

● POLITY

● ECONOMICS

● TECHNOLOGY

● ECOLOGY

INTERNAL SECURITY

5 Army soldiers killed in militant ambush in J&K



Five Army soldiers were killed and five injured in an ambush by militants in Kathua district, Jammu and Kashmir. The attack occurred when an Army convoy from the Army's 9 Corps (Rising Star Corps) came under fire and grenade attacks at Jenda Nallah in Badnota village. In response, the Army engaged the militants in a gunfight and deployed reinforcements, including airdropping paratroopers near the encounter site. The attack came on the death anniversary of Hizbul Mujahideen 'commander' Burhan Wani, who was killed in an encounter on July 8, 2016, in south Kashmir. The attack is also worrying as it coincided with the visit of Chief of Army Staff General Upendra Dwivedi just four days ago.

POLITY & GOVERNANCE

SC says cancellation of NEET-UG will be 'extreme last resort'

The Supreme Court on Monday said the cancellation of the undergraduate National Eligibility-cum-Entrance Test (NEET-UG) 2024 in its entirety was an "extreme last resort" as it affected the lives of over 23 lakh students who wrote the exam for medical admissions. Chief Justice of India D.Y. Chandrachud concluded that the fact that questions were leaked, and the sanctity of the exam was compromised was "beyond question".

The Chief Justice emphasized that decisions regarding the necessity of a re-test are guided by established legal principles. Courts must assess whether breaches in exam protocols are widespread and compromise the exam's integrity or if they are localized to specific centers. If it's impossible to distinguish between affected and unaffected students, a re-examination may be necessary. However, if breaches are limited, especially considering the large number of students involved, a re-test may not be justified. The Supreme Court instructed the National Testing Agency (NTA) to provide complete transparency in the matter. It urged the government and NTA to utilize technology and legal expertise to identify those responsible for any wrongdoing.

The court directed the National Testing Agency (NTA) to submit a response by Thursday, the next hearing date, addressing specific queries from the Bench. These include details on when and where the exam leaks were first detected, how the leaked questions were distributed, the timeline between the leak discovery and the actual exam on May 5, efforts made to identify those who benefited from the leak, and the methods employed to identify these candidates.

CRACKING
CIVIL SERVICES
NO MORE A
DIFFICULT TASK

COME JOIN WITH US



**MASTER
THE NEW
LEARNING
MANTRA**

www.vedhikiasacademy.org

POLITY & GOVERNANCE

Hemant Soren wins trust vote, inducts 11 Ministers into Jharkhand Cabinet



Eleven Ministers were inducted into the Cabinet of Chief Minister Hemant Soren soon after he won the floor test in the Jharkhand Assembly with 45 votes on Monday. Six Ministers are from the Jharkhand Mukti Morcha (JMM), four from the Congress, and one from the Rashtriya Janata Dal (RJD). Governor C.P. Radhakrishnan administered the oath of office and secrecy to them.

With an eye on the upcoming Assembly election, Mr. Soren has given a strong message by dropping his younger brother Basant Soren, who was earlier part of the Cabinet. He has also not given a Cabinet post to his wife, Kalpana Murmu Soren, a first-time MLA. The Cabinet has a balanced representation, including tribal persons, Muslims and Other Backward Classes.

Oppn. stages walkout

Earlier, the Hemant Soren government won the trust vote on the floor of the Assembly. Forty-five JMM-led alliance legislators voted for the motion and there were zero votes against it after the Opposition walked out and did not take part in the voting.

SCIENCE & TECHNOLOGY

Indigenous HPV vaccine, the rhetoric and the reality

India's public health sphere was subject recently to a one-sided discourse on how vaccination against the human papilloma virus (HPV) prevents cervical cancer and consequent death. Interestingly, it is not proven beyond doubt that HPV causes cervical cancer, as only a couple of strains out of 200 strains that infect humans are somehow 'associated' with 'precancerous lesions'. Most of the women who die of cervical cancer are HPV positive, but most of the men and women who are HPV positive do not get virus-induced cancer, let alone die due to it.

The Population Based Cancer Registries (PBCR) of India and the International Agency for Research on Cancer (IARC) have acknowledged the declining trends of cervical cancer prevalence in India and the globe, regardless of vaccine coverage or efficacy. Therefore, the timing of the overzealous push for 'universal' vaccination of girls against HPV does serious injustice to the more justifiable 'selective' vaccination of high-risk groups, considering its

sexual transmission, unlike air-borne, water-borne or contagious diseases. An extremely important western assumption behind targeting pre-puberty girls for this vaccine is that teenage girls indulging in promiscuous physical relations and becoming carriers of the virus are a huge risk factor for the entire adult population. This is a huge moral conundrum in Indian society and even reeks of patriarchy, as men can be carriers too.

The path of vaccine manufacture

But this article focuses on the questionable timing, promotion and pricing of indigenous HPV vaccines, assuming some high-risk populations need it. The Serum Institute of India (SII) developed 'Cervavac' and promoted it as an indigenous and affordable vaccine. It is pertinent to ask why it took nearly two decades for the 'indigenous' vaccine after the introduction of a patented HPV vaccine in the United States, Australia and elsewhere in the Global North. Cervavac uses similar techniques, deploying virus-like particles (VLPs) produced using recombinant deoxyribose nucleic acid (rDNA) techniques to generate an immune response against HPV infections. The vaccine against cervical cancer is only the second rDNA vaccine in the world using the techniques of the early 1970s, the first being the vaccine against Hepatitis-B.

