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THE BULLETIN

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Why America Cannot Execute ICC Warrant on Prime Minister Netanyahu

By - Vappala Balachandran

The author is a former Special Secretary, Cabinet Secretariat GOI

New York City Mayor Zohran Mamdani had claimed during his campaign in September 2025 that he would arrest Israeli Prime Minister Benjamin Netanyahu as a "war criminal" if he visited New York. "The Guardian" (UK) then quoted him saying that he "would honour an international criminal court (ICC) arrest warrant issued in November last year for Netanyahu's arrest over alleged Gaza war crimes by having the Israeli PM taken into custody at the airport if he ever steps foot in New York."

This was interpreted as an attempt to garner pro-Palestinian votes as New York is always considered as a liberal bastion of all hues. Also, Mamdani was facing the powerful Andrew Cuomo, former New York State governor who had won the governor's post in 2010 and who was re-elected in 2014 and 2018. However, Cuomo was contesting as "Independent" as the Democratic Party did not nominate him.

Cuomo, considered as "Centrist-Democrat," would have cut into the Democratic voter base of Mamdani. Although the latter was leading Cuomo by15% in September 2025 there were some indications that other 2 candidates in the poll would withdraw. If that happened, Mamdani's lead over Cuomo would have shrunk to 4%.

Mayors in United States of America, who are directly elected, have far more powers over the police than in India, where the police work under the State Government. However, a misleading impression arises, mainly through Hollywood movies, that the mayor has overriding power over enforcement of law and order and crime enforcement, covering even federal and foreign policy issues.

US has a well-defined crime management system dividing responsibilities between States and the Centre(federal). Nearly 20 federal agencies have the responsibility of federal law enforcement, including what arises over its foreign policy goals.

Also, each American city is governed by the "City Charter." In the case of New York City, the first charter was drawn up in 1686 when the British Governor appointed the mayor, who had revenue, judicial and police responsibilities. The mayor was very powerful during the colonial era through his sheriff and constables. There was only a nominated City Council without elections.

In due course the City Charter was amended several times, the latest in 2026. The Preamble in 2026 states: "We, the people of New York city, declare that our city is a multiracial democracy, and that our diversity is our strength. We honour and respect the cultures, languages, and histories of all who call and have called this land home, and we celebrate their revolutionary imagination, courage, and resiliency".

The executive powers of mayor over all departments, including the police are drawn from Section 3: "The mayor shall be the chief executive officer of the city". He is also the magistrate of the city, overseeing all municipal operations, public property, and enforcement of laws.

However, the mayor is checked in the exercise of his powers by the City Council which is the legislative authority for budget approvals and public contact through the hearings conducted by Committee on Public Safety (CPS). The New York City Police Department (NYPD) was established in 1845. NYPD's power is often checked by public hearings of the Committee on Public Safety and by the Civilian Complaint Review Board (CCRB).

For example, the CPS conducted a public hearing "Fighting Crime, Protecting the Public" on September 27, 2025, questioning NYPD representatives on their disciplinary system, the roles of NYPD Commissioner Jessica Tisch and the Civilian Complaint Review Board (CCRB) in determining punishments for police misconduct. They were also agitated when they saw the Commissioner overriding the CCRB decisions.

Mamdani realised the limitations of his power only after he assumed charge as mayor. He then requested the federal agencies to arrest Netanyahu. However, even federal agencies cannot execute ICC warrants under the American Service-Members Protection Act (2002) due to fears that ICC could be used to harass and detain American soldiers on foreign soil for purely political reasons.

Article first published in Lokmat Times Nagpur Main on July 26, 2026

Revolution Begins at Home, Not on the Street

By Dr. Santhosh Mathew

The author is a Professor, Centre for South Asian Studies, School of International Studies & Social Sciences, Pondicherry Central University.

Every generation dreams of changing the world. Every political movement promises to lead that change. The tragedy begins when those who speak the loudest about justice fail to practise it within their own walls. For decades, the Left in Kerala has projected itself as the guardian of workers, students, teachers and ordinary citizens.

