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Pakistan, China vow to further deepen ties, renew commitment for CPEC 2.0 development

Press Trust of India
ISLAMABAD

Pakistan and China have reiterated their commitment to further deepen their "all-weather strategic" partnership, including work on the "high-quality development" of the second phase of the multi-billion dollar China Pakistan Economic Partnership, according to media reports on Saturday.

The development came during the fourth round of Pakistan-China Bilateral Political Consultations (BPC) in Beijing on Friday, according to Geo News.

Foreign Secretary Amna Baloch led the Pakistan delegation, while Vice Foreign Minister Sun Weidong led the Chinese side.

The meeting reviewed the entire spectrum of practical cooperation between the two countries, focusing on the projects driving the high-quality development of CPEC 2.0.

"Both sides agreed to further deepen their mutual partnerships in sectors such as information technology, agriculture and clean energy, driven by the concept of win-win cooperation and pursuit of people-centric, inclusive development," according to an official press release.

The meeting acknowledged CPEC's pivotal role in promoting regional connectivity and common prosperity, including through partnerships with other countries.

The CPEC, which connects Gwadar Port in Pakistan's Balochistan with China's Xinjiang province, is the flagship project of China's ambitious Belt and Road Initiative (BRI). The BRI is seen as an attempt by China to further its influence abroad with infrastructure projects funded by Chinese investments across the world.

DEOGHAR
IAS Academy

Putting the gene editing tool to use

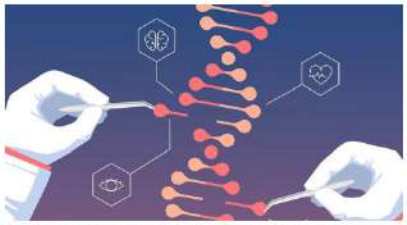
SPEAKING OF SCIENCE

D. Balasubramanian

When you edit a letter or a document, you make specific changes in the words and phrases to make the meaning clearer. Gene editing involves changing the sequence of DNA using specific enzymes which can cut DNA at a precise location, thus permitting the removal, addition, or replacement of genetic information within a gene. The process is akin to correcting a misspelled word in a sentence or replacing it with a more appropriate word. In organisms, this modification directly alters the genetic instructions encoded in the DNA.

In earlier days, if we wanted to modify the message in the DNA to a desired function, it involved two enzymes – one to cut the DNA at a specific site, and another to help insert the desired genetic change. While such twin-enzyme methods worked, they were laborious.

This was when Drs Jennifer Doudna of University of California, Berkeley, U.S., and Emmanuelle Charpentier of Humboldt University, Germany came out with a double action gene modification method, called CRISRP-Cas9. This is a mechanism that can edit the genomes of humans, pathogens, and plants. CRISPR stands for Clustered Regularly Interspaced Short Palindromic Repeats, and Cas9 (which stands for CRISPR- associated Protein 9) cuts DNA strands at a specific location, creating a gap that can be filled with new DNA. Doudna and Charpentier shared the Nobel Prize in 2012.



Restrictive: Researchers in India can use CRISPR-Cas9 only for academic purposes. GETTY IMAGES

However, Prof. Feng Zang who was then at a Southern California University, published a paper wherein he showed genome engineering using the CRISPR-Cas9 system. But he was not included as the third scientist by the Nobel Committee. He then went ahead, obtained a patent, and moved to Boston, where he works and this patent is owned today by the MIT-Harvard University combine, called Broad Institute, which uses the CRISPR-Cas9 system for a variety of applications such as the mouse model for cancer, identifying genes that make cancer drugs ineffective, and modification of immune cells, plus training people in the technology.

While CRISPR-Cas9 patented technology has been used for the above-mentioned diagnostic and genetic uses, agricultural scientists and botanical researchers have been using this method to genome engineer plants. The group of Dr. Holger Puchta of the Karlsruhe Botanical Institute, Germany has published several papers, notably on how to use Cas9, Cas 12, and Cas13, for targeting plant genomes. Most recently, CRISPR-Cas9 based 'knock-out' of two genes in tomato plants increased their sweetness with no loss in weight. Similar studies on other plants and fruits will surely follow.

However, a recent report by Dr. Anurag Chaurasia, titled "How CRISPR patent issues block Indian farmers from accessing biotech benefits", points out that the IPO has granted a local patent to ERS Genomics of Dublin, which allows Indian researchers to use CRISPR-Cas9 only for academic purposes. Our rural farmers are thus still left 'classical'.