Prior to the development of rDNA methods, vaccine manufacture was largely a charitable or public sector enterprise with universal sharing of strains/techniques and little or no place for patenting of vaccines. The whole scenario changed with the amendment of the U.S. Patent Act in the 1980s allowing the patenting of genetically modified organisms (GMOs) and life processes, and the introduction of Bayh-Dole Act to legalise publicly funded scientists setting up companies. With the eventual globalisation of U.S. patent laws through the World Trade Organization Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) since 1995, vaccine development and innovation changed drastically.

Vaccine innovation underwent significant changes in terms of its organisation, patenting strategies and even distribution practices in academia and industry. An important element of this 'value addition' is legalisation of the conversion of public 'research' into private 'development' and its monopolisation by patenting. This facilitated the change of hands in vaccine development and production from the public to private sector the world over, aided by the politics of liberalisation and globalisation. This was elaborated by William Muraskin in his book, *The Politics of International Health: The Children's Vaccine Initiative and the Struggle to Develop Vaccines for the Third World*, and, more recently, in a collection edited by Stuart Blume and Baptiste Baylac-Paouly, titled *Immunization and States: The Politics of Making Vaccine*, that included the Indian scenario. Developed under these new innovation conditions was the first vaccine for cervical cancer marketed as Gardasil by Merck and Cervarix by Glaxo Smithkline, globally.

Impact on India

These developments impacted the Indian pharmaceutical and biotech industry in general and vaccine development in particular. Earlier, the Indian Patent Act (1970) abolished patenting products and allowed only processes, that too excluding agricultural and biological patents. This enabled the growth of domestic industries to become the pharmacy of the world within two decades. They manufactured low-cost generic drugs and vaccines,

often within a couple of years after they were introduced in the global north. The first rDNA vaccine produced in India for hepatitis-B not only entered the market within five years under the process patent but also dropped the price to an order of magnitude cheaper than in the global north.

On the other hand, under the current product patent regime, a locally made DNA vaccine against cervical cancer had to wait for two decades till the expiry of the product patents before its indigenous 'generic' version was made available. The expiry of key patents of the HPV vaccine was recently reported by the World Health Organization and a highly cited article published in Nature Biotechnology.

While multinational patent monopolies largely explain the delay in developing a local vaccine, what still remains unexplained is the exorbitant current market price of Cervavac. Prior to the domestically manufactured vaccine, two prominent multinational vaccines (Gardasil and Cervarix) were sold in India for ₹4,000 a dose. Even at about half that price, a domestically manufactured vaccine in the private market remains largely unaffordable, keeping the vaccine out of reach for a large section of the target population. What is even more worrisome is the unreasonable pricing strategy itself, as the price does not truly reflect the production costs. First, Indian industry is well equipped infrastructurally to make rDNA products at scale, particularly vaccines. Second, Cervavac development was funded heavily, which included nearly \$7 million by the Bill & Melinda Gates Foundation (BMGF) under its Grand Challenges Fund. Third, the infrastructure used in producing Cervavac was also a part of the production facility for the Covishield vaccine, built with significant support from the Indian government's Department of Biotechnology.

Such a shared use of resources must have reduced the actual input costs to enable more affordable pricing, thus raising doubts on the pricing strategy of the SII. It seems to be designed to capitalise on high-margins even at low trade volumes, rather than using economies of scale and low margin pricing to boost volume trade. This is essential for public health, as high population coverage is crucial for the success of any vaccine.

Competing vaccines are scant

Another serious concern is the unavailability of other competing vaccines from domestic players, which could have put downward pressure on the current price of Cervavac. This is surprising given the fact that at least four different vaccine candidates were in the pipeline since 2010 from other domestic players. Shantha Biotechnics, Hyderabad, which produced a rDNA Hepatitis-B vaccine at a cheaper price pledged to bring an affordable HPV vaccine to the market by 2015, after it acquired licences from the National Institutes of Health and Johns Hopkins University in the U.S. This may have collapsed after Shanta was acquired by Sanofi Pasteur, Paris, which itself was associated with Merck's Gardasil in several ways. Nonetheless, Shantha Biotechnics, Indian Immunologicals, and Bharat Biotech, Hyderabad, and Zydus Cadila, Ahmedabad have all announced their HPV vaccines in the pipeline around the same period. Their unavailability despite the expiry of the earlier patent barrier is a matter of concern.

The Cervavac vaccine is currently recommended universally under the government vaccination programme for girls between the ages of nine to 26 at a price of ₹500 for two doses, which is expensive even for the government. For those millions

who are left out of the government coverage, the retail price of Cervavac will shoot up four-fold to ₹2,000, in a country that has low insurance penetration and catastrophically huge out-of-pocket health expenditures. Therefore, even as the need for universal HPV vaccination to prevent cervical cancer remains an unresolved doubt, the lack of competition and opaque pricing merits investigation in the larger public interest.

INTERNATIONAL RELATIONS

A brewing duel amid Manila's dual engagement

The United States-Philippines relationship has seen an upswing since Mr. Marcos Jr.'s landslide electoral victory in 2022, also marking the return of the Marcos family to Malacañang Palace (the official residence of the President of the Philippines) after 36 years.