Student organisations march against unemployment. Youth wings raise slogans against corruption. Teacher organisations organise seminars on the commercialisation of education. The speeches are powerful. The banners are colourful. The slogans are familiar. The question is simple: why do these movements rarely look into the mirror?

The recent protests involving student groups over national issues once again brought thousands of young people onto the streets. Many believed they were fighting for democracy and social justice. Young minds are always ready to sacrifice for a cause. That spirit deserves respect. What deserves scrutiny is the leadership that directs this energy. If student organisations have the courage to organise demonstrations in Delhi, they should also have the courage to organise demonstrations in front of their own party headquarters in Kerala. The youth deserve answers about nepotism, allegations of favouritism, recruitment controversies, examination irregularities and governance failures that have dominated public discussion in the state during the last decade. Revolution loses its meaning when criticism is reserved only for political opponents. The greatest irony appears in the education sector. Teacher organisations affiliated with the Left frequently campaign against the commercialisation of education. They accuse governments of turning education into a marketplace. Their resolutions speak about equality, affordability and public responsibility.

Many people in Kerala know another side of this story. For years, allegations have circulated regarding appointments in sections of the aided college system. It has often been alleged that aspiring teachers were forced to arrange enormous sums, sometimes running into tens of lakhs of rupees, to secure appointments through managements. Many cases have reached the courts. Public debate on appointment practices has continued for years. If education has truly become commercialised, ordinary citizens naturally ask why the same organisations rarely launched sustained struggles against such practices inside the institutions where many of their own members work. A movement earns credibility when it first cleans its own house. Lecturing the nation becomes easier than questioning one's own ecosystem.

The same contradiction appears in political discourse. The Left often presents itself as the strongest defender against communal politics. Secularism remains one of its favourite slogans. Public debate becomes confusing when political standards appear to change according to convenience. Parties considered acceptable allies in one election suddenly become symbols of communal politics in another. Ideological consistency becomes difficult to recognise. Ordinary voters begin wondering whether principles guide alliances or electoral arithmetic.Young people notice these contradictions. They may not express it immediately, though they remember it for a long time.

Employment remains the biggest concern for Kerala's youth. Government recruitment has always represented hope for families that cannot afford expensive private education or influential connections. That is why any controversy surrounding recruitment agencies attracts enormous public attention. In recent years, Kerala's media has highlighted several major controversies connected with recruitment processes, examination management and administrative functioning. Every allegation may not end in conviction. Every controversy still weakens public confidence. Trust, once lost, takes years to rebuild.Political parties frequently demand accountability from governments in New Delhi. The same principle should apply in Thiruvananthapuram. Accountability cannot change with geography.The culture of hero worship also deserves attention. Student politics should produce independent thinkers, not permanent cheerleaders. Universities should encourage questioning, debate and intellectual freedom. Instead, many campuses often appear divided into political camps where loyalty to organisations becomes more important than loyalty to truth. Students slowly become defenders of leaders instead of defenders of values.

History shows that every great political movement eventually declines when internal criticism disappears. Organisations become stronger when young members ask uncomfortable questions. Silence protects individuals. Questions protect institutions. The youth of Kerala deserve better than endless ideological battles. They deserve transparent recruitment, fair examinations, merit-based appointments, accountable governance and affordable education. They deserve leaders who practise the ethics they preach. Political colour should never become a licence to escape scrutiny. No party enjoys a permanent monopoly over honesty. No ideology provides permanent immunity from corruption. The Left, the Right and every regional party must face the same public standards. Democracy becomes healthier when criticism is applied equally.

Kerala has one of India's most politically aware societies. That awareness should now move beyond slogans. Students who fight against corruption should oppose corruption wherever it exists. Teachers who speak against commercialisation should first demand complete transparency in appointments. Youth organisations that oppose injustice should challenge injustice within their own political families before searching for enemies elsewhere. Real courage is not shouting slogans outside Parliament. Real courage is speaking truth inside one's own party office. The future of Kerala will not be decided by the loudest slogans or the biggest marches. It will be shaped by a generation willing to ask difficult questions without fear or political favour. Every movement that seeks moral authority must first earn moral credibility. The shortest march towards justice is often the one that begins at one's own doorstep.

