

## Diplomatic Immunities - Indo-Canadian Issue Part - 1

**By Dr.Santhosh Mathew**

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Factually, Canada is the world's second largest country and India the most populous democracy. Canada is home to the most number of Sikh population besides India. Canada is also the bosom neighbour of America and according to some critics, the 51st US state! And at present, the world stands witness to the diplomatic warfare between two most ever-hailed democratic superpowers. Diplomatic security measures have once again taken centre stage as tensions escalated between Canada and India, leading to the mutual expulsion of diplomats from both nations.

The diplomatic relations between Canada and India have plunged into turmoil following Canadian Prime Minister Justin Trudeau's startling accusation that Hardeep Singh Nijjar, leader of the Khalistan separatist movement, was assassinated in Canada by Indian intelligence agencies. In a retaliatory exchange of diplomatic measures, Canada expelled Pawan Kumar Rai, the head of India's Intelligence Agency (R&AW) station, and India reciprocated by expelling Olivier Silvester, the head of the Canadian Intelligence Agency in India. This tension follows Canada's recent withdrawal from a free trade treaty with India, further complicating the bilateral relationship. Nijjar, aged 45 and the leader of the Khalistan Tiger Force, had an INR 10 lakh bounty on his head issued by India's National Investigation Agency (NIA). He was fatally shot on June 18th in Canada while sitting in a vehicle near a Gurdwara, allegedly by two individuals on a motorbike. Trudeau, speaking in Canada's House of Commons, insinuated a link between Nijjar's murder and agents of the Indian government, a claim that has added fuel to the fire.

Trudeau had reportedly expressed his concerns about the killing of a Canadian citizen on Canadian soil during the G20 summit, deeming it an infringement on Canada's sovereignty. Subsequently, Pawan Kumar Rai, a senior Indian diplomat, was expelled from Canada, prompting India to reciprocate with the expulsion of a Canadian diplomat. Canada argues that India's actions are an attempt to divert attention away from the Khalistan issue, reiterating its stance of sympathizing with those who oppose India. India's Ministry of External Affairs, however, expressed concerns over the involvement of Canadian diplomats in India's internal affairs and their alleged participation in activities against India. The Indian government has recently pointed out the growing support for Khalistan activities in Canada, further straining the bilateral relationship. Trudeau's statement that Canadian intelligence agencies are investigating Indian government agencies' involvement in Nijjar's murder adds a layer of complexity to the situation. Canadian External Affairs Minister Melanie Jolly warned that if these allegations are substantiated, India's actions would be viewed as a violation of Canada's sovereignty, intensifying an already contentious diplomatic standoff.

This marks the first instance in which both nations have resorted to the expulsion of diplomats, despite historical tensions between India and Canada surrounding the Khalistan issue. Notably, India has faced similar challenges with Great Britain, Australia, and the United States on Khalistan-related matters, including attacks by Khalistan separatists on Indian diplomatic institutions in these countries. However, what sets Canada apart is the significant political influence wielded by the Sikh community within the nation. Canada boasts 19 Members of Parliament of Indian origin, and Sikhs have even risen to prominent positions, including the office of the defence minister. This is in stark contrast to Great Britain, Australia, and the US, where, although Sikhs are present, they do not hold comparable political sway as they do in Canada. In Canada, individuals of Indian descent, primarily Sikhs, make up approximately 16% of the population, translating to roughly 3% of the entire Canadian populace. This demographic composition underscores the significance of the Sikh community in the Canadian political landscape, and it is this unique dynamic that adds an additional layer of complexity to the ongoing diplomatic tensions between the two nations.