Mr. Marcos Jr. was in full form in Singapore recently, at the International Institute for Strategic Studies's Shangri-La Dialogue, an annual defence forum. He sharply criticised China's "illegal, coercive, aggressive, and deceptive actions" in the South China Sea, a region that has been the subject of increasing tensions due to territorial disputes and competing claims.

China, on the other hand, has continued to categorise Mr. Marcos Jr. alongside former President Tsai Ing-wen of Taiwan as an American lackey, bent on inviting chaos and conflict in the region.

Towards the latter half of 2023, images of the Chinese maritime militia bumping into and using water cannons against Philippine fishing boats raised tensions in the region. Since then, the prospects of a conflict at sea in the region have only gained momentum. From June 15 onwards, China's Coastguard has planned to start arresting "trespassers" in the areas it claims. In response, Mr. Marcos Jr. has warned that any Filipino killed by the "willful" use of Chinese force would be considered an "act of war".

American stakes in the Philippines

While the U.S. appreciates Mr. Marcos Jr.'s bravado, it remains cautious. America has had a Mutual Defense Treaty with the Philippines from 1951. However, it is wary of opening up another front and becoming entangled in a naval battle with China, its peer competitor. America has about 4,00,000 citizens, including many military veterans, residing in the Philippines. The only U.S. Veterans Administration regional office outside the U.S. is located in Manila.

With its geographic location in the South China Sea, the Philippines is an indispensable actor in the U.S.'s Indo-Pacific strategy to counter China.

To meet its security needs, the Philippines is focused on enhancing its surveillance and power projection capabilities. In January, Mr. Marcos Jr. approved a \$35 billion acquisition list that the armed forces put out.

It has revived plans to modernise Subic Bay, once a formidable U.S. Navy installation, and the nearby Clark Air Base, formerly the largest U.S. Air Force installation overseas. Manila intends to use Subic Bay for Jose Rizal-class missile frigates, Del Pilar-class offshore patrol ships, and Tarlac-class landing docks. Subic Bay International Airport has been identified as a staging point for "Joint Air-Sea-Land Operations" under the Philippines'

strategic basing plan.

In 1992, the United States withdrew from Subic Bay and Clark Air Base in the Philippines due to local opposition, fiscal pressures, and diminished strategic necessity in anticipation of the Soviet Union's withdrawal from Cam Ranh Bay in Vietnam. However, U.S. military activities in the bay have increased considerably in recent years. The U.S. is not only using the place for rest and recuperation of its sailors operating in the Indo-Pacific but also for the maintenance of its ships.

Quad support

Mr. Marcos Jr. is leveraging the support he receives from Quad partners (India, Australia, Japan and the U.S.) to transform his country's forces. In April this year, India delivered the first set of BrahMos launchers and missiles ordered by the Philippines as part of a \$374.96 million deal signed in January 2022.

India has officially given a statement of full support to the 2016 Tribunal ruling, which had found China guilty of breaching the Philippines' exclusive economic zone and violating the UN Convention on the Law of the Sea. China expediently ignored the ruling.

Last year, under Japan's Official Security Assistance (OSA) military aid scheme, the Philippine Navy received \$4 million worth of coastal surveillance radars. Tokyo is also engaged in helping the growth of the Philippines Coast Guard. Japan pledged to fund seven patrol ships, which are in addition to the 12 ships handed over, following a diplomatic visit to Manila in November.

A strong coast guard will help the Philippine Navy to focus more on military missions than enforcing the country's Exclusive Economic Zone. South Korean shipyards are also being approached for the development of coast guard vessels. Australia is the Philippines' second largest bilateral grant aid donor.

Ironically, even as the Philippines prepares to confront the PLA (Navy), it remains reliant on Beijing's financial support. China committed a total of \$9.1 billion in state-directed finance to the Gloria Arroyo and Rodrigo Duterte administrations between 2000 and 2022. Notably, Mr. Duterte's daughter, Sara Duterte, is the Vice-President of the Philippines.

It is uncertain how long this dual engagement, i.e., military assistance from the U.S. and developmental aid from China, will maintain the balance. However, Mr. Marcos Jr.'s increasing friction with China is likely to affect financial flows from Beijing while strengthening U.S.-Philippines military ties as well as its relative importance for Quad operations.

POLITY & GOVERNANCE

What are new provisions for police officers?

The new criminal laws have become effective from July 1. SOPs have been issued by the Bureau of Police Research and Development (BPRD) to guide police officers in implementing the new provisions.

What are rules for registering FIRs?

The officer in-charge of a police station cannot refuse to register an FIR on the basis of lack of jurisdiction or disputed jurisdiction. He is legally bound to register (popularly known as a zero FIR) and transfer such a case to the respective police station. Though this practice was followed earlier too, the Bharatiya Nagarik Suraksha Sanhita (BNSS) now has a direct provision under Section 173; non-registration of FIRs may attract penal action under various sections.

Additionally, while information can be given orally or in writing as before, it may also be given by electronic means which is to be taken on record by the officer in-charge if it is signed within three days by the person giving it. While no one can stop a police officer from enquiring into the information immediately if it is of a sensitive nature, the electronic mode by which information may be given must be decided by the agencies, such as the Crime and Criminal Tracking Network and Systems (CCTNS) portal, the police website or officially published email IDs.

What about videography?