If you'd like, I can also make this **sharper and more satirical**, in the style of a newspaper columnist, using irony and humour while avoiding statements that could present unverified allegations as facts.

Run Silent, Run Deep

By Commodore S.L. Deshmukh

The author is a retired naval aviation officer and a defence and geopolitical analyst.

Pakistan’s Hangor-class submarines expose not just a shifting naval balance in the Indian Ocean, but also the cost of India’s chronic delays in defence procurement.

The balance of power in the Indian Ocean is increasingly being shaped by vessels that are designed never to be seen. Pakistan’s induction of the Hangor-class submarine represents a calculated shift in Islamabad’s maritime strategy, backed by China, and poses uncomfortable questions about India’s own submarine modernisation.

The Pakistan Navy has made little secret of its ambitions. Having commissioned the first Hangor-class submarine in April 2026 and received the third China-built boat, it has signalled its intention to maintain a sustained naval presence not only in the Arabian Sea but also in the Bay of Bengal. Such deployments would extend Pakistan's operational reach far beyond its traditional theatre and add another layer of complexity to India's maritime security calculations.

The Chinese Connection

The Hangor class is an export variant of China’s Type 039A/039B Yuan-class diesel-electric attack submarine, already in operational service with the People's Liberation Army Navy. The programme illustrates the depth of strategic cooperation between Beijing and Islamabad. Under an estimated USD 5 billion agreement, Pakistan is acquiring eight submarines, with four being built in China and the remaining four assembled at Karachi Shipyard and Engineering Works under a technology-transfer arrangement. It is one of the largest defence-industrial collaborations between the two countries and further cements China’s role as Pakistan's principal military supplier.

The significance of the Hangor class lies less in its numbers than in its technology. Unlike conventional diesel-electric submarines that must periodically surface or snorkel to recharge batteries, thereby exposing themselves to detection, the Hangor is equipped with Air-Independent Propulsion (AIP). Using a Stirling-cycle propulsion system derived from Chinese designs, it can remain submerged for as long as three weeks while operating silently at patrol speeds. For a submarine, invisibility is survival. AIP substantially enhances stealth and complicates the task of anti-submarine forces seeking to locate and track it.

Special Features

The submarines incorporate additional measures to reduce their acoustic signature. Their outer hulls are coated with sound-absorbing rubber tiles, while engines and machinery are mounted on vibration-dampening shock absorbers to minimise underwater noise. Although Pakistan originally intended to use German MTU diesel engines, Western export restrictions forced a switch to China's CHD 620 engines. While these Chinese powerplants may require more frequent maintenance than their Western counterparts, they remain fully operational and do not fundamentally diminish the submarine's combat effectiveness.

Nor are the Hangor boats merely difficult to detect. They are heavily armed. Six 533 mm torpedo tubes enable them to launch heavyweight torpedoes against surface ships and submarines alike, while Chinese anti-ship cruise missiles such as the YJ-18E or CM-708UNB provide a potent stand-off strike capability. Combined with advanced sonar suites, including towed-array sonar, electro-optical sensors and a Pakistani-developed combat management system, the class offers Pakistan a credible platform for sea denial and anti-access operations.

China's motivations are not difficult to discern. Strengthening Pakistan's underwater fleet helps secure sea lanes across the Arabian Sea and northern Indian Ocean while simultaneously stretching India's naval resources. It also fits neatly into Beijing's broader strategy of expanding influence across the Indo-Pacific through infrastructure investment, military cooperation and strategic partnerships.

Pakistan's growing underwater fleet introduces greater uncertainty into Indian naval planning, particularly if Hangor-class submarines begin regular deployments into the Bay of Bengal. Such operations would complicate surveillance, threaten maritime trade routes during crises and demand a more persistent anti-submarine warfare posture from the Indian Navy.

Yet the more troubling story lies within India's own procurement system. For well over a decade, India's conventional submarine modernisation has been characterised by indecision, procedural delays and bureaucratic caution. Project 75(I), conceived to build six next-generation conventional submarines equipped with Air-Independent Propulsion, has repeatedly slipped behind schedule. What should have been a timely replacement programme has instead become a case study in how strategic urgency can be overwhelmed by administrative complexity.