Visually handicapped

For people afflicted with eye disorders, scientists and clinicians at LV Prasad Eye Institute, Hyderabad, in collaboration with a group in IGIB, have used one of these high precision methods to correct inherited mutations in patient-specific stem cells (*Nature Communications*, June 2024). These mutation-corrected stem cells could then make retinal cells, which showed restored expression of the missing protein.

This has opened the possibility of developing autologous cell therapies for certain inherited eye disorders. A similar approach can be adapted for other diseases affecting other tissues and cell types of the body.

DEOGHAR
IAS Academy

Oldest known dinosaur in northern hemisphere

It is generally thought that dinosaurs emerged on the southern portion of Pangea called Gondwana millions of years before spreading to the northern half named Laurasia. A newly described dinosaur whose fossils were uncovered in present-day Wyoming is challenging that narrative. The creature, named *Ahvaytum bahndooiveche*, is now the oldest known Laurasian dinosaur, and with fossils estimated to be around 230 million years old.

IIT Roorkee uses bacterial enzymes to degrade plasticizers

Once integrated into bacteria, the enzymes remain active for a longer time and the bacteria can be used continuously for degrading the plasticizers

R. Prasad

Besides plastics, the amount of carcinogenic plasticizers in the environment is increasing at an alarming rate. Plasticizers are chemicals added to plastics and personal care products to enhance flexibility and shine and are commonly found in items such as baby toys, shampoos, soaps, and food containers. Plasticizers can be absorbed through the skin, making them a direct threat to human health.

A team of researchers headed by Dr. Pravindra Kumar, Professor at the Department of Biosciences and Bioengineering, IIT Roorkee has successfully used an enzyme – esterase enzyme – produced by soil bacteria *Sulfobacillus acidophilus* to break down diethyl hexyl phthalate (DEHP) plasticizer. While a Chinese team had characterised this enzyme to degrade low molecular weight phthalate diester plasticizers, which can be degraded by several reported esterase enzymes, the IIT Roorkee team has identified its actual potential and used it for degrading difficult to degrade high molecular weight phthalate plasticizers. The research was funded by THDC India Limited, Rishikesh, and the results were published recently in the journal *Structure*. The group has also discovered that the esterase enzyme can bind to molecules similar to polypropylene used in plastics, making it a potential tool for extracting polypropylene from con-

Cleaning up using soil bacteria enzymes

Plasticizers, which are added to plastics and personal care products, can be absorbed through the skin

- The researchers have used esterase enzyme produced by soil bacteria Sulfobacillus acidophilus to break down diethyl hexyl phthalate (DEHP) plasticizer
- A Chinese team characterised the esterase enzyme to degrade low molecular weight phthalate diester plasticizers, while the IIT Roorkee team uses it to degrade high molecular weight phthalate plasticizers
- The esterase enzyme was structurally characterised using X-ray crystallography
- In 2017, the team isolated another soil bacteria which use three enzymes in sequence to break down phthalates into carbon-dioxide and water

Enzyme production: The esterase enzyme is produced in large-scale by cloning the enzyme genes into *E. coli* bacteria. REUTERS

- The researchers have used all five enzymes in sequence to break down DHEP plasticizer into water and carbon-dioxide
- The team is trying to insert the genes of all five enzymes into bacteria to directly convert DEHP plasticizer into water and carbon-dioxide
- Once integrated into bacteria, the enzymes remain active for a long time and the bacteria can be used continuously to degrade the plasticizer

The esterase enzyme was structurally characterised using X-ray crystallography. "This helped in identifying the active sites of the enzymes and in understanding the detailed mechanism by which this enzyme degrades the DEHP plasticizer," says Shalja Verma from IIT Roorkee and the first author of the paper. Other sophisticated biochemical and biophysical approaches were also used to understand the efficiency of the enzyme to degrade the plasticizer.

The esterase enzyme remains active for about a month and catalyzes the degradation of DEHP plasticizer with significant efficiency. For large-scale production of this enzyme, the researchers cloned the enzyme into *E. coli* bacteria and the enzyme was produced on a large-scale through aerobic culture.

The enzyme breaks down the DEHP plasticizer into two products – mono-(2-ethylhexyl) phthalate (MEHP) and 2-ethyl hexanol. According to Prof. Kumar, this esterase enzyme, along with other enzymes identified by their group previously can convert high molecular weight phthalate plasticizers into water and carbon-dioxide. And this is where the IIT Roorkee team appears to have an edge. "The results of our research mark a significant advancement in addressing one of the most pressing environmental challenges – providing a promising path toward a plastic and plasticizer-free

Other researchers involved in the work include Shweta Choudhary, Kamble Amith Kumar, Jai Krishna Mahto, Ishani Mishra, Dr. Ashwani Kumar Sharma, Dr. Shailly Tomar, Dr. Debabrata Sircar and Dr. Jitin Singla.