Canada, the world's second-largest country, has cultivated a long-standing relationship with India, fuelled by robust educational opportunities and immigration prospects. Canada boasts the largest population of international students, attracting individuals from around the globe, including a substantial contingent from India. This connection is further underscored by the fact that Canada hosts the world's second-largest Sikh community, following only India itself. Amidst ongoing diplomatic tensions, the well-being of Indian students and professionals in Canada becomes a paramount concern. The continued support and integration of these individuals, alongside the broader immigrant community, are vital not only for the Indian diaspora but also for the overall fabric of Canadian society. Any disruptions in this delicate balance could potentially impact the bilateral relationship in a significant and consequential manner. The Canada-India relationship strain spans 45 years, rooted in concerns over Canada's perceived leniency towards anti-India activities. Sikhs began migrating to Canada in the early 20th century, gaining prominence by the 1970s. Tensions escalated in the 1970s after India's nuclear test, upsetting then-Canadian PM Pierre Trudeau. The Khalistan movement found a foothold in Canada, with some Sikhs seeking refuge due to alleged political oppression in India. The tragic Air India Flight 182 bombing in 1985, led by Thalveender Singh Parmar, killed 307 passengers and 22 crew members, marking a dark chapter in Canadian history. Language proficiency in English among Khalistan leaders, descendants of Sikh fugitives in the 1980s, further fuelled the movement's growth in Canada.

Justin Trudeau's election as PM in 2015 saw a resurgence of Khalistani ideologies, with Khalistan supporters backing the Liberal Party. India's case against Ripudaman Singh Malik led to his relocation to Canada, prompting Canadian gratitude in 2022. Reports highlighted Khalistan extremism in Canada, while Canada's open stance towards Sikh for Justice's referendum raised concerns. Despite efforts to renew ties, Khalistani activities continue to strain relations, akin to the Indo-Pacific controversy naming India a "crucial partner" last year.

In diplomacy, interests, not permanent friends or foes, take precedence, with a legacy dating back to Chanakya's 'Arthashastra' and Machiavelli's 'The Prince.' Effective diplomacy hinges on a delicate balance of policy and strategy. Amidst the lexicon of diplomacy, Latin phrases like "persona non grata" gained notoriety in the context of Devyani Khobragade's expulsion, while "consular access" became synonymous with Kulbhushan Yadav's case. In the intricate diplomacy involving India, China, and Pakistan, the term "common enemy" succinctly captures the prevailing dynamic.

In T. N. Kaul's book "Diplomacy in Peace and War," Henry Kissinger's diplomatic expertise is scrutinized, shedding light on the nuances of diplomacy and its occasional exceptions. Kaul humorously describes diplomacy as 50% protocol, 40% indulgence, and 10% T.N. Kaul, although in recent times, gold has eclipsed indulgence in this equation. Various forms of diplomacy have emerged, each with its own unique label.

"Ping pong diplomacy" characterized China-U.S. relations through table tennis, while "oil diplomacy" referred to Iran's discounted oil sales to India. The latest addition is "golden diplomacy" from Kerala in India, involving clandestine gold smuggling in diplomatic baggage. This intriguing development underscores Indians' profound affinity for gold, viewing it as a symbol of beauty, luxury, investment, and allure. India accounts for a third of global gold consumption, highlighting the nation's insatiable appetite for the precious metal. As previously noted in my article on the First World War, the exploitation of Indians' gold predilection remains a compelling narrative, continuing to shape diplomatic incidents today.

Clandestine gold smuggling via diplomatic channels seems like a familiar story, but understanding the concept of diplomatic baggage is crucial. According to the Vienna Convention of the United Nations, diplomatic baggage comprises items intended for the official use of a diplomatic mission or consular official, as well as articles meant for their families. The Convention specifies that family members can be citizens of the sending country or individuals granted diplomatic security and special privileges by the host nation. Importantly, both the Vienna Convention and India's Customs Prevention Manual emphasize that customs officials are not authorized to impede or inspect diplomatic or consular baggage. An article is considered diplomatic once the sending country affixes its official seal, as stipulated by any international treaty. To grasp the difference between ambassadors and high commissioners, it's essential to note that high commissioners represent former British colonies, directly appointed by their respective nations, while ambassadors represent all other countries. For instance, India's representative in the United Kingdom holds the title of high commissioner, whereas the French envoy is designated as ambassador. Diplomats serve as emissaries of their home countries on foreign soil, with embassies typically established in the host capital. Ambassadors are appointed by their sending country's leaders, symbolising their nation's diplomatic relations and interests on the global stage.

**To be continued in next issue .....**

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## **US-China Chip War Is India's Opportunity**

**By Srikanth Kondapalli**

Author is Dean of School of International Studies and Professor in Chinese studies at Jawaharlal Nehru University.

The US-China technology Cold War and China's quest to expand indigenous capacity and self-reliance, as the US denies seeks to deny China hi-tech components for military use, are all shaping recent dynamics.