Several factors contributed to these delays. India's insistence on acquiring a proven AIP system, while understandable given the sophistication of the technology, significantly lengthened the evaluation process. Successive rounds of technical assessments, commercial negotiations and stringent indigenous manufacturing requirements further prolonged decision-making. At the same time, limitations in domestic shipbuilding infrastructure, particularly in integrating new technologies at Mazagon Dock Shipbuilders Limited, slowed progress even further.

The result is a widening capability gap. Many of the Indian Navy's Kilo-class submarines are approaching the limits of their operational lives, yet their replacements remain years away. Although the Union government has now cleared the approximately Rs. 70,000 crore Project 75(I), paving the way for a contract between Mazagon Dock Shipbuilders Limited and Germany's Thyssenkrupp Marine Systems, the first submarine is unlikely to enter service before the early 2030s. Full induction of all six boats may not be completed until the latter half of that decade.

For the next seven or eight years, India's underwater fleet will continue to rely heavily on ageing conventional submarines, while regional competitors induct quieter and more capable platforms. Although the Indian Navy's professionalism, network-centric operations and growing fleet of maritime patrol aircraft will help offset some disadvantages, technology cannot be indefinitely substituted by tactics alone.

Defence capability is determined not merely by budgets or industrial ambition but by the speed with which strategic decisions are translated into operational assets. In modern warfare, delays are themselves a strategic liability.

India retains considerable maritime advantages. Its navy remains larger, more experienced and increasingly integrated with like-minded partners across the Indo-Pacific. Indigenous nuclear-powered submarines are progressing steadily, and Project 75(I), once underway, will strengthen conventional underwater capabilities significantly.

But Pakistan's Hangor-class submarines serve as a reminder that strategic competition rarely waits for procurement files to move.

Read complete article on website theperfectvoice.in

Free ISRO from Bureaucratic Control. The Public-Private Space Model Needs It

By Dr. Seshadri Chari

The author is the former editor of 'Organiser'. He is General Secretary of FINS.

It is sad and frustrating to see the massive talent exodus from ISRO. The reasons for this are not far to seek: lack of vision, bureaucratic rigidity and organisational inertia.

As Prime Minister Narendra Modi said earlier this month, the successful orbital launch of Vikram-1, India's first privately developed launch vehicle, is "a historic new frontier for India's space journey".

This milestone signals a new chapter in India's space programme, based on the foundation laid by ISRO but with fewer bureaucratic constraints and more room for private enterprise.

Before looking at how India can build on this momentum, it is worth revisiting the country's space journey over the past several decades.

ISRO's pioneering groundwork

What began as the Indian National Committee for Space Research (INCOSPAR), founded by Dr Vikram Sarabhai in 1962, evolved over time into the Indian Space Research Organisation (ISRO) in 1969.

India's first step into outer space was the launch of the Aryabhata satellite in 1975. Three decades later, Chandrayaan-1 added value to lunar exploration by discovering water molecules on the Moon. In 2014, India became the first country to reach Mars on its maiden attempt with the Mars Orbiter Mission, Mangalyaan. ISRO further solidified its scientific prowess with Chandrayaan-3, Aditya-L1 and the SPADEX space docking experiment.

Behind many of these recent successes was ISRO's long effort to develop its own launch capabilities.

ISRO began developing the solid-fuelled Satellite Launch Vehicle-3 (SLV-3) in 1973 under its then project director, and later President of India, Dr APJ Abdul Kalam. In 1980, it launched the 40 kg remote sensing satellite Rohini, making India the seventh country to demonstrate the capability to launch a satellite and place it in orbit. The development of the Augmented Satellite Launch Vehicle (ASLV) in the late 1980s and the launch of the Polar Satellite Launch Vehicle (PSLV) in October 1994—which placed the 870 kg Indian Remote Sensing (IRS) P2 satellite into Low Earth Orbit (LEO) at an altitude of 825 km—were ample proof of India's self-reliance.

The Indian space agency also developed the technological capability for outer space exploration through the Geosynchronous Satellite Launch Vehicle (GSLV), designed to place heavier payloads into Geosynchronous Transfer Orbit using cryogenic rocket engines.