In 2017, the team isolated another soil bacteria *Comamonas testosteroni* that breaks down the phthalates produced by DEHP degradation into carbon-dioxide and water. In the lab, the researchers used the enzymes in sequence to first break down DEHP to MEHP and 2-ethyl hexanol using esterase enzyme, which then was degraded to phthalate using another enzyme. The phthalate is then converted to intermediate compounds using a third enzyme (phthalate mediate compound produced after this step is converted into protocatechuate by the enzyme phthalate decarboxylase. Once protocatechuate is produced, the tricarboxylic acid cycle of the bacteria converts it to carbon-dioxide and water.

While the esterase enzyme used for breaking down DEHP into MEHP and 2-ethyl hexanol is from *Sulfobacillus acidophilus* bacteria, the three other enzymes used in sequence are from *Comamonas testosteroni* bacteria. "In the lab, we have tried using the enzymes in sequence to break down DEHP into water and carbon-dioxide," says Ms. Verma. "We are now trying to insert the genes of all the five enzymes into bacteria to directly convert the DEHP plasticizer into water and carbon-dioxide."

Putting all five enzymes into bacteria will speed up the degradation process not only because the enzymes will act sequentially but also because degradation of the enzymes becomes a non-issue once they are integrated into bacteria. Once integrated into bacteria, the enzymes remain active for a longer time and the bacteria can be used continuously for degrading the plasticizers. But when the enzymes are used without integrating into bacteria, a fresh batch of enzymes needs to be produced to continue the degradation process. "We are also undertaking enzyme engineering to speed up the degradation process inside the bacte-

The island of interest

Greenland

U.S. President-elect Donald Trump says he won't rule out use of military force or coercion to annex or buy the world's largest island

Joan Sony Cherian

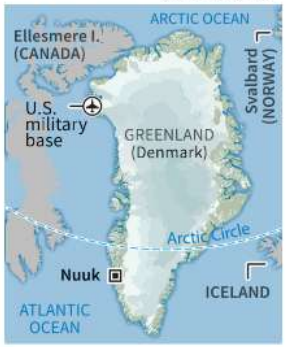
On January 1, the King of Denmark unveiled a new coat of arms after more than 50 years. It features the polar bear and the ram (symbolising Greenland and the Faroe Islands, respectively) more prominently than before. Amid calls for independence in Greenland and U.S. President-elect Donald Trump's aggressive push to buy/annex the island, the Royal House seems to be underscoring the Danish realm's unity.

Greenland, the world's largest island with a population of 57,000, is an autonomous territory controlled by Denmark. This effectively means that while it has a Parliament which deals with domestic affairs such as business taxes, immigration, and mining, most of its foreign, monetary and military policy are dictated by Denmark. The Arctic island was colonised by the Danes in the 18th century and has been associated with Europe, though geographically it is part of the North American continent and closer to the U.S. than Copenhagen.

During the Second World War, the U.S. briefly occupied the region and defended it when Denmark was under siege by Nazi Germany.

Noting the region's geopolitical importance, the U.S. in 1946, after the War, had offered to buy it from Denmark. Denmark rejected the offer and ever since Greenland has been a part of the Danish realm with home rule granted to the island in 1979. The U.S. runs and operates an air base on the island. However, of late, calls for complete independence from Denmark have been rising in the island. Greenland's Prime Minister Múte Egede in his New Year address talked about taking the "next step" and removing the "shackles of colonialism".

GRAPHICNEWS



Greenland, with a population of 57,000, is an autonomous territory controlled by Denmark

U.S. aspirations

In his first term in office, Mr. Trump had floated the idea of buying Greenland. However, this time it seems the President-elect is serious. "For purposes of National Security and Freedom throughout the World, the United States of America feels that the ownership and control of Greenland is an absolute necessity," he said in December. Following such a declaration, Donald Trump Jr., Mr. Trump's son, visited Greenland this year as a "private individual". Both Greenland and Danish Prime Ministers have shut down such threats and plans. Mr. Egede has categorically stated that "Greenland belongs to the Greenlanders".

Mr. Trump seems unfazed. Speaking to the press last week, Mr. Trump said he won't rule out military or economic coercion to annex/buy the island.

The island is surrounded by the Atlantic on one side and the Arctic waters on the other. Due to climate change and global warming, glaciers and ice sheets in the Arctic Sea are melting, leading to potentially new shipping routes, which could greatly enhance trade. Moreover, Russia and China have already agreed to develop new trading routes in the Arctic waters as relations with the West sour and tensions in West Asia loom large.