The US restrictions on semiconductor components and technologies to China is a gathering storm, with retaliation and counter-retaliation measures spilling over into the supply chains and geopolitics.

The ominous signals of the US restrictions on China are visible of late. It began with the Trump administration's tariffs on China's exports. A second sign was the semiconductor export controls imposed by the US in April 2018 on China's telecom giant ZTE (Zhongxing) for repeatedly violating US laws on exports to Iran.

A third sign was the arrest of Meng Wanzhou, the daughter of Huawei chief Ren Zhengfei. Meng was taken into custody by Canadian authorities at the behest of the US, for her alleged links to Iran. China retaliated by arresting two Canadian citizens not linked to this episode. Meng was finally released in a "hostage swap" deal, only for it to intensify the semiconductor war.

The US restrictions are expected to constrain China's expansion programmes, specifically in AI-enabled military applications, but also trigger intensive indigenous efforts. China's vulnerability is reflected in the fact that it imports half of global chip sales, estimated at about \$500 billion.

China undertook two countermeasures. It retaliated by banning export of germanium and gallium to the US, essential for the production of semiconductors. Beijing also took the complaint to WTO. Previously, China banned the export of rare earth metals to Japan citing historical issues between the two countries. In another measure, it began subsidising domestic IT industry with more than \$150 billion.

China had assiduously built its domestic industry under Party-State dominance and priorities. Yangtze Memory Technologies Corp, Semiconductor Manufacturing International Corporation, Hua Hong and other companies have expanded substantially in enhancing semiconductor capacity. However, despite many successes, the industry is wracked by its dependence on State subsidies, lack of R&D investments, rampant corruption, and being copycats.

The Chinese countermeasures appear to be counterproductive. While China put up a brave face by announcing a 7-nanometer chip (compared to its predominantly 24-nm capability) and Huawei released the 5G-capable Mate-60 Pro. But this appears to be for demonstrative effect. The US, Taiwan and South Korean companies produce 3- and 4-nm chips already.

In March this year, the US cobbled up a multilateral pact with Japan and Netherlands to stop chip-making technology from going to China. Beijing has been assiduously pursuing measures to acquire such technologies from the US and Netherlands.

With ambitions of becoming a "digital superpower" and sourcing 70% of integrated circuits and other parts through the 'Made in China 2025' campaign launched in 2015, China wanted to seize the opportunity but with initial US support. That dream has become an uphill task now. Beijing seems to have opened its cards too early, especially at a time when it is still recovering from the Covid pandemic, with declining economic growth and restrictions on its own big businesses.

China had imposed restrictions on the US company Micron and even arrested its employees last year on espionage charges. Many US tech companies are toying with the idea of relocating from China to other green pastures in Southeast Asia and India.

These technology and geopolitical issues occur alongside China's threat to invade Taiwan, the major semiconductor exporter in the world today. Taiwan invasion scenarios have created tensions in the US and Taiwan and brought back options of relocating the semi-conductor industry to other markets. Taiwan's TSMC has agreed to open a plant in Arizona and explore other markets.

Despite public postures of openness, transparency, WTO-compliance and level-playing field, China is a highly restricted market for the US, European, Japanese or even Indian products. For instance, none of the Indian software products are allowed in China's State-owned enterprises, not to mention extensive restrictions and firewalls embedded in China's IT platforms.

The US-China semiconductor war could be an opportunity for India in terms of relocation of the global industry in a phased manner, upgradation of India's capacities, and supply chain reorganisation. Already, Micron, which was victimised in China, is setting up a testing and packaging centre in Gujarat, with over \$830 million in investments. Taiwan's TSMC and Foxconn companies are actively in talks or have established their presence in the semiconductor industry in India.

**[Read complete article on website deccanherald.com](https://www.deccanherald.com)**

# What The India-Middle East-Europe Economic Corridor Means For India And The World

**By Brig Hemant Mahajan, YSM**

Author is M Sc, M Phil in Defence Studies. He joined IMA Dehradun in July 1973 and passed out as a Commissioned Officer on 15 June 1975. He commanded his battalion 7 MARATHA LIGHT INFANTRY in Operation Rakshak in the most difficult areas of Poonch and Rajouri.