The BNSS mandates videography during a search conducted by the police under Section 185; of the scene of crime (Section 176); and of the process of conducting a search of a place or taking possession of any property (Section 105). Since these are mandatory provisions, any negligence on the part of the police may benefit the accused persons. Therefore, investigating officers (IOs) must be provided electronic devices and proper training to discharge such functions.

A cloud-based mobile app, 'eSakshya' has been designed by the National Informatics Centre for enforcement agencies, which allows capturing multiple photos and videos. The photographs of witnesses and selfies of IOs may be captured using this app. Each item is geo-tagged and time-stamped to ensure the integrity of data. Since eSakshya is an initiative under the Inter-operable Criminal Justice System (ICJS), this data will be available to other agencies such as the judiciary, prosecution and cyber forensic experts.

What about provisions of arrest?

Information about arrested persons is to be mandatorily displayed in police stations. Section 37 of the BNSS requires a police officer in every police station, not below the rank of Assistant Sub-Inspector, to be responsible for maintaining and prominently displaying information about the arrested persons. Therefore, boards (including in digital mode) containing names, addresses and the nature of the offence must be put up outside police stations and district control rooms.

Some restriction has been imposed on the arrest of frail or sick and elderly persons. Section 35(7) states that the permission of an officer not below the rank of DySP is mandatory for arresting a person charged with an offence punishable for imprisonment of less than three years if such person is infirm or is above 60 years of age. Similarly, though the law now provides for the use of handcuffs in



VEDHIK
IAS ACADEMY
The New Learning Mantra

**Comprehensive Coaching For
568 Government Jobs**

www.vedhikiasacademy.org

WE AIM TO INSPIRE YOU

certain cases, the IOs must use them cautiously. The Supreme Court has laid down that handcuffing may be done only when there is a possibility of escaping from custody or causing harm to himself or others.

What about timelines?

In case of medical examination of a victim of rape, the registered medical practitioner is mandated under Section 184 (6) of the BNSS to forward the medical report to the IO within seven days, who shall forward it to the magistrate concerned. Therefore, doctors must be sensitised about the new law. The investigation of POCSO cases is required to be completed within two months of recording the information of the offence. Earlier, this time limit was only for rape cases under the Indian Penal Code.

A new provision under Section 193(3)(h) requires the IO to maintain the sequence of custody of an electronic device. Though maintaining a chain of custody is important for every seizure, emphasis is laid on electronic devices because they are sensitive pieces of evidence and more vulnerable to tampering. While every police officer is required to upgrade his skills about maintaining integrity of electronic records, the task of the (cyber) expert is likely to increase with many of the mandatory provisions coming into effect.

This sub-section also imposes a duty to inform the progress of the investigation within 90 days to the informant or victim.

Section 113 introduced in the Bharatiya Nyaya Sanhita (BNS) defines what is a 'terrorist act' and imposes the duty on an officer, not below the rank of Superintendent of Police (SP), to decide whether to register a case under this Section or the UAPA. Since, no guidelines are given to exercise this discretion, the SP may inter-alia consider factors such as whether the terrorist organisation is notified under the UAPA, approximate time needed to complete investigation, the rank of the IO and the level of scrutiny required, and how dangerous the accused person is.

SCIENCE & TECHNOLOGY

What are the laws preventing tree felling in Delhi?

On June 26, a Vacation Bench of the Supreme Court (SC) directed the Delhi government and Delhi Development Authority (DDA) to take effective steps to enhance the national capital's green cover amidst the extreme heat wave.

What is the extent of the green cover?

According to the 'India State of Forest Report 2021' (ISFR) published by the Forest Survey of India (FSI), Delhi has the largest forest cover among seven major megacities, with 195 sq. km, followed by Mumbai (110.77 sq. km) and Bengaluru (89.02 sq. km). Delhi's forest cover constitutes 13.15% of its geographical area, while its tree cover spans 147 sq. km (9.91%). Despite extensive urban development, the city's overall green cover (forest and tree cover) has increased from 151 sq. km (10.2%) in 2001 to 342 sq. km (23.6%) in 2021.

What about their protection?

The Delhi Preservation of Trees Act (DPTA), 1994 provides legal protection to trees in the national capital against actions that could harm their growth or regeneration. According to Section 2 (h) of the Act, "to fell a tree" includes severing the trunk from the roots, uprooting, bulldozing, cutting, girdling, lopping, pollarding, applying

arboricides, burning, or any other damaging method. Under Section 8, no tree or forest produce can be removed on any land without prior permission from the 'Tree Officer', even on privately owned property. The 'Tree Officer' may grant permission after inspection and must respond within 60 days. Any person violating this Act may face imprisonment for up to one year, a fine up to ₹1,000, or both. Furthermore, the Act outlines a 'Tree Authority' tasked with conducting tree censuses, managing nurseries, and reviewing government and private construction proposals, among other responsibilities. In addition, Delhi's Tree Transplantation Policy, 2020 mandates that 80% of identified trees slated for felling must be transplanted. However, an affidavit submitted by the government to the Delhi High Court in 2022 disclosed that out of the 16,461 transplanted trees since the policy's notification, only 33.33% had survived.

What is the case against the DDA?