Last November, both countries developed a subcommittee for cooperation on the northern sea route, which spans 5,600 km from the Barents Sea near Scandinavia to the Bering Strait near Alaska. With the threat of Russia-China cooperation in the region, annexing Greenland could give the U.S. significant control over the area, letting it decide who gets to run and operate in these strategic waters.

The island is also rich in minerals. As per a 2025 survey, 25 of 34 critical raw materials, which are used in EVs and batteries, were found in Greenland. The melting of almost 28,000 square km of Greenland's ice sheets makes drilling for oil, gas and other critical raw materials easier. Currently, China is the world's largest exporter and producer of critical minerals. Buying Greenland could make the U.S. compete with China for that status.

Mr. Trump has also issued calls to buy/annex the Panama Canal and Canada. While all of them have been touted as necessary for the U.S.'s economic and national security, the U.S. is breaking the first and fundamental rule of the UN Charter: recognising the sovereignty of nations. With respect to Greenland, the U.S. is going against the NATO agreement as well.

Similarly, the Arctic waters are a global common under the UN Convention on the Law of the Sea. The incoming U.S. President's policies are bringing to the forefront the true anarchical nature of international politics.

Are lithium batteries on flights dangerous?

Why has the airline pilots' body called attention to fire risks? What causes lithium-ion batteries to catch fire? What are the fire-safety equipment and protocols that need to be in place? What happened when Hurricane Helene struck the U.S. in November last year?

Vasudevan Mukunth

The story so far:

On January 2, the International Federation of Air Line Pilots' Associations (IFALPA) issued three position papers on the fire risk due to the use of lithium-ion batteries in airport and aircraft settings. The papers are motivated by air operators' increasing use of electric vehicles (EVs) and lithium-ion batteries as well as the batteries becoming more energy-dense.

What is IFALPA?

The IFALPA is a global nonprofit representing the international community of professional pilots. After the Second World War, the UN established the International Civil Aviation Organisation (ICAO) in 1947 to coordinate air transport and its principles worldwide. A year later, ICAO organised a conference in London where pilots could interact with its leaders. The IFALPA was born at this event with 13 pilots' associations. According to a source on the ICAO website, IFALPA encompassed 104 member associations representing one lakh professional pilots worldwide around 2013. Per the same source, "The belief [is] that the unique perspective of pilots operating in scheduled flying would be of significant benefit to the creation and adaptation of ICAO Standards and Recommended Practices (SARPs) through which ICAO regulates international civil aviation." The IFALPA also provides inputs to the International Air Transport Association, the Airports Council International, and the International Federation of Air Traffic Controllers' Association.

Studies have found that existing fire kits have not been able to respond adequately to fires of lithium-ion batteries

New risks: A technician working on a lithium-ion battery. ISTOCKPHOTO

Why are there fears about lithium batteries?

Almost every major industry in the world is mechanised to a significant degree, and the energy for these machines has traditionally been produced by burning fossil fuels. As climate mitigation has become more pressing, industries are under pressure to replace this thermal energy – the principal cause of global warming – with electric energy.

For example, EVs draw electric energy from a battery to drive an electric motor and supply kinetic energy to the wheels. In an internal combustion engine, heat energy released by burning fossil fuel moves pistons, whose motion is converted to rotary motion of the wheels.

Lithium-ion batteries have emerged as a popular solution to storing electric energy because they are energy-dense, rechargeable, and can be made in almost any shape, which is useful when there are space constraints as onboard an aircraft. But lithium-ion batteries have been known to catch fire when they are subjected to certain physical stresses.

The fire is the result of the stress creating a short-circuit inside the battery, leaving it to keep producing electric current, heat, and oxygen. The battery's internal components can become corroded while the risk of catching fire increases. The short circuit can be the result of mechanical, electric, and/or thermal abuse, which respectively deforms the internal structure, degrades its electric performance, and causes heat to accumulate.

For example, after Hurricane Helene struck the U.S. in November 2024, 48 lithium-ion batteries reportedly caught fire.

University of South Carolina mechanical engineer Xinyu Huang said they may have been the result of EV batteries rarely being rated to be waterproof when they are sitting in salt water for more than 30 minutes. Such situations are more likely to occur during flooding, which is becoming more common due to climate change and poor urban planning.

What do the IFALPA papers say?

The three position papers are numbered POS01, POS02, and POS03. POS02 and POS03 are more general whereas POS01 is more specific.

POS02 is motivated by the different kind of fires caused by lithium-ion batteries (compared to internal combustion engines). As Mr. Xinyu wrote, "When a lithium-ion battery pack bursts into flames, it releases toxic fumes, burns violently and is extremely hard to put out. Frequently, firefighters' only option is to let it burn out by itself." The position paper thus asks "airports, rescue and fire-fighting services, operators, and ground service providers" to acquire or develop purpose-built fire-safety equipment and protocols.