The India-Middle East-Europe Economic Corridor (IMEC) was revealed during the recent G20 summit in Delhi, where India joined forces with Saudi Arabia, the European Union, and the United States to introduce a comprehensive infrastructure project designed to enhance connectivity between these regions. This ambitious multimodal corridor aims to link India with Europe through West Asia, and its significance is not to be underestimated. Many strategic experts see it as a strategic response to China's Belt and Road Initiative. Concerns regarding its economic feasibility have been raised. Further, geopolitical considerations have sparked suspicion among few nations.

The IMEC represents a cross-continental rail and shipping network that spans across Asia and Europe. Its primary goal is to foster economic development by enhancing connectivity and economic integration between the Asian, Arabian Gulf, and European regions.

## **IMEC comprises two distinct corridors**

To materialize this ambitious initiative, a Memorandum of Understanding (MoU) has been signed by Saudi Arabia, the European Union, India, the UAE, France, Germany, Italy, and the US.

IMEC comprises two distinct corridors: the east corridor linking India to the Arabian Gulf and the northern corridor connecting the Arabian Gulf to Europe. It involves railway projects designed to establish a reliable and cost-effective ship-to-rail transit system, complementing existing maritime and road transport routes. This network will facilitate the movement of goods and services between India, the UAE, Saudi Arabia, Jordan, Israel, and Europe.

The objectives behind IMEC are multifaceted, with a focus on generating economic growth, attracting new investments, promoting commercial hubs, facilitating clean energy exports, supporting existing trade and manufacturing ties, and strengthening food security and supply chains. Additionally, the project aims to connect energy grids and telecommunications via undersea cables, expanding access to electricity and the Internet.

## **Improved Connectivity, Economic Integration**

The IMEC project encompasses a range of transportation and communication elements, including rail and shipping routes, undersea electricity and telecommunications cables, and pipelines for clean hydrogen exports. This initiative is expected to foster improved connectivity and economic integration among participating nations, which include India, the United Arab Emirates, Saudi Arabia, Jordan, Israel, and European Union member states. It holds the potential to strengthen India's strategic ties with Saudi Arabia and the UAE, as well as further normalize relations between Israel and some Arab states. These developments increase the prospects of the corridor's success.

## **India to Europe via West Asia**

From a strategic standpoint, IMEC is pivotal due to its provision of connectivity for data and green hydrogen pipelines, in addition to transportation corridors. The corridor serves as a crucial link between India, the Gulf Cooperation Council (India's largest trading partner), and the European Union (its second largest).



This project will also bolster India's strategic engagement with West Asia, an area in which it has been actively enhancing its political and strategic relationships, exemplified by initiatives like the I2U2 quad, consisting of India, Israel, the UAE, and the United States.

Seen as a counter to China's Belt and Road Initiative (BRI), IMEC represents one of the two projects supported by the Partnership for Global Infrastructure and Investment, initiated by the Group of Seven nations in July 2022. This partnership emphasizing financial accountability, transparency, environmental sustainability, capacity building, and preventing low and middle-income countries from falling into debt traps is a distinct alternative to China's BRI.

### **Offering An Alternative To BRI'**

Comparing IMEC with China's Belt and Road Initiative (BRI), it's noteworthy that some of the countries involved in the IMEC MoU, such as Italy, Saudi Arabia, and the UAE, are also associated with BRI, although Italy has decided to withdraw from it. IMEC shares similarities with BRI in terms of global trade and infrastructure connectivity but emphasizes financial responsibility, transparency, and sustainability, offering an alternative to BRI's debt-related challenges.

The debate regarding the corridor's viability continues, with some arguing that the Suez Canal route remains a more practical option. Nevertheless, experts claim that IMEC could be up to 40% faster than the existing maritime route through the Suez Canal, a view supported by the European Union. By reducing reliance on the Suez Canal, which currently takes 17 to 18 days for Europe-bound shipments, IMEC could create a more efficient and faster alternative.

### **Geopolitical Challenges**

Turkish President Erdoğan has voiced opposition to the corridor because it bypasses Turkey. Turkey has intricate relations with some of the corridor's participants, including Saudi Arabia and Israel. Cyprus and Greece, two other nations along the proposed corridor, have historical rivalries with Turkey. While China welcomed the project, it cautioned against its use as a "geopolitical tool."