The apex court is hearing a contempt petition against DDA's Vice Chairman Subhashish Panda for the felling of about 1,100 trees, in violation of the SC's orders, for road expansion in the ridge area, which falls under the eco-sensitive zone around Asola-Bhati Wildlife Sanctuary. On March 4, the DDA submitted an application to the SC seeking permission to cut trees for the construction of the Gaushala Road. However, the court directed the DDA to re-examine the proposal with the help of field experts. During the proceedings, an affidavit from the DDA's Vice Chairman revealed that tree felling had already begun on February 16 and continued for ten days. So, by February 26, all intended trees were cut down even before the application reached the SC. This material fact was not disclosed when the court heard the application on March 4. Despite knowing no trees could be touched without the court's sanction, the DDA misled the court and acted in bad faith by seeking permission only after the tree felling work. While probing deeper to set accountability, the Bench pulled up DDA for not providing records of the Delhi LG's (Chairman of the DDA) February 3 visit to the site, which allegedly led to the tree felling order. The Delhi government was also reprimanded for usurping the Tree Officer's authority in granting permission.

The apex court has halted the DDA's work and directed a team from the FSI to assess the number of trees cut and the environmental damage.

What next for Delhi?

Amid an extreme heatwave, rampant tree felling in the world's second most populous city will only worsen hardships. Urban forests act as carbon sinks, absorbing emissions and filtering pollutants, essential for cities like Delhi with persistently unhealthy air quality indices. Trees reduce the urban heat island effect by lowering temperatures through shading and evapotranspiration. Among other reforms, the government should consider increasing the penalty from ₹1,000 to ₹5,000 under the DPTA, 1994, aligning it with current realities.



+91 9383 432 123
+91 7777 875 588
0484 452 77 77

**Excellence through
Education & Dedication**

INTERNATIONAL RELATIONS

Ahead of talks with Putin, PM says will 'back' peace in region



The solution to the Russia-Ukraine war will not be “found on the battlefield” is the message Prime Minister Narendra Modi is expected to deliver, even as he and Russian President Vladimir Putin meet on Tuesday for structured talks and the 22nd annual bilateral summit. The two leaders met on Monday night for a personal dinner hosted by Mr. Putin at his Dacha in the Moscow suburb of Novo-Ogaryovo to set the tone for the visit, embracing each other and discussing Mr. Modi’s return to office for a third term. In formal talks on Tuesday, economic issues and the issue of discharge of Indians “mised” into joining the Russian military on the Ukraine warfront will be at the top of India’s agenda.

Mr. Modi arrived in Moscow on Monday, and was received at the Vnukovo-II VIP airport by Russian First Deputy Prime Minister Denis Manturov, indicating the importance of his visit. It will be the first time the leaders will hold the annual summit in three years, and it is Mr. Modi’s first bilateral visit abroad after re-assuming office in June.

“We expect economic issues to be the driver of the agenda,” a government source said here, explaining that two years of the Russia-Ukraine conflict have led to many geo-economic changes that the two leaders would have to “take stock” of. “It is clear that no solution can be found to the conflict on the battlefield — and this is also the view of the global south. Both parties must be on the table to find a solution through dialogue and diplomacy,” the source said, about the stance Mr. Modi is expected to take. While officials have dismissed comparisons on the timing of the summit, it will take place even as NATO leaders gather in Washington for a special summit where Ukrainian President Volodymyr Zelenskyy and Asian countries backing western sanctions against Russia are invited.

In a departure statement before leaving for Moscow, Mr. Modi had said that he looked forward to a full review of bilateral ties and perspectives on global and regional issues with his “friend President Vladimir Putin”. “We seek to play a supportive role for a peaceful and stable region,” Mr. Modi added, indicating that India may not mediate, but remains ready to support the key stakeholders in resolving their issues.

According to sources, India and Russia will sign “several” documents at the end of the talks on Tuesday, including a comprehensive joint statement, a vision statement, the future course on energy and trade, cooperation on investments in Russia’s Far

East and a number of MoUs. The two sides are also discussing India’s desire to open new consulates in Russia, the sources said. The two sides are expected to announce an agreement on facilitating trade, while officials are hopeful they will see more predictable long-term commitments on the issue of energy supplies from Russia.

On the military front, no new agreements are expected to be announced. Signing enabling MoUs to take forward the 2019 agreements on cooperation in Russia’s Far East, that were inked during the 20th Annual Summit in Vladivostok is expected to be a priority as well

Mr. Modi will begin the day on Tuesday with an address to the Indian community.

SCIENCE & TECHNOLOGY

Hurdles in importing diamonds pose a quantum block to research ambition

The Customs Department’s decision on who can and cannot import diamonds is taking some of the lustre off the National Quantum Mission (NQM), a ₹ 6,000 Cr. initiative, which may help India take the lead in the emerging field of quantum technologies.

Quantum technology is a broad term applicable to multiple avenues of research. It hinges on being able to exploit the “quantum-mechanical” properties of matter inside the atom and develop entirely new kinds of computers, sensors and encryption systems that, proponents say, will make our existing devices primitive in comparison.

However, this also means that much knowledge on harnessing quantum technology is still being unearthed and requires trained scientists conducting intricate experiments on many things, including diamonds.

While gemologists may be concerned with the cut, clarity, colour and carats of diamonds, quantum researchers are interested in their “defects”. It is the unique arrangement of carbon atoms in a diamond which gives it the properties of hardness, electrical conductivity and manipulation of light. However, the atomic structure of some diamonds sometimes have two missing carbon atoms. They are substituted by a nitrogen atom as well as a “hole” or what is called a “nitrogen-vacancy” centre.