POS03 extends these concerns to the flight deck – the area colloquially called the "cockpit" in civilian aircraft – where the batteries may be present in components required to operate the aircraft. It also calls attention to studies by the U.S. Federal Aviation Administration and the European Union Aviation Safety Agency finding that existing fire kits couldn't respond adequately to fires of lithium-ion batteries with an energy rating of 100 Wh or higher.

POS01 is concerned with the safe transport of lithium-ion batteries, especially UN regulations 3480 and 3481. Since the UN classifies these batteries as "miscellaneous dangerous goods", the regulations specify the packaging and labelling standards required to transport them by air. UN3480 applies to lithium-ion batteries transported in bulk and UN3481 to lithium-ion batteries fit inside some equipment that's being transported in bulk.

One difference between the two regulations is that UN3480 requires the batteries to be charged to less than 30%, also known as state of charge (SOC) 30%, whereas UN3481 doesn't. POS01 contends that UN3481 didn't adopt this restriction because it assumed manufacturers would install safeguards in the equipment to prevent a fire from one battery spreading to others. But as the energy density of batteries and the number of settings in which they are used is increasing and the size of the equipment that uses them is shrinking, IFALPA's position is that the SOC 30% limit should be extended to UN3481 as well.

Is groundwater contamination high in India?

What are the contaminants? What happens if nitrate presence is high in groundwater?

Jacob Koshy

The story so far:

An assessment of India's groundwater by the Central Ground Water Board (CGWB) found that several States are grappling with a serious problem of nitrate contamination.

Which are the sources of contamination?

The most concerning finding was that the number of districts with excessive nitrate in their groundwater rose from 359 in 2017 to 440 in 2023. This works out to nearly 56% of India's districts having excessive nitrate in ground water, defined as having more than 45 mg/l (milligram per litre). Of the 15,259 groundwater samples collected from across the country for testing, 19.8% samples had nitrates — nitrogenous compounds — above safe limits though it must be said that this proportion has not substantially changed since 2017. In the 13,028 samples analysed in 2017 for instance, 21.6% had excessive nitrate. There are two major concerns with excess nitrate content: one is methemoglobinemia, or a reduced ability of red blood cells to carry oxygen.

A bigger problem with excessive nitrates are environmental: once the nitrates in the groundwater rise to the surface and become part of lakes and ponds, algal blooms throttle the health of aquatic ecosystems.

The most common contaminant identified in groundwater is dissolved nitrogen in the form of nitrate in sub-surface waters. Since, the nitrogen content of soil is generally quite low, farmers have to look for external sources of nitrogen by using ammonium nitrate, calcium nitrate, urea, diammonium hydrogen phosphate etc. Although nitrate is the main form in which nitrogen occurs in groundwater, dissolved nitrogen also occurs in the form of ammonium (NH_4^+), ammonia (NH_3), nitrite (NO_2^-), nitrogen (N_2), nitrous oxide (N_2O) and organic nitrogen.

> The Central Ground Water Board estimates that the country's degree of groundwater extraction is 60.4%, or roughly the same as it has been through the years since 2009

Which places had serious contamination?

Rajasthan, Karnataka and Tamil Nadu reported the highest proportion of tested groundwater blocks with nitrate exceeding permissible levels — 49%, 48% and 37% of the tested samples respectively reported numbers beyond the limit.

Rajasthan, Madhya Pradesh and Gujarat have a long standing nitrate problem with relative levels fairly constant since 2017, the report says. However a growing concern are blocks in central and southern India, which are reporting an increasing trend, and therefore is a reason for worry. "Maharashtra (35.74%), Telangana (27.48%), Andhra Pradesh (23.5%) and Madhya Pradesh (22.58%) also show notable levels of nitrate contamination," the report notes.

Is nitrate the only chemical contaminant?

Other major chemical contaminants affecting groundwater quality are arsenic, iron, fluoride and uranium. Just as 19.8% samples of tested groundwater had excess nitrate, 9.04% of samples had fluoride levels above the limit.

Fluoride concentrations exceeding the permissible limit were "a major concern" in Rajasthan, Haryana, Karnataka, Andhra Pradesh and Telangana. Rajasthan and Punjab reported the maximum number of samples with uranium concentration exceeding 100 ppb (parts per billion). Anything over 30 ppb is considered unsafe and several of these samples were predominant in regions of Rajasthan, Gujarat, Haryana, Punjab, Tamil Nadu, Andhra Pradesh, and Karnataka, where groundwater was over-exploited: more water was being drawn out than replenished by rains or other means.