### **Significant Benefits to India's External Trade**

IMEC is expected to significantly benefit India's external trade by increasing efficiency, reducing costs, promoting economic unity, creating jobs, and lowering greenhouse gas emissions. This cross-border corridor will decrease logistics expenses and boost trade in goods and services between the UAE, Saudi Arabia, India, and Europe.

For instance, India's engineering exports primarily target the Middle East and Europe, and this corridor will enhance these exports' prospects. Additionally, it provides India with an opportunity to establish green hydrogen and green ammonia hubs along the coasts and supply these commodities via the shipping and rail network, increasing the competitiveness of Indian exports.

The implementation of IMEC poses various challenges. A comprehensive plan for the corridor, including financial commitments, is expected to happen in the coming months. Building a network of railway lines, roads, and port connectivity across multiple countries requires meticulous coordination and planning. The corridor also traverses through Jordan and Israel, raising geopolitical challenges that necessitate a delicate balance between economic and diplomatic considerations.

Initially, the existing UAE-Saudi-Amman rail network with construction of additional 300 km of network connecting Amman with port Haifa, Israel will be operationalised. As the UAE foresee rich business dividends from this project, it is willing to finance the remaining stretch of 300 km on a priority basis.

The network will support the seamless movement of goods under a digital and single trade document, harmonised transport rules and will be far cheaper operationally than the Suez Canal route, considering its high charges for vessel towing, tug-boat services, pilotage, transit fee etc.

Additionally, the IMEC envisions the development of three industrial corridors namely food, green energy and knowledge economy. The commitment of participating countries is reflected in their joint pledge of committing themselves to a diligent formulation of an action plan for sources of funding, network route and alignments, design and layout and allocation of work among participating countries within next 60 days from date of signing of MOU.

For sustaining revenue sources (i.e., tolls and user fees) to repay loans, India should advocate for a mix of public and private financing, recognising that some projects, due to their long development periods, may not be financially viable without public subsidies or grants.

India should also consider a proposal of laying a dedicated gas pipeline from the Middle East to India to support the needs of its household consumption as natural gas is far more affordable for common Indians considering the available infrastructure and switch-over cost to use of hydrogen.

India must remain committed and engaged with other transport and energy corridors; NSTC, Suez Canal, Arctic Route via Vladivostok. We must continue to remain vigilant in evolving geo-politics keeping our national interests.

In conclusion, the India-Middle East-Europe Corridor holds immense promise for India and its member nations, offering strategic and economic advantages. It is expected to reduce transportation times and costs, enhance logistical efficiencies, and promote transformative integration across Asia, Europe, and the Middle East. However, addressing funding challenges and managing a complex geopolitical landscape will be critical to its success. India's active engagement with various transport and energy corridors will play a pivotal role in safeguarding its national interests in evolving geopolitics.

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## **In A World Marred By Conflict, PM Modi Is A consensus-Builder Par Excellence**

**By Hasmukh Adhia**

The writer is former finance secretary and currently principal adviser to Gujarat CM

*As the world navigates escalating challenges, it seeks an anchor in the timeless ethos of Bharat's Vasudhaiva Kutumbakam. Standing tall as its resolute torchbearer in these times is none other than the nation's Pradhan Sevak*

On October 7, 2023, Narendra Modi achieves yet another unique feat. He completes 22 years in public service, first as a chief minister and then as the Prime Minister. Leave alone India, there are hardly any heads of government globally who can boast of such rich experience. Over the years, a lot has been written about Narendra Modi and his qualities, his skills and his administrative acumen. But there is one quality that has not received much attention — his being a consensus builder.

The recent G20 Summit with India at the helm stands out in this regard.

As the G20 Leaders' Summit convened amidst significant global tensions, the world watched with anxiety whether the summit would reduce the discord or increase it. The G20 summit, to everyone's surprise and happiness, ended with a resolute decision to reduce global fissures, widen the lens of global priorities, and enlarge the G20 family with more representation from the Global South.

The initiative to bring everyone to the table and secure a consensus had the distinct imprint of Prime Minister Narendra Modi. Steering the G20 leadership with finesse, he turned areas of trust deficit into bridges of shared confidence, while amplifying the voices of the Global South. Under India's leadership, the East and West converged, and the Global North showed sensitive receptivity to the Global South, a move truly unique in the history of international relations.

