

# MONTHLY POLICY NOTE



## INSIDE THIS EDITION

This edition of the Monthly Policy Note looks at the global economy and its potential impact on India while also looking at the Vision 2030 through which there is a lot of impetus on infrastructure development towards meeting goals. Similarly, in the defence sector, SPVs are being considered as an avenue towards PPP model for critical defence projects.

In the Healthcare segment, we focus on how innovations in medical imaging are key to early detection and cure. We also highlight the importance of sustainability driven growth model for the north-eastern states in India. Fintech continues to be an interest area and will continue to see innovations being the focus area.

In the Expert section, we have Mr Karan Avtar Singh – Chairman, Punjab Water Regulation and Development Authority share his inputs on the preservation, utilization and importance of water as a natural resource.

*"That which does not kill us, makes us stronger"*

– Friedrich Nietzsche

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## **Expert Interview:** **Karan Avtar Singh** – Chairman, Punjab Water Regulation and Development Authority (PWRDA)

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## Policy Square | A Primus Partners initiative to understand the more fundamental questions in policy making

Primus Partners on 28<sup>th</sup> December 2021 launched **Policy Square**, in association with Businessworld.

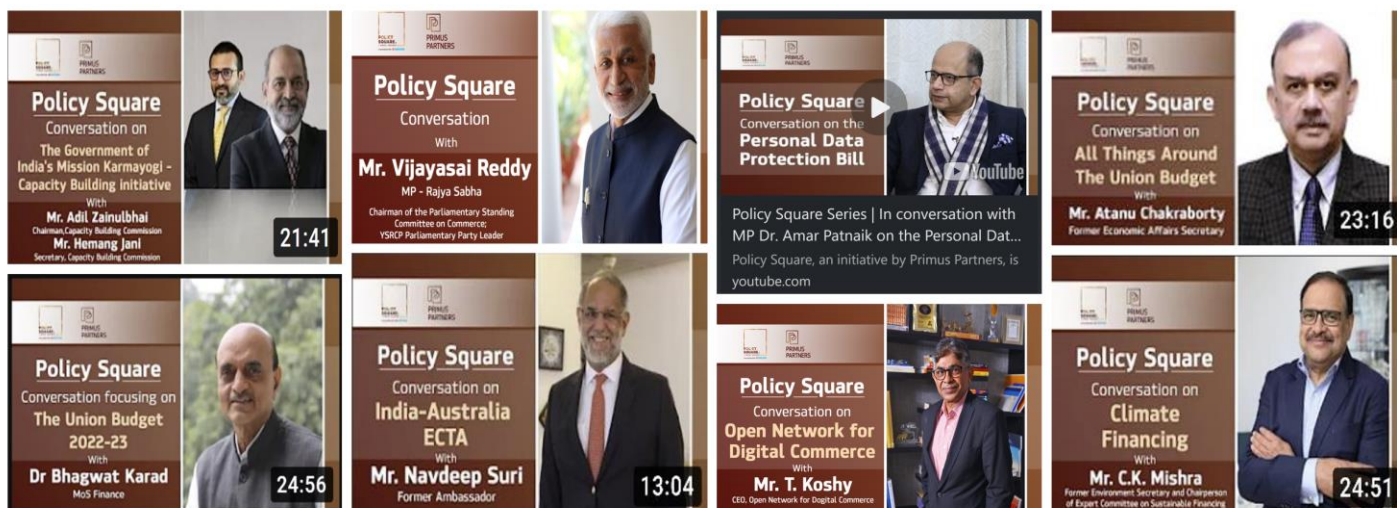
Policy Square, an initiative by Primus Partners, is a monthly expert interview series wherein key constituents of the public policy ecosystem – senior policy-makers, civil society members, business executives etc. – are interviewed on critical issues and policies of national importance to explore their impact on the country and industry at-large.



