational waves are ripples in space that are created when two massive objects collide. The ripples are similar to the concentric circles produced when a hefty rock is thrown into a pond.

Google to bring artificial intelligence into daily life

Artificial intelligence has been the secret sauce for some of the biggest technology companies. But technology giant Alphabet Inc.'s Google is betting big on 'democratising' artificial intelligence and machine learning and making them available to everyone — users, developers and enterprises.

From detecting and managing deadly diseases, reducing accident risks to discovering financial fraud, Google said that it aimed to improve the quality of life by lowering entry barriers to using these technologies. These technologies would also add a lot of value to self-driving cars, Google Photos' search capabilities and even Snapchat filters that convert the images of users into animated pictures.

"Google's cloud platform already delivers customer applications to over a billion users every day," said Fei-Fei Li, chief scientist of Al and machine learning at Google Cloud. "Now if you can only imagine, combining the massive reach of this platform with the power of Al and making it available to everyone."

No programming

Al aims to build machines that can simulate human intelligence processes, while Stanford University describes machine learning as "the science of getting computers to act without being explicitly programmed."

At the Google Cloud Next conference in San Francisco this month, Ms. Li announced the availability of cloud 'Video Intelligence API' to the developers. The technology was demonstrated on stage while playing a video. The API was not only able to find a dog in the video but also identify it as a dachshund. In another demo, a simple search for "beach" threw up videos which had beach clips inside them.

Google is also aiming to use AI and machine learning to bring healthcare to the underserved population. It uses the power of computer-based intelligence to detect breast cancer. It does this by teaching the algorithm to search for cell patterns in the tissue slides; the same way doctors review slides.

The Google Research Blog said this method had reached 89% accuracy, exceeding the 73% score for a pathologist with no time constraint.

Google Research said that pathologists are responsible for reviewing all the biological tissues visible on a slide. However, there can be many slides per patient. And each slide consists over 10 gigapixels when digitised at 40 times magnification.

Google feeds large amounts of information to its system and then teaches it to search for patterns using 'deep learning', a technique to implement machine learning. The team detected that the computer could understand the nature of pathology through analysing billions of pictures provided by Netherlands-based Radboud University Medical Center. Its algorithms were optimised for localisation of breast cancer that had spread to lymph nodes adjacent to the breast.

The team had earlier applied deep learning to interpret signs of diabetic retinopathy in retinal photographs. The condition is the fastest-growing cause of blindness, with close to 415 million diabetic patients at risk worldwide.

Biodiesel body calls for lower state taxes

Industry is not moving forward due to the hurdle caused by skewed tax rates, it says

High state taxes on biodiesel are effectively rendering the green fuel significantly more expensive than regular diesel, according to the Biodiesel Association of India, which also called on the central government to continue with the excise duty exemptions for the sector.

"The industry is just not moving ahead because of skewed rates of taxation, which continue to be a major hurdle," Sandeep Chaturvedi, President of the Biodiesel Association of India (BDAI) told The Hindu.

"The taxes by the state government are very high. As soon as biodiesel is blended with diesel, the taxes can go as high as 20-30% depending on the state government. The biodiesel itself becomes Rs. 7-8 more expensive than diesel because of the tax element."

Biodiesel consumption

According to Mr. Chaturvedi, the annual consumption of biodiesel in India is about 80 lakh litres, which, he said, needed to go up drastically if India is to meet its target of a 10% reduction in oil imports.

In the July 2015 interim Railway Budget, the government had said that railways would blend up to 5% of biodiesel with their fuel.

"That immediately started activity across the country," Mr. Chaturvedi said. "Out of the 16 zonal railways, 15 started using biodiesel. Now the key hurdle there was the mar-



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keting regulation.

"The law is from 2005 and it says that nobody other than the OMCs approved by the Ministry of Petroleum is allowed to sell. This was amended on January 16, 2015 by the Cabinet and biodiesel was allowed to be sold to private consumers. That was notified by the Ministry after about eight months."

Regarding the high rates of state taxes, Mr. Chaturvedi said that the BDAI had approached the Centre but they could not alter state-level tax rates.

However, a few states, including Andhra Pradesh and West Bengal, have taken the initiative and have reduced the tax rates, he said.

"From April 1 till [the time] GST comes, the excise incentives for biodiesel should continue," Mr. Chaturvedi said. "Otherwise the entire exercise would come to a standstill."

Environmental costs

"In India, if the environmental costs are not being borne by the government, then they are not quantified at all," he added. "Now, finally, IIT Mumbai has done a study and they have come up with a startling finding that in 2015, about 82,100 died of air-related diseases, mostly due to vehicular pollution."

"Using biodiesel can reduce hydrocarbon usage by almost 80%, and particulate matter emissions can be reduced by 38-40%, and there are no sulphur emissions," Mr. Chaturvedi said.

He added that another study by the Meteorological Department had found that the rainwater has turned highly acidic in many areas.

"In some places like Nagpur, the pH level has risen to 4.5, which is highly acidic," he said.

"And then you talk about the farmer not getting his yields, and the poor fellow won't even know why even if it rains sufficiently," Mr. Chaturvedi said.

Infrastructure clouds connectivity

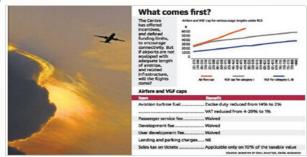
Even as the Ministry of Civil Aviation is very close to awarding regional connectivity routes to air service operators, a study by Crisil Research has found that only about 60 out of the more than 414 identified un-served and underserved regional airports have the necessary infrastructure to support flight operations.

In other words, only 14% of the airports and airstrips listed under the scheme are equipped to handle small aircraft, that is up to ATR 42.