In the Summit's backdrop, the India-Middle East-Europe Corridor crystallised, receiving endorsement not just from its stakeholders but from the entire G7 consortium. At this critical moment, Indian leadership could be seen skilfully navigating apprehensions, fostering unity among global leaders.

To many across the globe, this approach might have appeared unexpected. Yet, those acquainted with PM Modi's life and lived principles would identify this as his characteristic style: Taking everyone along and forging a consensus, especially in the face of stark disagreements. When he took on national leadership, he brought with him the fine ideals of bringing all stakeholders together and finding solutions to deep-rooted issues. While many of these issues could have been tackled through dialogue, they remained unresolved, often due to a lack of political will.

A testament to this is his maiden visit to Bangladesh. For years, it was considered that India and Bangladesh should sign the Land Boundary Agreement, but consecutive governments kept dithering. Alongside Bangladesh Prime Minister Sheikh Hasina, PM Modi resolved the longstanding Land Boundary Agreement, a thorn in bilateral ties for over four decades. Rallying India's diverse political spectrum to ratify this agreement was no small achievement. The unanimous endorsement it received in the Lok Sabha, marking it as the 100th Constitutional amendment, highlighted PM Modi's ability to transcend political divides for the greater good. Bangladesh's then Foreign Minister, A H Mahmud Ali, credited PM Modi for giving momentum to India-Bangladesh ties.

A prime example of PM Modi's approach to governance was evident during India's monumental tax overhaul, the Goods and Services Tax (GST). Rather than unilateral decisions, he championed a collaborative spirit, ensuring each state had an active voice in shaping the GST's contours. This once-elusive tax reform became tangible through a meticulous process of extensive consultations and the PM's leadership that evoked trust, even among the non-BJP states. Today, the positive trajectory of GST revenues highlights its success and the buoyancy of the Indian economy.

PM Modi's ability to heal old wounds has brought a new era of peace and prosperity in the Northeast. Under PM Modi's leadership, the Bodo Accord ended 50 years of unrest in Assam. The Bru-Reang agreement resettled 37,000 displaced individuals in Tripura.

The National Liberation Front of Tripura (NLFT) Agreement curtailed long-standing insurgencies. With over 1,000 armed cadres choosing peace over violence, the Karbi Anglong Agreement marked a significant shift in the fortunes of the state of Assam. Perhaps one of the most striking achievements was the Assam-Meghalaya Inter-State Boundary Agreement of March 2022. With this accord, around 65 per cent of the longstanding border disputes between the two states were resolved, showcasing PM Modi's knack for bringing disparate parties to the negotiating table.

Going back to his tenure as the Chief Minister of Gujarat, PM Modi's commitment to bridging divides becomes even more evident. From his days as the CM, he emphasised the need to uproot the divisions that affected rural life, creating bitterness within families and impeding development in villages. To sow the seeds of consensus, rather than conflict, he brought the concept of all-women-led Samras Gram Panchayat. Those gram panchayats, which were able to unanimously elect panchayat leaders, were also given financial incentives.



At the heart of PM Modi's leadership, since his time in public office, lies a commitment to consensus-building. No matter whether it is on the global stage or the close-knit gatherings of village panchayats, a defining trait emerges PM Modi's adeptness at rallying diverse groups, from the global to the grassroots, behind a common goal.

In the face of adversity, he prioritises inclusion, ensuring every voice is heard, every concern is addressed, and consensus emerges from genuine dialogue. This quality is not only noteworthy but essential in our multifaceted world.

As the world navigates escalating challenges, it seeks an anchor in the timeless ethos of Bharat's Vasudhaiva Kutumbakam. Standing tall as its resolute torchbearer in these times is none other than the nation's Pradhan Sevak, Narendra Modi.

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## **India is Proud of: Mahan Chandra Borah Annapurna Library, Melang in Assam**



- Annaurna Library in Assam is one with a difference. Instead of books it stores seeds of traditional rice varieties.
- These traditional varieties have traits that can protect the farmers and people of Assam from the impact of climate change on food security.
- Assam has high vulnerability to climate change, so these seeds are of high significance.