What was the state of groundwater in 2024?

Along with its report on groundwater quality, the organisation also produced a report on the quantity of groundwater in various blocks, enumerating the availability of groundwater across India. The CGWB estimates that on the whole, the country's degree of groundwater extraction is 60.4%, or roughly the same as it has been through the years since 2009. About 73% of the blocks are in the 'safe' zone, meaning that they are replenished enough to compensate for water drawn out.

How are groundwater levels measured?

The CGWB relies on a network of about 26,000 groundwater observation wells that require technicians to manually measure the state of groundwater in a region. Since 2023, however, around 16,000-17,000 digital water level recorders were connected to piezometers in the wells. Piezometers measure groundwater levels and transmit the information digitally to a centralised location. In the next three years, the CGWB aims to increase its network from the existing 26,000 to about 40,000. When combined with similar networks possessed by other institutions, India will have about 67,000 digitally recordable units to monitor ground water dynamics.

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In sync: Indian Navy personnel perform a continuity drill during the Eastern Naval Command's operational demonstration in Visakhapatnam.

Might over the sea

At a display in Visakhapatnam, the Indian Navy's Eastern Command demonstrates its operational excellence, resilience, and technological prowess

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The Eastern Naval Command of the Indian Navy held an operational demonstration in Visakhapatnam on January 4, showcasing a breathtaking display of maritime prowess and precision.

The grandeur unfolded with a submarine sail-past, followed by a gripping demonstration from the Marine Commando Force that featured the stealth and combat skills of the naval special forces. An oil rig demolition drill emphasised the Navy's readiness to tackle maritime emergencies, while a helicopter rescue operation illustrated their ability to execute daring lifesaving missions.

The skydiving team's performance stood out, especially after an incident during the final rehearsal two days ago, when two skydivers became entangled mid-air and had a choppy landing in the sea. They were promptly rescued and brought back to the shore. Undeterred by the mishap, the team executed a flawless landing during the main event, earning cheers from the audience. A composite fly-past by Chetak helicopters, Hawk jets, and Dornier planes highlighted the synchronised operations of the naval air fleet.

The evening concluded with a mesmerising beating retreat ceremony. Drone formations lit up the night sky, narrating tales of naval valour and technology. Fireworks and a laser show from the deck of a ship captivated the audience, culminating in firing of flares and illumination of naval vessels, casting a glow over the coast.

The demonstration was a testament to the Indian Navy's operational excellence, resilience, and technological prowess.

Visual treat: Naval officers with their families watch as fireworks go off during the demonstration.

New National Museum in Delhi to display artefacts in chronological and thematic order

Sreeparna Chakrabarty
NEW DELHI

North Block and South Block in the national capital, which are set to house the new National Museum, will have artefacts arranged chronologically and thematically, according to a draft proposal under consideration of the Union Culture Ministry.

North Block, which is likely to be the first one of the buildings where retrofitting will be completed, is expected to house the artefacts in a chronological order, while South Block is likely to have theme-based sections, sources told *The Hindu*.

India signed a memorandum of understanding with France on December 19 last year for the development of the new museum, along the lines of the Louvre in Paris. The museum will be developed through adaptive reuse in collaboration with France, which is renowned for its expertise in such projects – exemplified by the Louvre, the Grand Palais, and the Hotel de la Marine. This approach mirrors France's 'Grand Projects' initiative that transformed government buildings into iconic cultural spaces.

Plans made: India signed an agreement with France on December 19 last year for the development of the new museum. PTI

The chronological arrangement will have about 50 sections each with 5-6 rooms and thus around 250 galleries in total. The thematic section would have displays based on different subjects such as literature, architecture, and art. There would also be galleries with augmented reality, educational centres and children's corners.

2,06,000 artefacts

North Block houses the Ministries of Finance and Home Affairs, while South Block houses the Prime Minister's Office, and the Ministries of Defence and External Affairs.

Offices in both the buildings are being moved to the Common Central Secretariat (CCS) building on Janpath as part of the Central Vista plan.

The new museum, which has been named 'Yug Yugeen Bharat' museum, will be able to house an estimated 25,000-30,000 artefacts and is expected to be the largest such museum in the world when completed.

As of now, the National Museum has 2,06,000 artefacts in total, out of which, 7,000-8,000 are on display.

"We have sought artefacts from all museums across the country for display in the upcoming new museum. While they are most welcome to send things on a permanent basis, we can also display them on a temporary basis and keep rotating them," B.R. Mani, Director General of the National Museum, told *The Hindu*.