Desperately in need of this technology, India signed a USD 120 million deal with Glavkosmos of the Soviet Union in January 1991 for the supply of two KVD-1 cryogenic engines and the transfer of technology.

As the India-Russia agreement was being put in place, the US, in July 1993, arm-twisted both countries by imposing sanctions on ISRO and Glavkosmos, stalling the engine supply on the grounds that it violated the Missile Technology Control Regime (MTCR). ISRO responded by launching its ambitious indigenous Cryogenic Upper Stage (CUS) project in 1995 and eventually mastered the ultra-low-temperature technology.

Giant leaps & systemic setbacks

Due to the untiring efforts and monumental research of ISRO's scientists, and the vision of successive governments, India's space programme over the decades has leapt forward on three major fronts: technological capacity building, strengthening self-reliance, and laying the foundations for public-private partnerships in space-related commercial ventures through R&D and innovation.

ISRO's space-based innovations, projects, launches and applications are now supporting governance, commercial payment systems and banking, healthcare, education, disaster management and livelihoods in India, while also providing support to countries in the region. GSAT-9, conceived as the SAARC satellite and launched as the South Asia Satellite in 2017 after Pakistan opted out, is a Rs 450 crore geostationary communication satellite equipped with 12 Ku-band transponders. It provides Fixed Satellite Services (FSS), including television broadcasting, DTH, VSAT connectivity, tele-education, telemedicine, as well as delivering critical communication links and real-time coordination during natural disasters such as cyclones, earthquakes and floods.

Against this backdrop, it is sad and frustrating that the government's premier institution for pioneering research in outer space should experience a massive talent exodus.

The reasons for this are not far to seek: lack of vision, bureaucratic rigidity and organisational inertia.

While nothing prevents ISRO from commercialising and monetising its capabilities and investment in research, the government also made the wise choice of allowing private investors to tap into the agency's expertise, as is the method followed by American institutions and industries.

India's next space odyssey

On 18 July, Skyroot Aerospace Private Limited, founded in 2018 by former ISRO engineers Pawan Kumar Chandana and Naga Bharath Daka, successfully executed the Aagaman mission, launching Vikram-1 from Sriharikota. It thereby announced India's entry into the private orbital launch market.

Incidentally, just a few days before the launch, Brian Babin, chairman of the US House Committee on Science, Space and Technology, was eulogising America's "innovative commercial sector". He also sounded a warning: "As other nations, particularly China under the Chinese Communist Party, seek to overtake us in space, we must ensure that American innovators are competing against our adversaries—not against unnecessary government bureaucracy."

ISRO was experiencing precisely this — being stifled by bureaucracy.

The US presents a different model. Mike Haridopolos, chairman of the Space and Aeronautics Subcommittee, speaking about the thriving commercial space sector, said that the American aerospace industry now supports nearly 150,000 private sector jobs, more than five times the roughly 30,000 jobs it sustained just 15 years ago. The number of launches in the US, he added, had grown from 54 in 2021 to 199 in 2025.

Now, ISRO and India's private sector can jointly position the country as a leader in astronautical and aeronautical research and commercial projects.

Commercial ventures must be incubated in research projects from the beginning to reduce risk and improve their viability. However, research, innovation and commercial space ventures require huge investments, robust supply and value-chain mechanisms, strong legal and security systems, and government facilitation to discharge international obligations.

Prime Minister Narendra Modi should personally intervene and initiate a massive reform process. This should include reducing bureaucratic control, giving greater autonomy to ISRO's top management, allowing scientists to participate in industry and university projects without quitting ISRO, and strengthening the New Space India Limited (NSIL) and Indian National Space Promotion and Authorisation Centre (IN-SPACe).

Even the sky is not the limit for India's space odyssey.

Read complete article on website theprint.in

E20: A Debate That Needs Science and Economics More Than Rhetoric

By Uday Kumar Varma

Author is a former Secretary, Information and Broadcasting, GOI

When a fuel blend becomes the subject of political campaigns and even gives birth to a political outfit, it is evident that the debate has travelled well beyond chemistry. India's transition to E20 petrol—20 per cent ethanol blended with 80 per cent petrol—has generated sharply divided opinions. Supporters see it as a milestone in energy security and environmental responsibility. Critics point to lower mileage, possible problems for older vehicles, and the environmental and economic costs of producing ethanol. The recently formed E20 Janta Party, demanding the option of buying unblended petrol, is a striking illustration of how quickly a technical policy can become a political issue. At least two major national opposition parties have also declared their opposition to the use of the blended fuel.