Besides, the study has indicated that a passenger load factor (PLF) of about 50-60% would be required to break-

even at the EBITDA level (or earnings before interest, tax, depreciation and amortisation) even though the government has offered subsidies to operate flights on regional connectivity scheme (RCS) routes.

These are some of the major challenges to operator participation in the scheme.



Though domestic passenger traffic in India has grown 10% a year in the five fiscal years ended 2016, to 85 million annually, it is concentrated in the 6 metro airports, which account for about 65% of the total domestic passenger traffic, leaving the rest to the remaining 73 airports

In October 2016, the Government released the final RCS note, just months after a draft was circulated for stakeholder consultation.

Under this, airfares for a given distance are locked and are subject to a quarterly revision based on CPI inflation. Since these are not high-passenger traffic routes and require deployment of small aircraft that are costlier to operate, the government has decided to encourage the players by providing several incentives, as seen in the table.

Counter bidding for the scheme ended on February 1 and awarding of routes will be announced shortly. Selected airlines will receive route exclusivity for 3 years from commencing operations.

But going by the findings of the research study, only up to 60 airports / airstrips including 12 underserved ones are infrastructure-ready. They have the required runway length of up to 1,600 metres that can handle an ATR 42 operation and the terminal buildings.

"Of these, 25 airports are under the control of Airports Authority of India, 11 under Defence, 11 are private and the rest under the respective state governments," said Binaifer F. Jehani, director, Crisil Research, who conducted the study.

Select 60

These 55-60 airports could see an investment of Rs. 50-100 crore per airport for expansion and modernisation to



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facilitate aircraft operations and passengers, depending on the airlines' interest, she said.

In a recent report, the Centre for Asia Pacific Aviation (CAPA) has said that precious capital for airport development must be directed towards viable projects.

"Airport development needs to be pursued with viability considerations in mind," it said. "The greenfield airport at Durgapur in West Bengal, built with 100% private capital, has struggled to attract commercial airline operators. Reliance's investment in regional airports in Maharashtra, and IL&FS's interests in Karnataka have similarly not performed," CAPA had said.

"The tender process which awards concessions to the bidder offering the highest revenue share needs to be reviewed," it had added.

As of January 2017, 19 states had consented to the mplementation of the scheme. Of these 11 — Andhra Pradesh, Assam, Chhattisgarh, Gujarat, Jharkhand, Madhya Pradesh, Maharashtra, Mizoram, Puducherry, Uttarakhand and West Bengal — have signed memoranda of understanding. "Together, these states have about 8 underserved and 173 unserved airports – but only 23 of these have the requisite infrastructure," she said.

Though subsidies are offered to operate on RCS routes, Crisil's analysis indicates a PLF of 50-60% is required to breakeven at the EBITDA level, assuming the highest possible revenue per RCS seat for a stage length of 500-525 km.

"The passenger load factor required to break even at EBITDA will increase with aggressive bidding on viability gap funding (VGF) and reduction in fare charged by the airline operators," Ms Jehani said.

She said VGF bidding is a very crucial part of the scheme as it would determine the profitability of the airline. RCS routes will be allocated to airlines on the basis of reverse bidding for VGF (ie, the lowest bid wins).

The amount of VGF provided to the airline is indexed to inflation, ATF price and the dollar-rupee exchange rate. As per the scheme, airlines flying RCS routes should allocate 50% of the seat capacity as RCS seats, subject to a minimum of 9 and a maximum of 40 seats. The airfare cap and VGF will be applicable only to these seats. These seats are also not subject to any levies or charges imposed by airport operators, which account for about 10-15% of the ticket price at metro airports.

Subsidies debated

Given these, the grant of subsidies could encourage players to invest in this project, said the Crisil study.

"Even China has been subsidising its regional air routes

since 2007," Ms Jehani said. "Between 2006 and 2015, domestic passenger traffic at Chinese airports grew 12% a year (CAGR) from 299 million in 2006 to 829 million in 2015, led by the growth in number of airports from 144 in 2006 to 206 in 2015," she said.

The budgeted subsidies for regional aviation in China have risen from about \$70 million in 2013 to \$148 million in 2016.

This is similar to India's planned VGF collections of about Rs. 500-600 crore per annum (assuming the levy is charged on existing fleet mix) of which 20% is funded by the state government and the rest through a levy on flights on non-RCS routes.

"While the RCS scheme is expected to increase the reach of aviation in India from 79 airports in fiscal 2016, as it happened in China, the quantum of subsidies provided by the Chinese government has been increasing every year. Which means, while the implementation of RCS can improve connectivity in India, a continuous flow of subsidy will be crucial to make it all feasible," Ms. Jehani said.

However, subsidies are not welcomed by all.

"Rather than providing subsidy, the Government should provide incentives which will make the business attractive," said Rajeev Wadhwa, chairman and CEO of Baron Aviation which aggregates private jets for business and personal use. "The Government should focus on ease of doing business and ease of operations. Subsidy is negative for foreign investors as this may be discontinued as per whims and fancies," he said.

An 'exoskeleton robot' to help the disabled

A China-made wearable robot, which can help disabled people walk, is expected to enter the market in one to two years, the developer has said.

The Fourier X1, developed by Chinese technology startup Fourier Intelligence, was unveiled in Shanghai earlier this month, according to Xinhua news agency.

Gu Jie, CEO of Fourier, said the Fourier X1 weighed 20 kg and applied industrial design into the exoskeleton. It can assist with walking for people who have had a stroke or spinal cord injuries.

He said the company aimed to make the robot more affordable than foreign models such as Israel-made Re-Walk and Japanese-made Cyberdyne currently on the market.

Prices of the Fourier X1 robots are expected to be a third cheaper than similar foreign models, which are sold between 600,000 yuan (\$87,000) and 1 million yuan



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(\$1,45000) each. Mr. Gu said the company was working to test and improve the robot's various functions such as sitting, standing, walking and climbing stairs.