With this initiative, we have attempted to cover various experts at various levels within the country's ecosystem. Each expert has brought in a new perspective – all towards enabling India's growth both in absolute and relative terms.



### Looking back...



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Policies, Budgets, Geopolitics, Technology, Capacity building and Climate change – subjects that are at the core of India's growth story – subjects that will drive India towards becoming a global leader in various fields in the coming decade...

...we have covered it all and have spoken with thought leaders in respective fields.

Let us know your thoughts on how Policy Square has turned out and of course what more should be done to ensure more value add for you the reader.

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## India and Recession?

*– Not there yet and best to remain that way*

Most nations and their economies are in a state of stagnation amid a worldwide epidemic, a conflict between two countries that has drawn out all leading countries on either side, and a supply chain ecosystem block that has caused extremely high inflation rates. Despite projections of 3.2% growth in global GDP in 2022, the IMF has raised fears about an impending global recession (defined as two consecutive quarters of negative growth). This would be of immense concern to the US and other developed economies.

A survey of economists by Bloomberg indicates that there is an 85% chance that Sri Lanka, which is already experiencing a serious financial crisis, would enter a recession within the next 12 months. The survey also indicated that there is a 20% chance that China will experience a recession in the coming year and a 25% chance that South Korea or Japan would also experience one. Overall, Asia has a 20–25% risk of experiencing a recession in the upcoming year, compared to a 40% likelihood for the US and a 50–55% risk for Europe.

While India's economy is expected to grow, the rate of growth is predicted to be much slower than it was in the previous year. The US economy, however, has shrunk in the last two quarters of this year, and China's growth has slowed to 0.4% from April to June. This is expected to have an impact on India's export demand as well since the US and China are its main trading partners. Industry experts have also heightened concerns that a worldwide recession is imminent. When it comes to India though, a recession appears unlikely to happen at least now.

The International Monetary Fund reduced its growth forecast for India by 80 basis points to 7.4% in its July edition of World Economic Outlook. The updated growth prediction is more realistic and in line with government forecasts. India's GDP was expected to increase by 6.1% in the upcoming year, according to the IMF.

The Indian economy is well supported by the recent recovery of the monsoons, the augmentation of manufacturing and services, the country's strong buffers in the form of adequate international reserves, and a well-capitalized financial system. Due to these factors, India has a good chance of achieving a growth trajectory over the medium term. The change in growth projections is however attributed to less favourable external factors and fast

What is heartening however is that the Reserve Bank of India (RBI) has also acted proactively which has resulted in holding steady the Indian

economy amid the tough global conditions, despite the Indian rupee reaching a historical low versus the US dollar. The increase in lending rates or repo rates by RBI across several monetary sessions has been a crucial step to control inflation which is a key global concern currently with countries like the US and UK seeing very high inflation rates. RBI raised a total of 90 basis points across various sessions.

The 7% decline in the value of the INR relative to the USD this year was not worrisome, and the government and RBI feel confident in their capacity to regulate the situation. Even while inflation is still over the comfortable threshold for India, the pent-up demand for services and rising industrial output are expected to keep the economy stable on its recovery path.

However, all said and done, despite its durability the Indian economy cannot be immune to a slowdown in the global economy or a potential recession in advanced economies. The world today is globalized enough to ensure dependencies that cannot be ignored. For instance, exports may moderate in the coming months as an effect of the economic underperformance of countries like US and UK. A recession in the US would particularly affect India's exports of IT services. Although order flows from international clients are currently high, stagflation worries are thought to be reducing IT firms' profitability margins.

With gradual roll backs of measures taken during the COVID pandemic, it is now important to focus on steps towards macroeconomic stability. With the US dollar hitting a 20-year high, the current policy initiatives will help reduce the impact of a higher cost of borrowing driven by rising inflation. Measures by RBI will help counter the outflow of dollars seen across asset classes while providing access to capital at a cheaper cost thereby alleviating the impact of higher domestic interest rates.