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Denotified tribes' anger growing amid a stagnating scheme, classification issues

Abhinay Lakshman
NEW DELHI

Fresh attempts made to push for the implementation of the Idate Commission recommendations

With the Centre's SEED scheme for denotified tribes only now taking off, caste certificates being denied to them in 29 States, and the Idate Commission's 2017 report in cold storage, anger among the denotified tribes (DNT), semi-nomadic tribes (SNT), and nomadic tribes (NT) is growing across States such as Uttar Pradesh, Haryana, and Gujarat. This anger is now also frustrating members of the Union government's Development and Welfare Board for DNTs, SNTs, and NTs (DWBDNC), who are making fresh attempts to push for the implementation of the Idate panel recommendations, which include a permanent commission, proper classification, and a detailed caste census.

Bharatbhai Babubhai Patni, DWBDNC member, said that the government can no longer shut out voices calling for the Idate Commission's recommendations to be implemented. "A Schedule must be put out listing out all the DNTs. Alongside the issuing of SC/ST/OBC certificates, there must be directions to issue joint certificates like SC-DNT, ST-DNT, OBC-DNT."

The government had constituted the National Commission for DNTs/NTs/SNTs in 2015 under the chairmanship of Bhiku Ramji Idate, which had put out its final report in 2017, calling for the government to expedite the final classification of these communities, count their population by including a caste census column in the 2021 census, and provide a sub-quota for them under SC/ST/OBC quotas in public education and employment. The Idate commission had concluded there were a total of 1,526 DNT, NT, and SNT communities across the country, of which 269 were not yet categorised as SC, ST, or OBC.

Certificates sought

B.K. Lodhi, who was Member Secretary in the Idate Commission and is now part of the Vimukt, Ghumantu, and Ardh-Ghumantu Janjatiya Vikas Parishad (Akhil Bharatiya) in Uttar Pradesh, said, "We were the first to resist British rulers and branded criminal for it. How can this government not sort out these basic issues like DNT certificates across States?"

Uttar Pradesh is among the seven States that technically have begun issuing DNT community certificates. But Dr. Lodhi, who attended the national workshop in New Delhi last week, said, "They are saying they have issued some 200-300 certificates and painting it as some huge achievement. It strikes at a core area, denying our identity. If the government cannot get States to issue DNT certificates, they might as well brand us criminal again, at least we will get our identity."

Welfare measures

The SEED scheme (Scheme for the Economic Empowerment of DNT/NT/SNT communities) was meant to be the Centre's flagship scheme for these communities. Launched in February 2022, the scheme offered assistance for livelihood, education, healthcare, and housing. But it took over two years for the scheme to take off.

In a meeting of top officials, chaired by Social Justice Minister Virendra Kumar last month, the government had resolved to urge States and UTs to start issuing DNT certification along with regular caste certificates.

"The Minister has assured us of action but there are real concerns about the lack of implementation of the Idate Commission's recommendations. So many people are not getting community certificates because of belonging to sub-castes, or spelling it differently, or having a hyphenated caste name," Mr. Patni said.

‘West Bank a cauldron that can explode any moment’

The Israeli Indologist says a third Palestinian *intifada* is likely at any moment, adding that Israel has a dysfunctional political system; he emphasises the worsening settler violence in the West Bank and suggests a confederation as a potential path to peace between Israelis and Palestinians; the conversation also goes into the systemic changes in 16th century southern India in major arenas

INTERVIEW

David Shulman

Stanly Johny

David Shulman, Israeli Indologist, poet and peace activist, says the West Bank has witnessed enhanced settler violence ever since the latest war between Israel and Hamas broke out. Today’s Israel looks like the South Africa at the height of Apartheid, “just a few years before the system collapsed”, he says. Mr. Shulman speaks about his works on southern India, the crisis in West Asia and the prospects for peace. Edited excerpts:

You have written about ‘systemic change’ in 16th century South India. The 16th century was also a period where you saw, in Europe, the Reformation, the Thirty Years’ War, and the rise of the Westphalian system. Do you see any parallels between the southern India of the 16th century and Europe?

I think in both cases, there was a systemic change, a civilisational change, you could say. In Europe, that was the great watershed when the Catholic Church split into Protestants and Catholics and they went to war with one another, and that was also the time of the emerging imperial autocracies like the Habsburgs in Vienna and Spain, and also the French. That eventually produced the modern revolutions in France and in America, and later in Russia. It happened here, in India, in a very different way, in an indigenous way that had nothing to do with the influence of what was happening in Europe.