The Fourier X1 has four motors, two for the hips and two for the knees, as well as four batteries inside that enable it to work for seven hours.

China has 80 million disabled people, many of them unable to walk. The global market for walk-assisting exoskeleton robots is estimated to exceed \$1.8 billion by 2020.

'Unparalleled' number of dinosaur tracks discovered

An "unprecedented" 21 different types of dinosaur tracks have been found on a stretch of Australia's remote coast-line, scientists said ,, dubbing it the nation's Jurassic Park.

Palaeontologists from the University of Queensland and James Cook University said it was the most diverse such discovery in the world, unearthed in rocks up to 140 million years old in the Kimberley region of Western Australia.

Steve Salisbury, lead author of a paper on the findings published in the Memoir of the Society of Vertebrate Paleontology, said the tracks were "globally unparalleled". Non-avian dinosaurs

"It is extremely significant, forming the primary record of non-avian dinosaurs in the western half of the continent and providing the only glimpse of Australia's dinosaur fauna during the first half of the Early Cretaceous Period," he said.

"It's such a magical place — Australia's own Jurassic Park, in a spectacular wilderness setting."

He added, "Among the tracks is the only confirmed evidence for stegosaurs in Australia. There are also some of the largest dinosaur tracks ever recorded."

It was almost lost, with the Western Australian government in 2008 selecting the area as the preferred site for a massive liquid natural gas processing precinct.

Alarmed, the region's traditional Aboriginal custodians, the Goolarabooloo people, contacted Mr. Salisbury and his team to officially research what they knew was there. They spent more than 400 hours investigating and documenting dinosaur tracks in the Walmadany area.

"We needed the world to see what was at stake," Goolarabooloo official Phillip Roe said, explaining the dinosaur tracks formed part of a songline that extends along the coast and then inland, tracing the journey of a Dreamtime creator being called Marala, the Emu man.

Social life and ecology

Aboriginal Australians have developed and are bound by highly complex belief systems — known as the Dream-time — that interconnect the land, spirituality, law, social life and care of the environment.

A songline is one of the paths across the land which mark the route followed by localised "creator-beings", stories that have been handed down through the generations.

"Marala was the Lawgiver. He gave country the rules we need to follow. How to behave, to keep things in balance," Mr. Roe said.

National Heritage status

The area was eventually awarded National Heritage status in 2011 and the gas project subsequently collapsed. "There are thousands of tracks around Walmadany. Of these, 150 can confidently be assigned to 21 specific track types, representing four main groups of dinosaurs," Mr. Salisbury said.

"There were five different types of predatory dinosaur tracks, at least six types of tracks from long-necked herbivorous sauropods, four types of tracks from two-legged herbivorous ornithopods, and six types of tracks from armoured dinosaurs."

Most of Australia's dinosaur fossils have previously come from the eastern side of the vast country.

Japan scientist's 'typhoon turbine'

Most people look for a place to hide when a typhoon is on the horizon, but Atsushi Shimizu hopes that the fury of nature may one day help resource-poor Japan tackle its energy woes.

As thousands of Australians seek shelter from a "monster" cyclone battering the country's northern coast, the Tokyo-based engineer believes that his bladeless wind turbine can not only stand up to the raw force of these destructive storms, but also harness that power to generate electricity.

Mr. Shimizu's egg-beater shaped creation — the device has three cylinders and a central rod — responds to wind coming from any direction and does not use a propeller to spin. Instead it takes advantage of the Magnus effect, a force that sees air curve when passing by a spinning object, such as a football.

"There are some estimates that wind power has more potential here than solar," said the 37-year-old, who quit his job at an engineering firm to launch start-up Challenergy in 2014.

"But we haven't been able to turn that much of this wind power into actual energy here in Japan," he said.



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Japan turned to expensive and polluting fossil-fuel options when it shut down dozens of nuclear reactors in the wake of the 2011 Fukushima accident.

Public wary

A quake-sparked tsunami swamped the plant in Fukushima, sparking the worst atomic disaster since Chernobyl in 1986.

Six years later, a wary public is resisting government efforts to switch reactors back on — boosting interest in solar, wind and other renewable energy sources.



The amount of electricity produced by wind nearly doubled in 2016 from a year earlier, according to a recent survey by the Japan Wind Power Association.

5 new satellites this year to raise ISRO capacity

An unprecedented row of five national communication spacecraft is slated to be put in space this year with hopes of vastly cutting the gap in satellite capacity for different users.

The first of them, GSAT-9 or the South Asia Satellite, will kick off the serial launches in the first half of April from the Sriharikota space port. (Officials said they had not yet set a date for it.)

'Perceptible change'

A.S. Kiran Kumar, Chairman of the Indian Space Research Organisation, recently told The Hindu: "This year we are launching with five more communication satellites. With all of them coming up, there will definitely be a drastic, perceptible change in satellite capacity. In a matter of one year, the scene should be much better than what it is."

Mr. Kumar also said the ISRO has been taking conscious action to improve its overall communication transponders capacity; this space infrastructure supports broadcasters, telephone, Internet service and other businesses.

New satellites that are constantly put up for approval could ease up the scene in the next two to three years,

he said.

For several years now, the space agency has been beset with a capacity deficit, caused by launch failures in which satellites were destroyed; and a galloping demand from public and private sector users.

The agency says its communication fleet of 14 provides 200-odd transponder equivalents. Other 95-odd transponders have been hired on foreign satellites to support Indian direct-to-home broadcasters and the agency aims to bring them back to its satellites.

Referring to last year's success and regularisation of the GSLV Mark-II rocket programme — that can put up to 2,000-kg satellites to space — Mr. Kumar said:

"We have overcome some of the issues of launch vehicles, now we need to produce and make more use of them, and put more satellites into orbit."

GSAT-9 will ride on one such indigenous GSLV.