These “centres” are sensitive to the slightest variations in magnetic fields and thereby open vistas of investigation. An electron at such a centre can be individually tweaked and made to behave like a qubit. Qubits — analogous to the bits and bytes of classical computers — are the logic states of quantum computers and in theory allow calculations, beyond the capacity of existing supercomputers, to be done in a trice.

Researchers can also use lasers at room temperatures to manipulate these centres. However, unlike the diamonds in jewellery shops, scientists prefer their diamonds grown in a lab, customised with the ‘defects’ of their choice.

In the Union Budget 2023, Finance Minister Nirmala Sitharaman announced a scheme to promote research and development of lab-grown diamonds. India, despite being a formidable industry in cutting and polishing diamonds, has only just

begun manufacturing them. Indian diamantaires are not yet equipped to make diamonds with quantum-research-ready "defects". And this is a problem for scientists.

The Science and Technology Ministry has announced plans to make quantum computers of 50 to 1,000 qubits by the decade-end. But, quantum computers globally are far from being useful devices because maintaining electrons — like in the 'defect diamonds' — in their qubit like states is a daunting challenge.

POLITY & GOVERNANCE

Centre set to tweak criteria for according classical language status

Amid demand for classical status for many languages, the Union government has decided to tweak the criteria for giving the special tag. The Linguistics Expert Committee of the Culture Ministry submitted a report on October 10 last year, suggesting changes.

The sources said the Centre had asked the panel to reconsider the rules. The issue was taken up first at a meeting on June 21, 2023. A Gazette notification of the new criteria will be issued after Cabinet approval. This, in effect, means that classical language status for certain languages, chiefly Marathi, which is under consideration of the government, may have to wait for the notification. Over the years, some States and literary circles have been demanding classical status for languages such as Marathi, Bengali, Assamese and Maithili.

In 2014, then Maharashtra Chief Minister Prithviraj Chavan constituted a committee of Marathi language experts chaired by Ranganath Pathare, and the report was submitted to the Centre. The Pathare committee had concluded that Marathi fulfils all parameters to be recognised as a classical language.

The issue has been raised time and again by MPs from Maharashtra in Parliament, and the Centre has given assurances at least three times in the past 10 years that Marathi was being considered. Then Union Culture Minister G. Kishan Reddy informed Parliament in February 2022 that "the proposal for according classical status to Marathi was under the active consideration of the Ministry of Culture".

Once a language is notified as a classical language, the Education Ministry helps promote it, which includes instituting two major annual international awards for scholars of eminence in the language. Apart from this, a centre of excellence for studies in the language is set up, and the University Grants Commission is requested to create a certain number of Professional Chairs in Central universities.



"Education is the ability to listen to almost anything without losing your temper or your self-confidence." - Robert Frost

WE AIM TO INSPIRE YOU

POLITY & GOVERNANCE

Double health budget, reduce out-of-pocket spends

A goal post that consistently shifts is the one related to raising public health spending to the magical figure of 2.5% of GDP. Current total health spending is about 3.5%. Of this, public health spending is about 1.35%. Low public spending implies high out-of-pocket expenditure by households.

Demonetisation, GST and the COVID pandemic in quick succession adversely impacted millions of households living at the margin with stagnant wages, high prices of food and borrowings, making 'affordability' of health care critical. While 13.4% of households in rural areas and 8.5% in urban areas borrowed money to pay medical bills, the rest either sought access to free public care, denied themselves health care or availed substandard care that is within their budget.

Below poverty line

An estimated 60-80 million households are reported to have fallen below the poverty line for availing medical care. What is certainly a paradox of Indian politics is despite all this, health is a non-issue for electing governments.

India's health system is at a crossroads as it needs to, without any further procrastination, build the capacity in all States, particularly the northern States, to cope with the dual burden of disease.

Communicable and infectious diseases are easier to handle in terms of the episodic nature of the disease, though, if neglected, the consequences can be devastating and brutal. Non-communicable diseases on the other hand have to be managed over a lifetime necessitating a steady, routinised, system of care. Tackling both requires a health system that is swift and nimble but also steady and solid. Getting the right balance is the key: the right mix of skills and competencies, technology, infrastructure and supervisory systems. All this needs money.

While most countries have brought in reforms and revamped delivery systems to make them fit for purpose, India has wasted much time, in constantly hemming its budgets at the edges and resorting to knee-jerk responses to every health crisis, such as increasing the sum assured — ₹5 lakh to ₹10 lakh to ₹15 lakh and so on — under subsidised social health insurance. The increases in sums assured are just meaningless and most lazy of all ways of setting right a deeply flawed system of care.

With the Budget time around the corner, there are huge expectations, despite the past being so uninspiring. Since 2010, India's public spending, in proportion to the GDP, has hovered around 1.12% to 1.35%. In gross terms, though Central budget allocations certainly improved — up from ₹25,133 crore in 2012-13 to ₹86,175 crore in 23-24 — the proportion to GDP of the central health budget has been around 0.27%. With States averaging a 5% spending of their revenue budgets against the targeted 8%, overall public health spending is not just low but disproportionately low in the poorer States like Bihar.