Dependencies on crude oil prices coupled with currency fluctuations would have their varied impacts, however what appears to be clear for now is that rate of growth maybe slightly impacted but India is better placed when compared to the EMDEs and the overall global economy.



## Taiwan: A geopolitical hotspot – A critical cog in the world of electronics

If one were to define the geopolitical scenario of the 21st century till date then turbulence and uncertainty will be close competitors. Global affairs of the 21st century have kept policy watchers on the edge of their seats for some time now. The latest hotspot of the geopolitical tensions has been Taiwan.

Taiwan is situated in the North-Western Pacific ocean at the straits of the East and South China Seas. What makes it a geopolitical hotspot is China's claim over the sovereignty of Taiwan as a part of the mainland and the illegitimacy of the government in power or the right of the government to govern without Beijing further vowing to unify it with the mainland at an opportune time.

Taiwan, on the other hand, claims sovereignty from mainland China while calling itself the Republic of China. Taiwan follows a democratic model of governance with a President elected to power with popular mandate since 1949. The country has its popular general elections, maintains its defence troops and has its own national constitution.

However, the acceptance of the legal status of Taiwan as a nation is still unclear. While many countries acknowledge ties with Taiwan, the recognition of nationhood is still a point of contention. However, with its fast growing population and tech leadership, Taiwan has today placed itself in the global geo-economic map.

Over the last few decades, Taiwan has emerged as a leader in ICT with its cutting edge innovation. Under the New Southbound Policy aimed at diversifying its markets, the Taiwanese leadership looks at improving ties within the neighbourhood, ASEAN and South Asia, Australia and New Zealand.

US has always maintained strategic ambiguity over the issue of Taiwan. While it recognises the One China Policy, the intention to militarily support Taiwan in case Beijing were to invade has not been a hidden intention of the Biden administration.

The recent round of tensions between China and Taiwan emerge from US House of Representatives' Speaker Nancy Pelosi's maiden visit to Taiwan, a first in many decades by any occupant of political office in the US. This was followed by a second visit of a US Congressional delegation led by a Democratic Senator Ed Markey.

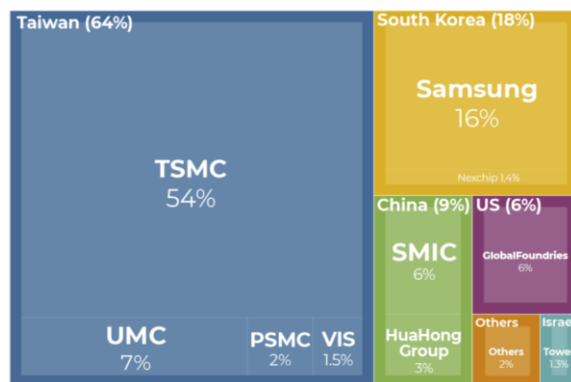
Speaker Pelosi's visit is being seen by the Chinese leadership as a violation of the US's commitment to the One China Policy while the US Government denies the allegations. As per the US Government, Speaker

Pelosi's visit does not violate the stand of the US government as Speaker Pelosi does not occupy any seat of power in the executive branch of the US government.

However, the view from Beijing is not the same. Ever since the announcement of the visit, China has been flexing its muscles over the island nation. From military planes to naval vessels were seen visiting the strait in a show of power by the Chinese authorities both before and after the visit. Not just military provocations but China has also imposed sanctions on select Taiwanese officials including the trade representative to the US and banned the import of some fruit and fish from Taiwan marking its dissent of the high level visits.

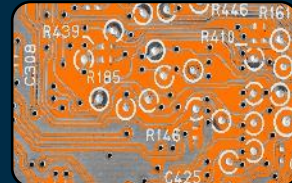
Military provocations by China have been growing ever since, drills by military aircrafts to visits by Naval warships have been the new normal in the strait ever since the announcement of the first visit. The world too is closely watching the situation and preparing for the worse if the situation was to deteriorate.