Historic and a rarity

Five communication spacecraft spread over less than a year is historic and a rarity for ISRO; all these years, it has launched one or two communication satellites a year. GSAT-18 was the lone communication satellite sent up in late 2016.

Tentatively, ISRO has lined up the Internet user-friendly GSAT-19 for launch around May; GSAT-17 around June; GSAT-6A, which like GSAT-6, is for the Defence forces, in September; and its largest 5,000-plus GSAT-11 around December. GSAT-17 and GSAT-11 will be launched on the European Ariane launcher.

After INSAT-4CR was moved to a new orbital slot a few months ago, its efficiency has been improved and a little extra capacity created for select use, he said.

NASA's Mars probe completes 50,000th orbit

NASA's Mars Reconnaissance Orbiter (MRO) has completed its 50,000th orbit this week, continuing to compile the most sharp-eyed global coverage ever accomplished by a camera at the Red Planet.

The orbiter continues diverse science observations of Mars and communications relay service for two active Mars rovers, Curiosity and Opportunity.

MRO's Context Camera (CTX) exploits a sweet spot in the balance between resolution and image file size.

With a resolution of about six metres per pixel in images of the Martian surface, it has provided a library of images now covering 99.1 per cent of Mars.

That is about equivalent to the land area of Earth. No other camera ever sent to Mars has photographed so much of the planet in such high resolution.



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The Camera has taken about 90,000 images since the spacecraft began examining Mars from orbit in late 2006. Each one reveals shapes of features down to sizes smaller than a tennis court, in a swath of ground about 30 kilometers wide.

"Reaching 99.1% coverage has been tricky because a number of factors, including weather conditions, coordination with other instruments, downlink limitations, and orbital constraints, tend to limit where we can image and when," said Michael Malin, Context Camera Team Leader of Malin Space Science Systems in the US.

In addition to observing nearly the entire planet at least once, the Context Camera has observed 60.4 per cent of the planet more than once. These observations aid science directly and also certify the safety of future landing sites.

"Single coverage provides a baseline we can use for comparison with future observations, as we look for changes," Malin said.

Pneumonia fighter hormone identified

Stimulating hepcidin production in patients who do not produce it well, such as people with iron overload or liver disease, may help their bodies effectively starve the bacteria to death, said researchers, including those from the University of Virginia in the United States.

Researchers found that mice that had been genetically modified to lack hepcidin were particularly susceptible to bacterial pneumonia.

Nearly all of the mice had the pneumonia bacteria spread from the lungs into their bloodstream, ultimately killing them. "It is the exact same thing that happens in people," Borna Mehrad of University of Virginia.

"The mice that lacked the hormone were not able to hide iron away from the bacteria, and we think that is why the bacteria did so well in the blood," Mr. Mehrad pointed out. Hides iron

The hormone Hepcidin is produced in the liver and limits the spread of the bacteria by hiding the iron in the blood that the bacteria need to survive and grow, said researchers

"The rate at which these organisms become resistant to antibiotics is far faster than the rate at which we come up with new antibiotics," Mr. Mehrad said.

The study was published in the journal JCI Insight.

Lok Sabha clears Finance Bill

Finance Minister Arun Jaitley invited suggestions from the

Opposition for clean and transparent funding of political parties, as the Lok Sabha cleared the finance Bill after it rejected five amendments (including those pertaining to anonymity of donors to political parties) recommended by the Raiya Sabha.

Opposition MPs accused the government of riding roughshod over Parliament over what they termed some "draconian provisions" in the Bill.

The Rajya Sabha's amendments pertained to deleting the provisions relating to powers given to taxmen to requisition books of account, power to survey and other such discretionary powers. The Upper House had also approved that there should be a cap of 7.5% of net profit of the last three financial years for donation to political parties. It had also approved an amendment asking for the disclosure of donor names to political parties. These amendments were rejected in the Lok Sabha.

Mr. Jaitley, while responding to the debate in the Lok Sabha, said he had been "hearing only adjectives like it [political funding] must be clean, it must be transparent. Please give me ideal combination of the two. We are willing to consider it. I will wait for a specific suggestion." The response came after a spirited discussion in the Lok Sabha on all the amendments.

Checks and balances

Initiating the discussion, Congress MP Deepender Hooda said there was a need for "checks and balances" on taxmen and they should put on file the objective for conducting survey, search and raid, otherwise there would be no accountability. He also demanded that a new Bill be introduced for regulating political funding. "We do not doubt the intentions of the government, but the manner in which this [changing rules for political funding via finance Bill] is being done," he said.

"The process of change in electoral funding has nothing to do with the Consolidated Fund of India," Mr. Hooda said, observing that the Finance Minister through these amendments had made the Rajya Sabha "incidental." The government without cleansing the system of political funding was trying to push it under the carpet, he said.

Electoral bonds

Trinamool Congress MP Saugata Roy said he had suggested that a separate law be brought to introduce electoral bonds as the proposal had been included in the "so-called omnibus Finance Bill."

Mr. Roy said the Rajya Sabha had approved the deletion of Clause 51 of Section 132a of the Income Tax Act — which deals with powers to taxmen for requisition of books of accounts. It was a "direct assault on the right of

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individual."

Bhartruhari Mahtab of the Biju Janata Dal sought to know since when was there a provision in the Income Tax Act, 1961, that the person whose House was being searched, or raided was disclosed the reason. Mr. Mahtab also questioned whether political parties should run with funding from the corporate sector. "The floodgates would be opened for corporate funding for political purposes," he said.