The fundamental question, however, is: whether even if E20 is technically feasible, is it the best way for India to pursue its energy future?

The answer requires separating three questions.

First, is E20 scientifically sound?

Broadly, yes—with qualifications. Modern vehicles designed for E20 are engineered to operate on it. Older vehicles may not be equally compatible with higher ethanol concentrations,

and manufacturers should provide clear guidance to owners. Ethanol also contains less energy per litre than petrol. A modest reduction in fuel economy is therefore inherent in the fuel itself, not evidence of faulty engineering.

These are legitimate consumer concerns. But claims that E20 will universally damage engines are equally difficult to sustain. India's experience suggests that E20 is technically viable when used in vehicles and fuel systems designed or certified for it.

Second, is E20 economically justified?

Here the national perspective matters. India imports about 88 per cent of the crude oil it consumes, leaving its economy vulnerable to international prices and geopolitical disruptions. Ethanol blending has risen from 1.53 per cent in 2014-15 to 20 per cent in 2025-26. According to the Ministry of Petroleum and Natural Gas, the programme has, since 2014-15, substituted more than 310 lakh metric tonnes of crude oil and saved over ₹1.9 lakh crore in foreign exchange, besides generating substantial additional income for farmers.

These are significant gains. But they should not be treated as the final word. The real economic benefit of ethanol must be assessed on a net basis. Ethanol itself requires land, water, fertiliser, energy, transport and processing. The foreign exchange saved by reducing crude imports is therefore not necessarily equivalent to the net energy or economic gain to the country. This is a legitimate area for independent scrutiny.

This is also where the argument for giving greater priority to solar power and electric vehicles deserves serious consideration. Converting sunlight directly into electricity and using that electricity to power an EV is, in principle, a more efficient way of converting solar energy into mobility than growing a crop, processing it into ethanol and then burning it in an internal-combustion engine.

But this does not make ethanol redundant.

India has hundreds of millions of vehicles already on its roads. Replacing the existing fleet with EVs will take years, perhaps decades. Charging infrastructure, grid capacity, battery costs and the economics of different categories of transport also vary considerably. E20, by contrast, can reduce petroleum consumption within the existing vehicle fleet. It is therefore better understood as a bridge, not a competitor to the electric future.

Nor is every transport application equally amenable to electrification. While electric mobility is likely to dominate much of tomorrow's passenger-vehicle market, liquid fuels will continue to have a role in several heavy-duty, agricultural and other applications. Sustainable biofuels may therefore remain part of a diversified energy portfolio.

Third, can E20 itself become greener and more efficient?

This is perhaps the most important question for the future.

India should be cautious about expanding ethanol production through ever-greater dependence on food crops or water-intensive sugarcane. The food-versus-fuel question is real, as is the ecological cost of water and agricultural inputs. The next generation of ethanol policy should therefore increasingly favour second-generation ethanol, produced from crop residues, agricultural waste and other non-food biomass.

That would allow India to extract value from material that is otherwise often burnt or wasted, while reducing pressure on food production and water resources.

The experience of other countries is instructive. Brazil has demonstrated that ethanol can become a major component of a national transport system, supported by flex-fuel vehicles. The United States has demonstrated both the scale that biofuels can achieve and the controversies

surrounding their agricultural and environmental costs. India need not copy either model. It can develop its own combination of solar power, electric mobility, biofuels, public transport, storage and other emerging technologies.

The objective, therefore, should not be to choose E20 or EVs, ethanol or solar. It should be to determine where each technology makes the greatest economic and environmental sense.

E20 may not be the most efficient long-term solution to India's energy challenge. Solar electricity, batteries and electric mobility are likely to play a much larger role in the India of tomorrow. But abandoning ethanol today would ignore the reality of the enormous internal-combustion fleet already on the road and the energy-security gains that domestic ethanol can provide.