However, in the 21<sup>st</sup> century physical warfare will no longer be the weapon to express dissent. While military demonstration could be a show of strength by China, the global community is split in its opinion of the possibility of a full-fledged war or unification by force. But what will make matters worse is the blockade of outward routes of transportation from Taiwan which will bring the global electronics industry to a grinding halt.



(Source: TrendForce)

Taiwan is the world's biggest producer and supplier of electronic chips to the world. The Taiwan Semiconductor Manufacturing Corporation (TSMC) accounted for the supply of over 60% of the total chips all over the world in 2020. Taiwan, in the past too, has reported cases of increased cyber-attacks and cyber surveillance of its digital assets by the Chinese agencies.



## Vision 2030:

*- Miles further to go to make good become better and better become best*

India started its economic progress in 1991. Since then, it has experienced huge incremental benefits such as higher growth, enhanced openness, and a considerable amount of reduction in poverty levels.

Infrastructure is the key driver of the Indian economy and is highly responsible for India's overall development. **India is poised to become a \$ 5 tn economy by 2025 and aspires to become a \$ 10 tn economy by 2030.**

India plans to spend US\$ 500 billion on infrastructure till 2030 to achieve sustainable development. With this target behind us, several ministries have geared up to make their independent targets to help the country achieve this goal.

A total investment of Rs. 50 lakh Cr has been recommended by the government for the railway infrastructure between 2018 and 2030, the Maritime India Vision Plan 2030 envisages Rs 3 Lakh Cr investment in Ports. A similar plan is being developed under the Bharatmala plan in the roads sector.

In the Union Budget 2022-2023, the Government has given a massive push to the infrastructure sector by allocating Rs 10 lakh crore to enhance the infrastructure sector.

Various initiatives are undertaken by the Government to catalyze infrastructure development across the country. These include some of the biggest structural reforms such as:

- Establishment of **the National Bank for Financing Infrastructure and Development (NaBFID)** for infrastructure financing and development
- Introduction of **the Single Window Clearance system called the Gati Shakti Mission**. This is a digital platform to bring 16 ministries including roads and railways together for integrated planning and coordinated implementation of infrastructure connectivity projects.
- Among other projects, the National Infrastructure Pipeline (NIP) will roll out projects worth 1.4 trillion dollars over five years.



Even though India has grown its infrastructure investments over the years, there are still many challenges to overcome. The quality of infrastructure remains a challenge across sectors, capacity of government at various level remains a bottleneck, technology adoption needs to be hastened.

**Underspensing :** According to a report by the Asian Development Bank, India would require an investment of around \$5.15 trillion in the infrastructure sector by 2030 to sustain growth in the country. India, however, is spending way less than this which highlights a huge gap. Despite active investments in infrastructure, there is still a huge gap. Infrastructure bottlenecks are estimated to have pulled down India's GDP by 4-5% per annum. Therefore, as India continues to develop its basic infrastructure services, it is crucial that efforts are made to fill these existing gaps which will help the country achieve this long-term vision and growth.

A major reason for this gap is a lack of integration in planning and challenges in raising financing the plans. This needs to be corrected at the Central Level with the Government taking the onus of developing an executable plan for infra investments. Another focus area to tap the massive investment needs, is the involvement of municipalities in India. Strengthening of municipal or city planning, and finances is a critical piece to bring in the required efficiency in the planning process.

A clear pipeline of national and municipal infrastructure projects with timelines will allow quality planning and financing of large- and small-scale infrastructure projects, enabling smooth implementation of the overall plan maintaining the growth trajectory.



## SPVs in defence

### – Adaptability and Change are core for survival

For long having been an industry with an overarching government control, aerospace and defence is now significantly open to private participation. So much so that, critical and strategic programs like the design, development and production of submarines, fighter aircraft and helicopters are witnessing entry of private industry as core partners in the end-to-end process covering the entire life cycle from conceptualization to obsolescence management.