In the foothills of the eastern Himalayas in Assam, Mahan Chandra Borah, is racing against time to stock up nearly extinct and rare indigenous rice varieties, one grain at a time, in his unique seed library-to help secure genetic diversity for climate resilience.

Borah's 'Annapurna' library is "northeast India's first indigenous seed saving library" that seeks to collect and promote the cultivation of heirloom rice landraces of the region in the wake of climate change. A history graduate-turned-farmer, he started the seed bank about 12 years ago, from Meleng in Assam. Backed by traditional wisdom on diverse rice cultivars imparted by the elderly in his village, he fanned out to hamlets across the northeastern states in hunt of these treasures. He subsequently converted it into a library. His assemblage includes aromatic, sticky, black, flood-tolerant and hill rice among others.

"I started with three varieties. Now I have 250 varieties of rice, mostly from northeast India," Borah says.

Annapurna is also a sister library of the California-based Richmond Grows Seed Lending Library.

Richmond Grows in its website says the idea is that you “plant the seeds, let some go to seed, then return some of these next generation seeds for others to borrow.” So, people from the region can borrow seeds from Borah’s library, conserve it and lend the seeds to others.

Borah has expanded his endeavour to open up libraries in other parts of the state in Sadiya, Balipara and Kaziranga. “Farmers come to me to deposit seeds. I saw them in a plot of land and then later on, others come and borrow the resulting seeds. It is not a strict rule that they have to give me back some seeds in return. They can carry on the chain. I characterise their properties and educate the farmers as well so they can make an informed choice about the rice variety they want to procure,” Borah says.

According to Ministry of Agriculture’s agricultural statistics for 2015-16, India produced 104.31 million tonnes of rice over 43.38 million hectares. Rice is the most significant crop cultivated in northeast India.

There are four broad divisions of rice cultivars grown in Assam – Sali (winter rice), Ahu (autumn), Boro (summer) and Bao (deepwater rice), having various traits such as stickiness, high starch content, waxy or otherwise and aromatic.

Borah conducts regular workshops for university students educating them about the diversity and the need to preserve the indigenous varieties and plans to connect with more to spur a community seed library initiative.

At the Biodiverse 2018 conference at IIT-Guwahati, Borah showcased a clutch of rice types for attending students and participants. Take ‘Tulsi Sali’, for example. It is suitable for low land areas. Borah points out it takes time to cook but “is good for hardworking people”, alluding to its nutritional characteristics. Also, on display was the iconic ‘Joha’ aromatic variety that received the geographical indication (GI) tag last year, as well as stocks of exquisite black rice. “Burma Black (black rice) needs two whistles (on a pressure cooker). Kokua Bora’s grains are red and is very tasty as a parboiled rice,” Borah said.

“Some of the Joha rice varieties are at the cusp of extinction while other such as Dumai, Murali in Barak Valley are also threatened,” added T. Ahmed, chief scientist, Regional Agricultural Research Station, Titabar, under Assam Agricultural University (AAU). Rice germplasm of the region should be thoroughly evaluated to seek out sources of resistance before they are wiped out by ravages of nature and human interventions, he emphasized.

“Despite their low-yield potential, these cultivars are grown for their high market and social values. And they are important reservoirs of valuable traits. The germplasm collections from this region could serve as valuable resources in breeding for abiotic stress tolerance, grain yield and cooking/eating quality,” Ahmed said.

Climatic factors have also pushed scientists to harness biotechnological tools to develop resilient rice varieties. “We are developing short-duration flood tolerant variety. We developed the popular Ranjit variety which is suited to flood-free rain-fed lowlands during winter season in Assam. It now covers over 60 percent of sali (winter) crop areas. The improved ‘Keteki Joha’ scented rice gives three times higher yield. We need a basketful of rice varieties to combat climate change and develop resilience. Any form of conservation, whether ex-situ (in lab) or in-situ (natural site) is good,” Ahmed said.

“Northeast is the motherland of paddy. My ancestors were into farming, and I took up the profession. Gradually it was seen that some of the traditional varieties started vanishing. This is not good. In addition, the seed market is being monopolised. So, if you think about food security, you must think about seed security,” Borah says.

Society at large cannot forget, it is people like Madan Borah who with their zeal are saviours of nature’s gift to humanity, in this case varieties of rice.

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