While overall allocations have been disappointing, a real positive is the loan of \$65 million from the World Bank and \$175 million from the ADB that has recently been negotiated. Under this the focus is, and rightly, on strengthening the district-level disease surveillance laboratory infrastructure, establishing ICUs in large

districts, strengthening primary health care facilities and so on.

While these loans will fill the glaring gaps in health system as thrown up during the COVID pandemic, India, however, cannot stop and needs to invest hugely and quickly in building the basic health infrastructure in the country, particularly in the States of Bihar, U.P., MP, Orissa, Rajasthan, Chattisgarh, Jharkhand and Assam where shortfall of both facilities as well as human resources is far above the national average of 30%. This disparity needs to be bridged with a dramatically differential package of funding from the Central Government.

Till the supply position improves, demand-side interventions like Ayushman Bharat (PMJAY) are of marginal value, more so, with out-patient care not being insured. Systems in these States must be developed and the Finance Ministry must make a beginning with not only substantially increasing health budgets, particularly for NHM, but in addition, allocate all the money collected under the 4% health cess to the health budget. Of the total of ₹69,063 crore collected so far, only 25% of it has been transferred to the Health Ministry.

In addition to strengthening the public health systems, there is a need to rationalise the GST levies on health products, such as 18% GST on health insurance premiums or 5% GST on insulin and hepatitis diagnostics when the number of diabetics and those prone to hepatitis are increasing. Disincentives also need to be considered for those private entities that are increasing the cost of care despite full GST exemptions and a huge number of other sops being extended from time to time.

The bottom line regarding the health sector, however, is all about the role of the State, the rights of a tax-paying citizenry and the development model proposed. India needs to now follow their path to lend credibility to the aspiration of being a developed country by 2047.

French President Emmanuel Macron on Monday asked his Prime Minister to stay in the role for now, pending what will be difficult negotiations to form a new government after a surprise left-wing surge in elections that delivered a hung parliament.

The leftist New Popular Front (NFP) emerged as the dominant force in the National Assembly after Sunday's election, thwarting Marine Le Pen's quest to bring the far right to power. However, with no single group securing a working majority, the outcome heralded a period of political volatility just before the Paris Olympics.

The range of possibilities include the NFP forming a minority government or the cobbling together of an unwieldy coalition of parties with almost no common ground. Prime Minister Gabriel Attal, a centrist and close ally of Mr. Macron, tendered his resignation but the head of state rejected it. "The President has asked Gabriel Attal to remain Prime Minister for the time being to ensure the country's stability," Mr. Macron's office said in a statement.

The left won 182 seats, Mr. Macron's centrist alliance 168 and Le Pen's National Rally (RN) and allies 143, Interior Ministry data cited by Le Monde newspaper showed. Other media had slightly different counts, and the final numbers will depend partly on individual MPs joining different groupings.

Talks on strategy

Leaders of the component parties of the NFP met overnight and were due to meet again later on Monday to discuss who should replace Mr. Attal and what strategy the alliance should adopt, said a source at the Communist Party. The NFP, hastily assembled for this election in an attempt to unify the left-wing vote against the far right, has no single leader and did not say before the election who would be its pick for Prime Minister.

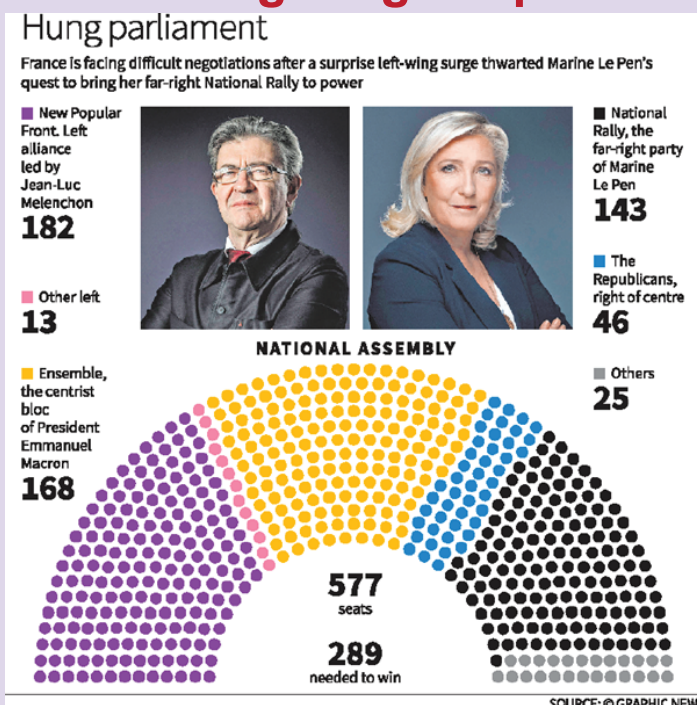
Ms. Tondelier, one of several NFP figures seen as potential candidates for the post, said on France Inter radio it could be someone from the hard-left France Unbowed party, the Greens or the Socialists, the three largest parties in the alliance.

Olivier Faure, the Socialist leader, said on France Info radio that he expected the parties to agree on a plan this week.

France Unbowed's firebrand leader Jean-Luc Melenchon explicitly ruled out any deal with centrists on Sunday, and on Monday his ally Manuel Bompard sounded uncompromising. "The President must appoint as Prime Minister someone from the New Popular Front to implement the NFP's programme, the whole programme and nothing but the programme," he said on France 2 television.