He added that political parties in power might benefit from the corporate houses but would such benefits accrue to them when they were out of power. He insisted that there should be transparency with regard to political funding and added that it was necessary to make the political system corruption-free

Oldest fossils hold clue to origin of life

Life on Earth may have originated earlier than thought and could have done so in hydrothermal vents on the ocean floor. A new study in Nature finds the origin of life at at least 3,770 million and possibly 4,290 million years ago in ferruginous sedimentary rocks, interpreted as seafloor-hydrothermal vent-related precipitates from the Nuvvuagittuq supracrustal belt of Eastern Canada. Scientists led by Dr. Dominic Papineau of University College London made the discovery.

Epifluorescence imaging of modern vent samples has shown that cylindrical casts composed of iron oxyhydroxide are formed by bacterial cells and are undeniably of biological origin (biogenic). Hence, morphologically similar tubes and filaments in ancient jaspers may be taken as evidence that the jaspers held organisms that can survive elevated temperatures.

"The fact that we found microfossils in these rocks shows that within only a few hundred million years of the accretion of the Earth, life had not only originated, but had also already diversified into specialised microorganisms living in hydrothermal vent environments where biologists have been suggesting for years that that was the site for the origin of life on Earth," noted Dr. Papineau in an email to this Correspondent.

The scientists found that NSB rocks contain graphite with ratios of the 13C/12C isotopes (the two naturally occurring stable isotopes of carbon – 13C having one more neutron than 12C) indicative of biological metabolism. The mineral graphite is composed of carbon and can form during the metamorphism of biological organic matter. It is the same for carbonate, but these minerals represent oxidised organic matter.



Rosette remnants

Microscopic spheroidally-concentric mineral structures called rosettes were found in the NSB rocks and are composed of apatite (the phosphate mineral in our teeth and bones), carbonate, and graphite. Also found were granules which are similar to rosettes, but slightly larger, up to 2 mm in diameter. The granules contain different iron minerals that indicate the former presence of chemical reactions. The scientists believe that both rosettes and granules are the mineralised products of putrefaction.

On the basis of chemical and morphological lines of evidence, the tubes, filaments and granules are best explained as remains of iron-metabolising (consuming iron) filamentous bacteria, and therefore represent the oldest life forms recognized on Earth.

"Some bacteria can literally eat iron, which is what we think these ones were doing more than 3.77 billion years ago. All these lines of evidence have also been documented in younger jasper that formed when we know life existed, as well as in modern ferruginous-siliceous (ironsilica containing) precipitates in the vicinity of hydrothermal vents. Hence, we conclude that we have found the oldest fossils known," Dr. Papineau says.

Indians find a new bacterial target for drug development

Indian researchers have found a new target that can potentially be used for developing new antibiotics that will be effective against many bacteria. The new target is made of two proteins, which form a complex that is responsible for the formation of biofilm, that perform very important functions and are critical for bacterial ability to successfully infect humans. The results were published in the journal Biofilms and Microbiomes.

Biofilm as a biological shield

Bacteria form biofilms, a kind of matrix, during infection in plants and animals. The biofilm shields the bacteria from antibiotics and helps bacteria survive harsh conditions such as extreme temperature or stress. Now a study by



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Indian researchers has found the molecular signalling events that play a crucial role in biofilm formation in Bacillus anthracis, the causative agent of anthrax.

Till now, all attention has been on developing antibiotics that target disease-causing bacteria and not the biofilm itself.

One of the basic questions that scientists have been trying to answer is how and when bacteria decide to form biofilms. "One possibility is that bacteria has sensors on the surface which senses some signal and helps in biofilm formation," says Andaleeb Sajid from the Institute of Genomics and Integrative Biology (IGIB), Delhi and one of the authors of the paper.

"It was serendipity. Our lab was working on signalling in bacteria and we were studying PrkC and similar proteins. When PrkC protein is deleted, Bacillusbacteria are unable to form biofilm. So we started studying the mechanism by which PrkC protein controls biofilm formation," she says.

"Our hypothesis is that PrkC senses some signal and transmits it from outside to inside the cell. This signal goes to other proteins like GroEL. PrkC adds phosphate group (phosphorylate) to different proteins. The mystery to biofilm formation lies with one chaperone protein called GroEL. The addition of phosphate to this tiny machine initiates a course of events within bacterial cells leading to complex biofilm formation," Dr. Sajid says.

GroEL protein's role

The team found several proteins receive signals from PrkC protein. Using cutting edge genetics, molecular biology and proteomics techniques, they confirmed that GroEL was regulated by PrkC.

"From other unrelated bacteria, we already had a clue that GroEL has a role in biofilm formation. We looked at the molecular level and found six amino acid residues where phosphate was getting added to the GroEL protein. Through a series of steps, we ascertained how important phosphorylation was for proper functioning of GroEL," says Gunjan Arora from IGIB and the first author of the paper.

"We wanted to know if the bacterium has any other compensation mechanism to form biofilm in the absence of PrkC. So we made PrkC mutant bacteria to produce more of GroEL. The bacteria were able to form biofilm even in the absence of PrkC. This experiment helped us understand that PrkC is the influencer and GroEL is key to biofilm formation," Dr. Arora says.

Both PrkC and GroEL perform very important functions and are critical for bacterial ability to successfully infect

humans. "We think GroEL-PrkC complex could be a target for developing new antibiotic that will be effective against many bacterial pathogens such as the ones that cause MRSA, TB and pneumonia. One strategy to tackle drug resistant bacteria will be to develop multi-drug regimen that combines traditional antibiotics with candidate drugs that can block bacterial signalling and prevent bio-film formation," Dr. Arora says.

Indian teams among top 16 in green race

123 teams across Asia competed in designing a fuel efficient prototype vehicle

Three teams from engineering colleges in India ranked among the top 16 across Asia in terms of the energy efficiency of their prototype vehicles in a competition held in Singapore over the last weekend.