Systemic change means that in all of the major arenas, there are substantial structural changes – in the social realm, in the economic sphere, in the political domain, for example. We had a new kind of South Indian States, with a new mode of political thinking, and new kinds of political legitimisation. And in the expressive domains, that is, literature, music, graphic arts, sculpture, architecture, theatre, you can see that there is a whole new world.

A new conceptual world, a new understanding of how the mind works, a new understanding of what it means to be a human being. You begin to see these new themes emerging and crystallising.

You have also written about ‘newness’. Can you explain that?

Many people, for example Sheldon Pollock, actually have written about *navata* or newness. In early modern times, before the massive intrusion of the European powers, there was a palpable sense of novelty. Suddenly, people are talking about something being and feeling really new. This is also true of music, literature, and painting. There is an amazing sense of new discoveries. So, in music for example, in Carnatic music, which was formalised – you could say ‘grammaticalised’ – in 16th century Thanjavur, we begin to see an emerging corpus of Carnatic compositions, with strong introspective elements. In literature, we have what we call *prabandha* texts. This is something quite new. A *prabandha* text is a self-contained book, usually not too long, that can be recited over a period of maybe a week or two. It’s meant to be read from the beginning via the middle to the end. That’s a rather new thing in South India. The new *prabandha* forms demand sequential reading, that comes with

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an acquired newness of taste and themes.

How do you look at the developments in West Asia in light of Hamas’s October 7, 2023 attack and Israel’s subsequent war on Gaza?

Well, we are in a very deep crisis. And that includes the humanitarian catastrophe in Gaza. The Hamas atrocities of October 7 were unparalleled in Israel’s history. Now the war has gone on for some 15 months and shows no sign of stopping.

On the West Bank, we have Israeli colonisation that has been going on for several decades. All of the Israeli settlements, without exception, sit upon stolen Palestinian land, and the settler population has grown to several lakhs planted in the midst of a Palestinian population on the West Bank of some two-and-a-half million. The extremist settlers... are driving the Palestinians on the West Bank into a situation of horrible precariousness.

There is a system in place that supports this. That means the Army, the police, the military courts, the Israeli media, public and social media, and the government, which funds and supports the settlements.

The goal is to take as much Palestinian land as they possibly can with as few Palestinian people living on it as possible. That is been true for a long time. But since October 7, this situation has exacerbated enormously.

In addition to settler violence, there are military operations in Jenin and Nablus. The West Bank has become a cauldron that could explode at any moment. I think it is extremely likely that there will be a third *intifada* [uprising], worse than the first two. And it could happen at any time, because the Palestinian people are not going anywhere, and their life is no longer bearable.

States generally are violent. Still, you might see internal and external constraints on states. Do you think it doesn’t work in the case of Israel?

I think it works to some extent. There are still some constraints, including on the Army operations in Gaza. But the figures of killed and wounded are shocking. In the northern part of Gaza, there are no buildings left standing, and the population has been displaced into tent cities farther south.

We have some two million people living in tents. There is not enough food, although there are attempts to bring in food. There is no clean water to drink. Obviously, no electricity. It’s cold. And the shooting and the bombing continue. In the north, to make it even worse, now that they have cleared out most of the population, the Army is paving roads and putting up military camps. It looks like the government wants to stay there permanently, to annex it, either by some act of the Knesset or just de facto.

What is the way out, for Israel and Palestine?

I can tell you the way-not-out – that is constant, eternal war. The only real way out is some kind of settlement with the Palestinians who are our neighbours. The only way to make life viable for everybody, Israelis as well as Palestinians, is to reach an agreement in which the Palestinians have some form of political framework which will allow them to realise their own cultural and civilisational ambitions. For the Israelis, for the Jews, we’ve got that, we have a State that embodies some form of collective identities. It’s not a very effective State, in many ways, but it’s there. But Palestinians don’t have any such framework.

We have a dysfunctional political system, which is like a crazy jigsaw puzzle. This structural situation perpetuates the logic where the extreme right has complete control over what is happening. It’s an absurd situation. [Israeli Prime Minister Benjamin] Netanyahu has devoted his life to preventing the emergence of a Palestinian State. There are two things that he really cares about. That is one, and the second is the perpetuation of his own government. And they are linked.

I think what should emerge someday, somehow, is some system that could be like a confederation, in which the Palestinians would have control over their own lives and their own security. It would have to be a demilitarised state. Israelis would have control over their lives, and there would be some overarching framework addressing security, policies, social services and everyday needs. I’m not saying it would be easy to achieve it. But people said that about Ireland. South Africa is another example. It is not a happy place, but nonetheless, the Apartheid was overturned. I think sometimes that today, we in Israel may be experiencing something like South Africa at the height of the Apartheid system. Just a few years before the system collapsed.

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