What has led to this tectonic shift in the last decade or so? For one, it is the inclusiveness and flexibility of government policies where efficiency and merit are being seen as an important factor. Second, huge import content even after decades of independence has triggered a flurry of activities towards ensuring a certain degree of self reliance, and to meet these demands it is important that all available resources work in a coordinated manner. Third, the private industry has proven its capabilities time and again with respect to order completion and competitiveness – be it domestic production or export orders. While accounting for only 20-30% of total domestic defence production, the private industry accounts for almost 90-95% of total annual defence exports. While this statistical gap is narrowing, what the numbers highlight is that the industry has evolved exponentially and is gradually coming of age across all segments (not just a few).

A public-private partnership in design and development is also not an entirely new concept in defence in India. The gun, ATAGS, which was used for the 21-gun salute during the Independence Day ceremony on 15<sup>th</sup> August 2022 is a result of joint effort of DRDO along with two private industries viz. Tata Group and Bharat Forge. What is being done through the SPV model now is ensuring that a formal structure is in place for these initiatives and there is enough incentive for all stakeholders in the country to invest in capabilities (R&D etc) as well as capacities (production activities).

Given that many of the current in service fleet of platforms across aerospace, land and naval segments are nearing completion of useful life in this decade, it is imperative that the design, development, production and procurement plans are executed within the requisite timelines. For that to happen, many alignments are critical and hence need to fall in place:

- Realistic production rates and timelines
- Quality and cost-effective parts, components, systems, and subsystems
- Consistency in the vendor base to ensure no supply chain shocks
- Strong infrastructure and team

- Ability to service and / or provide for MRO and aftermarket services within the country's ecosystem.

The defence public sector in India has the required infrastructure and experience to work with the private sector towards a further efficient ecosystem. The private sector for its part has proved its capabilities and the only way from here is higher.

A workable model for public and private entities requires strong and credible partners in the SPV. The concept of an SPV model bring inherent benefits, some of which include (1) a separate legal entity with limited liabilities as well as (2) flexibility in ownership structure with potential for perpetual existence basis mutual understanding between stakeholders. While the Government has identified few critical programs under the SPV route viz the AMCA, Long range UAVs as well as the IMRH programs – it is important that this model also gets replicated for other critical programs. Not necessarily only integrated platforms, but the critical systems or subsystems like aero engines for example could also be looked at under the SPV route.

It is important to note that not all procurement programs be taken up under the SPV route. It is required to identify the critical ones and ensure that the public and private industries together work towards them. Being the aerospace and defence design and development lead in the country, it is imperative that DRDO be part of the most critical SPVs which still require significant R&D work and / or for which capabilities are not very deep within the private industries in India. DRDO as an organization is very critical to steer the SPV for in such cases.

Separately, the SPV model also ensures a very transparent and accountable utilization of the 25% R&D budget allocation that has been given for the private industry. The importance of an R&D ecosystem cannot be downplayed especially in the current geopolitical ecosystem. Technology is evolving exponentially and it is important to keep pace with it else it becomes only a catch up exercise which is no good for any nation.

All in all, SPVs in Indian defence are a reflection of the changing times. It highlights the realization within all the stakeholders that it is important to have a collaborative effort in a high tech, capital intensive industry with a high gestation period.

Call it adaptability for survival or adaptability for excellence – the end objective is for India to become a global leader in this industry by the end of this decade.