The Shell Eco-marathon, held in Singapore for the first time this year, was a competition in which 123 college teams across Asia competed in designing a fuel efficient prototype vehicle. The winners were those whose vehicles covered the most distance on a single unit of fuel — petrol, diesel, battery power, or hydrogen fuel cell. The best performance from an Indian team came from Team AVERERA from the Indian Institute of Technology, Banaras Hindu University. The team's prototype vehicle covered 132 kilometres on one kilowatt-hour of energy.

Third attempt

"This year was our third attempt in this prestigious event," Team AVERERA said following the event. "Our car got a staggering efficiency of 131.1 km/kwhr, and we stand as the most fuel efficient car of India and the 11th-most in Asia." Team Kaizen from the Pandit Deendayal Petroleum University, also participating in the same category, clinched the 16th place with their vehicle covering 81 km on one kwhr.

The competition gave the teams a choice of three categories of fuel — gasoline (either petrol or diesel), battery electric, and hydrogen fuel cell. The competition was further divided into two types of vehicles — prototypes, which are single-seater, three-wheeled vehicles, and urban concept vehicles, which are bigger, four-wheeled, and more road-worthy. While 12 Indian teams qualified to take part in the event in Singapore, only three managed to actually set a score on the track. The third Indian team to do so, DTU Supermileage from Delhi Technological University, took part in the urban concept category, running an internal combustion engine. Their vehicle ran 81 km on one litre of fuel, placing them on the 15th spot



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in their category.

Team Panthera from the Indira Gandhi Delhi Technical University for Women, the only all-girls team in the competition, could not take part in the competition, having failed to complete the mandatory technical inspection prior to being allowed to go on the track. However, they won the off-track award for 'Perseverance and Spirit of the Event'. "Participating in Shell Eco-marathon Asia has helped prove to ourselves and others that machines and tools can equally belong in the hands of women," Kashika Tripathi from Team Panthera said. "We hope to inspire more girls back home and from around the region to be bold in pursuing careers in science and engineering."

(The correspondent was in Singapore at the invitation of Shell)

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A non-profit that works to democratise the film arena

A majority of indie film-makers get bogged down not by the creative aspects of their films, but by the practical challenges: navigating through the logistics and gathering funds to produce a feature film.

This spurred a trend of indie film-makers turning to crowd-funding to finance their ventures. But a not-for-profit organisation in Kerala, called Filmocracy Foundation, has upended this model in an attempt to democratise this non-mainstream art form. It crowdsourced money to purchase expensive production equipment—camera, lights, dolly tracks, batteries, reflectors and shoulder rigs — which it now gives to indie film-makers for almost next to nothing.

It all started six months ago, when a group of technicians and directors who were familiar with the capital intensive nature of films decided to help ease the way for film-makers who didn't have the luxury of big budgets. The Foundation selects submitted scripts and has so far enabled four feature films in Malayalam. "Filmocracy has now expanded to Tamil and Kannada films too," says Baburaj V K, one of the members of the Foundation.

The camera that it provides is a Sony A7S-2, the latest in the market. So what's the catch? If, and only if, a film generates revenue, the film-maker should share 5% of the earnings towards upgrading equipment.

Don Palathara, a film student from Sydney who made the Malayalam black comedy Savam (Corpse) in 2015 was unable to fund his next feature Vith (Seed). After trying crowd funding, he approached Filmocracy and his script was selected. "I got my production equipment, mainly cameras, from the Foundation, and shot the film in 13 days," he said.

Will cut costs

Filmocracy Foundation works like a film equipment renting agency, but does not charge cash-strapped film-makers market rates. Kannada film world's Pawan Kumar of Lucia fame said that a mid-level production would require no less than Rs. 40,000 a day to hire the production equipment, which can now be saved under the Filmoc-

racy model, resulting in a 30% reduction in costs.

Chennai-based film-maker Vijay Jayapal (his film Revelations was screened at the International Film Festival of Kerala in 2016) says there is very little space for non-mainstream productions in the Tamil arena.

The Foundation also provides a production team, but charges for this service. Arun Karthick who wrote and directed the Tamil film Sivapuranam (The Strange Case of Shiva) in 2015, which was selected for the International Film Festival Rotterdam, agrees that Filmocracy can provide the much required support system.

Mr. Karthick makes films based out of Coimbatore. What excites him about the Foundation's goal to support non-mainstream ventures is not the equipment but the production crew support. "Technicians in Chennai are more attuned to commercial film making, and are unable to gel well with indie productions. It would be great if the production crew of Filmocracy is experienced in handling indie projects," he said.

Development plan raises fears for a Le Corbusier gem

Moscow's Tsentrosoyuz building, which stands as a monument to modernist architecture, may soon be overshadowed by a large business centre

A striking combination of glass curves and straight lines — the Tsentrosoyuz building in Moscow stands as a monument to modernist architecture and the genius of its famed designer Le Corbusier.

Completed in 1936 to house the Soviet Union's ministry of light industry, the inventive office block was the first major public commission received by the legendary Swiss-French architect.



It is a symbol of the experimentalism of the early years of Communist rule — but conservationists are now worried that the historical building could be overshadowed by a 58-metre-tall business centre, being mooted for right next door.



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For the time being, there is no question of Le Corbusier's creation — renovated in 2013— being touched.

It is classified as a protected historic monument by the authorities and the current inhabitants — state statistics agency Rosstat — have no intention of moving out.

But the potential destruction of two neighbouring late 19th century residential buildings to make way for the new business centre has set some preservationists on edge.

"If this project is realised it will change in a very regrettable way the immediate environment of the Tsentrosoyuz," Antoine Picon, the president of the Fondation Le Corbusier, wrote in a letter sent in January to Russia's Culture Minister and the Mayor of Moscow.

"The design took into account the make-up of the buildings that existed at the time," he wrote. Mr. Picon said that he was still to receive a reply to his letter.

The Moscow building applied some of Le Corbusier's architectural principles, including a curtain-wall façade and flat roof, and was made of concrete and red tuff stone, a type of volcanic rock.