The wiser course is to treat E20 as a transition technology: use it where it makes sense, disclose its costs honestly, protect consumers, continuously test its environmental and economic performance, and progressively shift its feedstock towards waste and non-food biomass. At the same time, accelerate investment in solar power, electricity storage, charging infrastructure and EVs.

The E20 debate should therefore not be about defending a government policy or defeating an opposition campaign. It should be about asking what combination of technologies will give India the greatest energy security with the least environmental and economic cost.

Nations are built not only by the technologies they invent or adopt, but also by the maturity with which they debate them. A nation that hesitates before every technological transition risk being overtaken by those willing to innovate responsibly. India's challenge is not to choose between science and political expedience; it is to ensure that the nation chooses the best options available to it.

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India is Proud of:

Capt. Santosh Kumar

Retired Army Officer Uses Century-Old Maps to Bring 14 Dry Bengaluru Lakes Back to Life

What happens when rain can no longer find the path it has followed for centuries? In Bengaluru, it floods roads instead of filling lakes.

Every monsoon, cars stall in waterlogged streets, homes flood, and the city slows after a few hours of heavy rain. Yet several lakes remain dry.

For retired Army officer Captain Santosh Kumar, the contradiction demanded an answer. If the city received enough rain to flood entire neighborhood, why was that water failing to reach its lakes?

The answer lay beneath roads, buildings and decades of urban expansion, inside Bengaluru’s forgotten network of Raja Kaluves. These ancient channels carried rainwater from one lake to another, protecting the city from floods while replenishing its water bodies.



Using British-era maps from 1923, Captain Santosh began tracing the water ways Bengaluru had buried.

Captain Santosh retired from the Army in 2008 and returned to Muthanallur in Anekal Taluk, on Bengaluru's outskirts.

His search first revealed that water was being illegally extracted from lakes in Anekal for commercial tanker supply. The extraction explained only part of their decline.

Between 2017 and 2019, he documented lakes and storm water drains across the taluk. A pattern emerged. The lakes were drying because the channels that fed them had been encroached upon, built over or buried beneath concrete.

For centuries, Bengaluru's lakes had worked as an interconnected system. More than 500 years ago, under Kempe Gowda's city planning, Raja Kaluves guided rainwater through the city's natural valleys. Water moved from one lake to another, slowing runoff, recharging groundwater and reducing floods.

As those links disappeared, rainwater began collecting on roads and in neighbourhoods.

Captain Santosh searched historical records and found detailed British-era maps prepared in 1923.

Guided by the maps, he walked through villages and neighborhood, comparing old waterways with today's landscape. He traced forgotten channels and documented stretches blocked by construction and encroachment.

While studying the link between Muthanallur Lake and Bidaraguppe Lake, he identified four historic Raja Kaluves. One had lost all visible signs of its original purpose and had become an encroached stretch of land.

Captain Santosh worked with local residents to gather evidence and secure approvals from the Minor Irrigation Department and the Deputy Commissioner of Bengaluru Urban district. Together, they restored nearly four kilometres of the channel, reconnecting it to Battalakere Lake, a key link in the chain.

The next monsoon brought proof.

Neighbouring areas flooded again. Muthanallur escaped the flooding.

The revived Raja Kaluve carried rainwater along its original course, directing it into interconnected lakes instead of roads and homes.

The result strengthened Captain Santosh's belief that Bengaluru could recover much of its resilience by restoring the system it had inherited.

He expanded the effort across Anekal Taluk, helping revive 14 ancient lakes. Many are believed to be nearly 1,000 years old, with several dating to the reign of Rajaraja Chola I.

Bengaluru has an estimated 800 kilometres of stormwater drains, many altered by rapid urbanisation. Roads and buildings have expanded across natural drainage paths, leaving rainwater with fewer routes to move safely.

Speaking to The Indian Express in 2022, Captain Santosh said, “In natural settings, rainwater either gets soaked into the soil or makes its way to rain streams, lakes and rivers. If these are maintained efficiently, we will never face floods and calamities.”

His work points to a simple truth: a city’s resilience can begin by remembering the pathways its water once knew.

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