## Lending to fintech start ups

### - A revolution going through its evolution

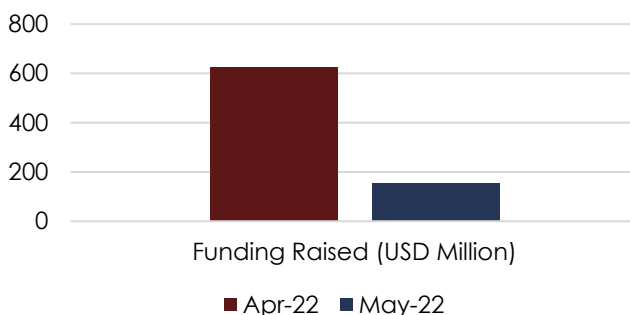
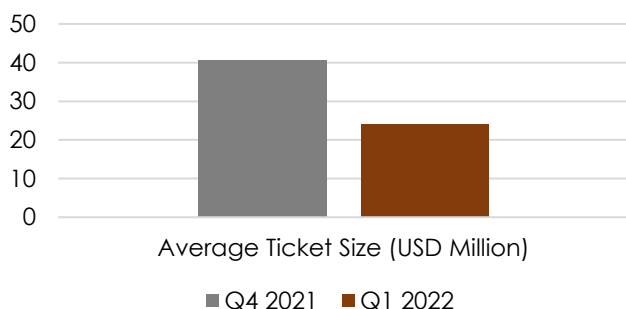
As we witness the success of India's Fintech Revolution, new entrants are plunging into the Fintech Industry. The total fintech market opportunity for India stands at \$1.3 tn and is exhibiting to be one of the most lucrative startup

sectors. A collaborative ecosystem is driving further growth, supported by government initiatives such as Smart Cities, Digital India and Unified Payments Interface (UPI).

- ❖ Buy now pay later (BNPL) has grown to be a conventional payment method and is transpiring strongly in the B2C and B2B payment space.
- ❖ Co-lending has been emerging as a preferred model that supports lending partners to mitigate risk exposure.
- ❖ New asset classes, cryptocurrencies, & non-fungible tokens are also continuing to attract investor interest, as fintech companies assist traditionally underserved customers.

Based on the Indian Fintech Report – June 22, fintech startups have raised a combined USD 1.77 Billion in funding in Q1 2022 that shows a quarter-on-quarter decline of 45%. In May 22, fintech startups raised about USD 153 Million that has been lower by 75% as

compared to USD 624 Million in April 2022. The average ticket size stood at approximately USD 24 Million in Q1 2022, as compared to USD 40.5 Million in Q4 of 2021, showing a decline of 40%.



**Fintech startups in India have recently been in quandary after the Central Bank's diktat on digital lending norms:** RBI has published rules based on the recommendations presented by the working committee on digital lending. The recommendations shared by the working committee addresses issues relating to lack of transparency, data protection, and privacy, as well as user consent. These rules are set to boost consumer confidence and build trust in the credit system, allowing players to continue business without any modification to the business models.

**Although fintech startups have raised over \$15 bn from high-profile investors in the past few years yet funding has shrunk due to new norms and changing market dynamics:** With the publication of new norms, there has been a block on non-bank prepaid payment instruments (PPI) that has prompted several fintech startups to

witness an existential threat. Startups for instance Slice, Jupiter, Uni and KreditBee have been using PPI licenses to issue cards and then equip them with credit lines. Such fintech essentially partner with banks to issue cards and then tie up with NBFCs to offer credit lines to consumers. Players such as Amazon Pay, Paytm Postpaid and Ola Money are also under the radar and believe that they might be impacted as well.

**Way Forward:** The digital lending guidelines published by RBI recognizes the role of fintechs in the lending segment. Consequently, it offers a plethora of opportunities and shall push fintechs to proactively work with the regulators for developing solutions under the regulatory umbrella. For its part, the regulators must assist fintechs in adapting to the new norms and bring in innovation while protecting customer interests.