Utilitarian principle

One of the fathers of modern architecture, Le Corbusier's ideas about utilitarian concrete buildings have altered the face of cities across the planet and have had an equally profound influence on urban planning.

According to preservation group, Arkhnadzor, the buildings slated to make way for the business centre are owned by Russia's defence ministry, but a private investor, Fin.Kom, now holds the rights to develop the 15,000-sq.m. site. Moscow's cultural heritage authorities said that they have not yet "received or agreed to" any application for work at the site. But they confirmed that the buildings were not classified for preservation and could, in principle, be torn down. "We do not currently have knowledge of any threats to the Tsentrosoyuz," they added.

But in a sign that preparations for the development could be speeding up, a group of state-approved planning experts last year issued a favourable ruling for the developers.

They insisted that, given the "enormous changes that have taken place over the past quarter-century" in the area, the two residential buildings are now "obsolete". City officials must still approve the experts' findings.

But in December, city hall published draft development plans that included replacing two old residential blocks with a 58-metre-high building.

For those fighting to protect Moscow's architectural heritage, these moves are a major blow. Some 17 Le Corbus-

ier projects around the world were added to UNESCO's World Heritage List in 2016 and, while Tsentrosoyuz is not among them, it is viewed as a potential future candidate. Experts say erecting the business centre next door would likely dash those hopes.

"To put a construction that will be twice as big next to such a building... that means reshaping the whole district and disfiguring its appearance even more," said Konstantin Mikhailov, of Arkhnadzor, which works to preserve Russian heritage.

Ancient copper coins found in central Kashmir

Over 800 coins dating back to 11th, 12th Century discovered in Budgam district

The Jammu and Kashmir State Archaeology Department has discovered over 800 coins dating back to the 11th, 12th Century in Budgam district.

'Rare discovery'

Described as a "rare numismatic discovery", the coins are said to be one of the largest recoveries from the district. A team, which was supervised by M.S. Zahid, Director, Archives, Archaeology and Museum, recovered the copper coins from a plateau in Nonar village in Khan Sahab,. According to the department, the plateau is rich in archaeological nature and had been under the department's consideration for a while.

"The coins were exposed during a trial excavation. Archaeologists from the Archives Archaeology and Museums Department are investigating the findings. As per a preliminary report, the coins date back to the 11th and 12th Century when the Yassakara and Lohora dynasties ruled over Kashmir," said a State Archaeology Department spokesperson.

Undergoing treatment

The coins are now being given chemical treatment at the Shri Pratap Singh Museum in Lal Mandi, Srinagar.

After this, they will be identified and deciphered by departmental expert Peer Mohammad Igbal.

"Research on these coins will be shared with heritage lovers and archaeologists. It will certainly help fill up gaps in the numismatic collection of our museums," said the official.

Dr. Zahid said: "The department has made 11 discoveries in the last 13 years. Of these, four pertained to the numismatic field."

The Shri Pratap Singh Museum houses the largest collection of ancient copper, silver and gold coins, estimated at over 70,000.



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'Engine issues won't impact aircraft deliveries in India'

Airbus CEO Tom Enders, termed the recent troubles with the Pratt & Whitney engines used in the aircraft manufacturer's A320neo aircraft "unfortunate" but said it would not impact aircraft deliveries.

Two incidents of fire were recently reported in A320neo aircraft using the engine — one with GoAir and the other with IndiGo — in the last two months.

The engine has also posed challenges related to startup issues and erroneous technical messages to the pilot.

"I have not heard from any airline which is dissatisfied with the way we are dealing with the situation with respect to any operational disruptions," Mr. Enders said, adding the plane maker is set to deliver one aircraft a week, on average, in the next 10 years in India.

"The incidents are unfortunate. The engines have some teething problems, some maturity problems. This is something on which we are working very closely with the airline customers, with the engine maker (Pratt & Whitney) of course, and the authorities, and it is going very smooth. I don't see this impacting our deliveries in India," Mr. Enders said here at the ground-breaking ceremony of the Airbus India Training Centre.



The Airbus chief also said it had plans to increase its helicopter footprint in commercial and military areas in India. Although Mr. Enders said Airbus had no plans to set up final assembly lines for aircraft in India, he hinted at a possible assembly line for helicopters.

Helicopter plans

"The helicopter market in India is very important for us. It's a great place to sell, manufacture and assemble helicopters. Our plans to sell Airbus helicopters (in India) are no less ambitious than the commercial aircraft," Mr. Enders said.

The training centre, to be operational by end-2018, will be Airbus's first pilot-training facility in Asia. It will have

two A320 full-flight simulators initially, to be gradually increased to six.

The centre can initially train more than 800 pilots and 200 maintenance engineers annually.

'Buddhism relevant in today's era'

At Nalanda conclave, President Mukherjee says no part of the world is free from scourge of violence

Addressing the closing ceremony of a three-day International Buddhist Conclave in Rajgir in Nalanda, President Pranab Mukherjee , said the philosophy of Buddhism is as relevant today as ever in the era of violence, "especially as the world grapples with the complex problems that seem intractable".

Bihar Chief Minister Nitish Kumar and Governor Ram Nath Kovind too addressed the conclave, organised by the Nava Nalanda Mahavihara.

The conclave on "Buddhism in the 21st Century — perspectives and responses to Global Challenges and Crises" was attended by hundreds of Buddhist scholars, monks and delegates from 35 countries, with a special address by the Dalai Lama,.

"No part of the world today is free from the scourge of violence...this crisis is all pervasive," the President said, underscoring that "Buddhism has had a deep influence on human civilization."

Stating that "Nalanda reflects our ancient educational system which attracted mighty minds in the form of students and teachers in ancient India," the President said, "Education means the development of the mind and requires an atmosphere which is conducive to free exchange of ideas."