INTERNATIONAL RELATIONS

France faces coalition puzzle after left-wing surge in polls



CRACKING
CIVIL SERVICES
NO MORE A
DIFFICULT TASK
COME JOIN WITH US



POLITY & GOVERNANCE

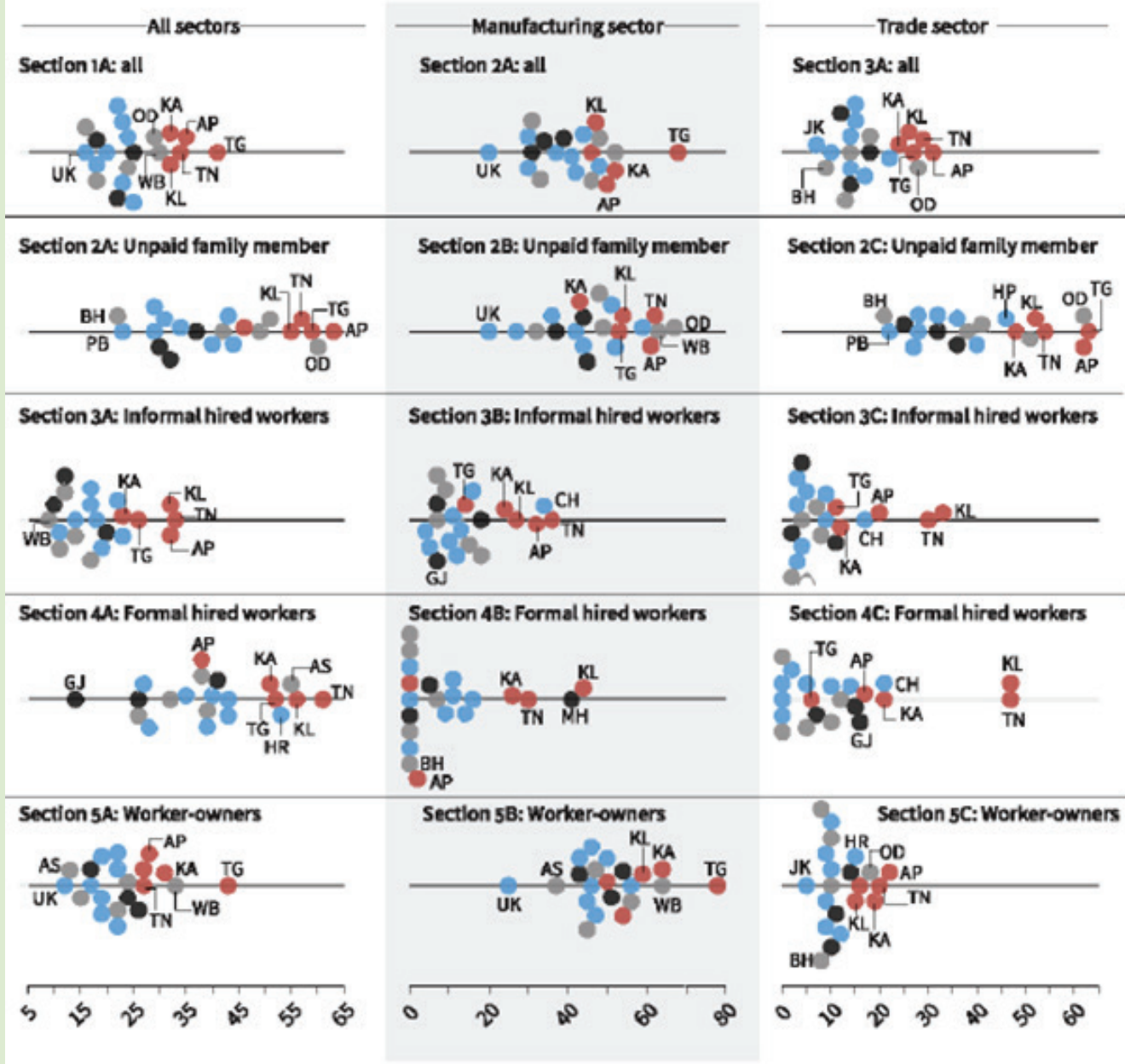
Share of women in unincorporated sector highest in the south

Silent partners

The data for the chart was sourced from the Annual Survey of Unincorporated Sector Enterprises 2022-2023 (ASUSE)



Chart: The share of women employed across sectors in various positions. ● south, ● north and central ● east ● west





VEDHIK

IAS ACADEMY

The New Learning Mantra

START YOUR JOURNEY WITH THE BEST

**INDIA'S
TOP MOST
CIVIL SERVANTS
FOR COACHING**

www.vedhikiasacademy.org

Head Office:
Vedhik IAS Academy
Mercy Estate,
MG Road, Ravipuram,
Ernakulam-682 015,

Corporate office:
Vedhik IAS Academy
Samkalp Bhawan, Plot No.15,
Sector 4, Rama Krishna Puram,
New Delhi, Delhi-110022

Regional office
Vedhik IAS Academy
202, Raheja Chambers, 12,
Museum Road. Bangalore -
560001. Karnataka, India.

GCC Office:
Bobscoedu,
Bobsco Trading & Contracting Co. W. L . L
Office 22, Dream Tower 1,
Road: 2701, Adliya, Kingdom of Bahrain
www.bobscoedu.com