What to expect



Consolidation with larger players through M&A



Neo Banks and BNPL – Further regulations



Continued partnership with banks

Fintech start ups have focused on the innovation angle within the financial services industry

## Innovations in Medical Imaging – A picture of the future

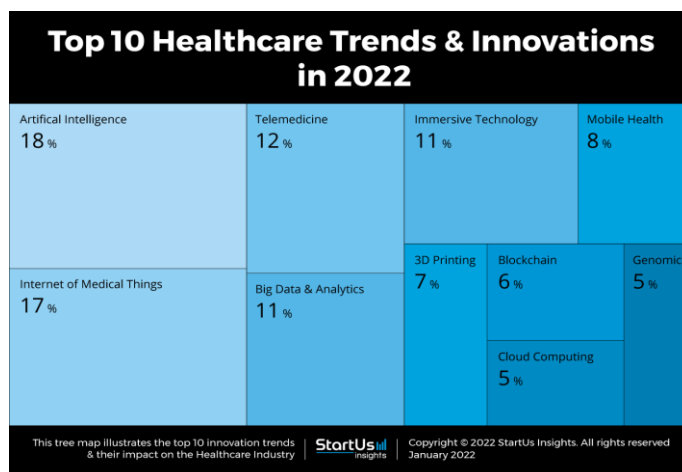
Due to the rising burden of the “Silent Killers” also known as the Non-Communicable Diseases and the ongoing pandemic, people and professionals have come to realise the importance of early diagnosis and treatment. Radiological tests like CT, MRI, X-Ray are seeing higher volumes of patients.

According to reports, the MedTech industry in India is currently valued at Rs 11 billion and is expected to reach Rs 50 billion in 2025 with a CAGR of approximately 37 per cent. The highest imports in this sector include high end radiological devices like CT scanners, MRI machines, USG machines etc. The Indian Diagnostic Market accounted for 14 per cent of the Asia-Pacific Market in 2021 and is expected to grow at 8 per cent CAGR.

The use of Artificial Intelligence and Machine Learning in Medical Imaging has been groundbreaking as it increases accuracy, aids in clinical decision making, keeps error-free records, predictability and connects patients with resources for self-management of records. While most of the country's largest corporate chain hospitals have started integrating these advanced technologies in their operations, there is still some hesitation to adoption of the AI/ML based devices. The two main reasons being the high cost of the machines and their operations and the lack of skilled manpower to operate. The traditional radiologists and technicians show resistance to learning the new systems, however, this challenge is fast overcoming.

Over the last decade, with the emergence and rising acceptance of telemedicine, a specialty that has benefited the most from this technology is Radiology. *Teleradiology* has been a welcome introduction to the world of diagnosis and has been especially beneficial to a country like India where the pool of specialists, technology and infrastructure is insufficient to cater to such a large population. It is a solution to the problem of access to the diagnostic services in the rural areas, where nearly 65 per cent of the population lives. While it looks like a utopian answer to the challenges of diagnosis in the remote areas, it is riddled with obstacles of its own. Infrastructural set up for the machinery, high cost of the machines, lack of manpower, poor quality control, high turnaround time etc. are some of the roadblocks on the path of adoption of the Teleradiology services and its utilization to the full potential.

A challenge that constantly surrounds adoption and acceptance of technologies like Big Data in the medical sector is the security of patient data.



It is pertinent to protect the privacy of the medical records of the patients and hence these technologies cannot be simply adopted without a proper regulatory framework in place. In India, the Ayushman Bharat Digital Mission aims to provide the secure platform for record keeping of the patients, institutions and professionals. The Electronic Health Records Standards for India (2016) provide guidelines for the storage and usage of patient's medical records for professional use. ABDM will provide a necessary integrated health infrastructure to the country which will promote the adoption of technologies such as AI/ML based medical imaging and teleradiology.

Some of the most innovative Indian startups in the medical imaging space are –

- Qure.ai – It uses deep learning algorithms to interpret radiological images and scans for X-ray, CT scans etc. This aids in accuracy of diagnosis and helps the specialist to identify the best line of treatment for the patient.
- SigTuple Technologies- The advanced fundus camera for ophthalmology imaging is a solution for the remote diagnosis for eye pathologies through the use of cloud storage and AI systems. This is a boon for the population in remote villages that do not get access to specialists or testing labs.
- Artelus- Another innovation aimed at solving the problem of diabetic retinopathy screening through the use of deep learning technology. It also uses AI for the review of images.
- Tricog- Cloud connected ECG and Echo devices that help the specialist to interpret and analyse the reports within a few minutes with increased accuracy.