Mr Mukherjee urged the delegates to "redouble their efforts to promote the simple Truths and the Path of the Buddha that show we can be better citizens and contribute to making our land a better place to live in".

Lauds University

The President also expressed happiness that the Nava Nalanda Mahavihara, a deemed University, has recently published the entire Pali Tripitaka (texts or words of the Buddha) in 41 volumes in Devanagari script. He further congratulated the University for opening the first ever Department of Buddhist Sciences in the world.

Chief Minister Nitish Kumar too highlighted the tenets of Buddhism and said they were relevant in today's world of violence and distrust. Mr Kumar also proposed to open a

"Conflict Resolution Centre" at Rajgir.

Earlier ,, the Dalai Lama visited the Nava Nalanda Mahavihara after a gap of 60 years and planted a sapling



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of the Bodhi Tree. He inaugurated the Nagajurna Faculty Building and Santarakshita Hostel. Mentioning the tradition of Nalanda, his Holiness said Dignaga and Dharmakriti's contribution have been unforgettable for the world.

India seeks to jump 40 places in World Bank's Doing Business rankings

India wants to reach the 90th rank in World Bank's Doing Business rankings for 2017-18 and 30th by 2020, in its endeavour to improve ease of doing business

NFAI acquires a rich collection of world cinema

The films include acclaimed French, Danish and Iranian titles

In a significant acquisition, the National Film Archive of India (NFAI) added a collection of prize-winning foreign films to its trove, comprising the best of world cinema.

All the titles are internationally acclaimed, having been praised at prestigious festivals like the Cannes Film Festival, the Academy Awards, the Golden Globe Awards, the British Academy Film Awards (BAFTA), and the Robert Awards (the Danish equivalent of the Academy Awards). The collection includes three films from France: Lemming (2005), Les Invasions Barbares (2003) and The Beat That My Heart Skipped (2005); L'enfant (2005) from Belgium; Danish political thriller Kongekabale (2004), and Gori Vatra (2004), from Bosnia and Herzegovina.

The films were acquired from Narayan Srinivasan, a resident of Mumbai.

Lemming is a psychological thriller, starring British actress Charlotte Rampling. It follows a strange dinner party, after which the attendees make discoveries about their seemingly well-ordered hosts. Les Invasions Barbares or 'The Barbarian Invasions', directed by Denys Arcand, is a comedy-drama structured around a terminally-ill professor who attempts to reconcile with his son, a man with a radically different outlook towards life. The film bagged the Academy Award in 2003 under the Best Foreign Language Film category.

The Beat That My Heart Skipped, by French filmmaker Jacques Audiard, follows the life of a deceitful young real-tor and his dream of becoming a concert pianist.

Gori Vatra or 'Fuse' (2003), a comedy-drama, depicts the aftermath of the Bosnian War and then United States President Bill Clinton's impending visit to the war-torn region.

The Dardenne brothers' (Jean-Pierre and Luc) heart-

rending social dramal'enfant bagged the Palme D'Or at the 2005 Cannes Film Festival. It revolves around a young couple trying to fend for themselves.

A second lot was acquired from the Iranian Embassy in Mumbai. The collection includes acclaimed Iranian filmmaker Mohsen Makhmalbaf's The Peddler (1989), and the documentary The Afghan Alphabet (2002). The Peddler (or 'Dastforosh' in the original Iraninan), which transposed stories by Italian author Alberto Moravia and set them in Iran, drew the world's attention to Mr. Makhmalbaf's talent, and can be considered his breakthrough film. Other titles include Pouran Derakhshandeh's Wet Dream (2005) and Shahram Assadi's Avinar (1991).

Prakash Magdum, Director, NFAI, said, "We are proud to have a representative collection of world cinema, and are thrilled to acquire these notable titles, which have immensely enriched our collection."

Court dismisses bail plea of Stayzilla co-founder Vasupal

Nine days after Yogendra Vasupal, co-founder of online home stay aggregator Stayzilla, was arrested by the Central Crime Branch (CCB), a special court for CCB-CBCID cases in Chennai dismissed the bail application moved by the start-up entrepreneur.

Dismissing his bail plea, Special Metropolitan Magistrate M.M. Kabir granted one-day custody of Mr. Vasupal to the CCB. "The CCB is granted custody of the accused from 3 p.m. today [Thursday] till 3 p.m. Friday," the judge said. ,, during the arguments on his bail plea, Mr. Vasupal contended that the criminal charges "foisted" against him were part of pressure tactics to settle a civil dispute between him and the complainant, C.S. Aditya of Jigsaw Advertising and Solutions Private Limited.

Criminal proceedings

On March 14, the CCB initiated criminal proceedings against Mr. Vasupal based on a complaint from Mr. Aditya, alleging that Stayzilla had failed to make payments for the advertising services rendered by his company since February 2016 and has defrauded him of Rs. 1.69 crore. A case was registered by the CCB against Mr. Vasupal and his partner Sarjit Singhi (absconding) for offences under Sections 406 (Punishment for criminal breach of trust), 420 (Cheating), 506 (i) (Criminal Intimidation) of the IPC.

Moving the bail application on behalf of the accused, senior counsel B. Kumar said, "There is no written contract for the services rendered. It was all an understanding be-



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tween the parties."

Contending that the whole dispute was of a civil nature, Mr. Kumar said the least police should have done was to have enquired the petitioner about what the dispute was actually about.

Opposing the application, Additional Public Prosecutor S. Manual Arasu said, "Prima facie this is a clear case of cheating. The other accused is absconding and is yet to be arrested and it is too early to allow the application considering the gravity of the offence."

Pointing out that the CCB is receiving several other complaints against the accused, Mr. Manual argued that there are high chances of the accused tampering with witness and evidence if enlarged on bail.

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