## Growth vs Sustainability in NE India

*- It needs to be "And" and not "Either / Or"*

The worsening climate crisis has brought the debate of growth vs sustainability to the forefront. Countries are mainstreaming inclusive economic development in ways that incorporate, create, and sustain environmental and social values. In this context, it is essential to consider that sustainable growth models will vary from region to region depending on the availability of unique local resources. In light of the above, the economic growth model followed in India will also differ extensively through its diverse terrain, and much so for NE India. The most common misconception about the region, however, is that it is a homogeneous entity whereas, it is a kaleidoscope of geographic, ethnic, and economic heterogeneity. **The North-East region has a unique development architecture that is sensitive to local climate and the surrounding environment. Therefore, it is imperative to look at the region's economic growth through the lens of sustainability, and aim for environmental resilience along with increased prosperity, well-being, and economic profits. The growth that is both, inclusive and sustainable, will be a result of integrated actions across sectors by different stakeholders, including, Governments, businesses and societies.**

This integrated action will require the policy makers to take several targeted steps such as below:

**Climate proofing of sectors in NE India, including tourism, agriculture and infrastructure.** Being largely less explored than the rest of the nation, it is essential that these states draw up definitive plans of action to promote tourism with clearly outlined action plans, focusing on a multistakeholder approach, and highlighting the role of local communities in development of sustainable tourism in the region. The policymaking process of the states should include local communities in the formulation process and make use of their knowledge base to integrate traditional agricultural practices with climate friendly methods. In NE, the buildings should be designed based on local climate to provide uniqueness, sense of belonging, social and cultural identity. The building designs may also focus on promoting sustainable architectural practices to maximise the use of renewable resources and create climate adaptive designs.

**Substantial investments in climate adaptation initiatives, including in appropriate technology:**

According to a 2021 report from the Climate Policy Initiative, climate adaptation receives only 7% of climate-related investments globally.

NE India is prone to extreme flooding, and it is therefore necessary to build the region's capacities. For instance, the Union Ministry of DoNER initiated the *Climate Change Adaptation North Eastern Region (CCANER) Project*, in partnership with the German Development Cooperation and the state governments of Meghalaya, Nagaland, and Sikkim, to strengthen rural livelihood resilience and build adaptability to the impacts of climate change. Similar partnerships need to be explored for the rest of the states in the region. Further, there is a need to launch a 'North-Eastern Regional Action Plan for Climate Change Adaptation', on the lines of NAPCC, with specific missions identified on the basis of states' unique features and vulnerability to climate change. For instance, there could be a 'Mission on Building Climate Resilient Infrastructure, with focus on Assam's vulnerability to flooding events.

### Implementation and monitoring of State Climate Action Plans:

The states should ensure that their Climate Action Plans have considered the existing issues being faced by the state. The SAPCC of Meghalaya, for instance, has identified nine missions in line with the NAPCC. The SAPCC considers the unique climate issues faced by Meghalaya and its impact on growth. Further, the implementation of these plans need to be monitored periodically through the use of appropriate technology.

**Intelligent, climate responsive policies:** The states of NE India, should also be encouraged to draft new policies that are responsive to the effects of climate change in the region. Two such essential regulations and policies, include; updating/drafting of building codes for climate proofing of existing urban spaces, and dedicated water policies, which focus on water security while building resilience to climate related disasters.

The northeast Indian region has maintained an intimate connection with the environment. Therefore, economic growth along the lines of sustainable development remains a topic of utmost importance in the region.

*For the north eastern states it is imperative that both growth and sustainability go parallelly so that the development takes place while the inherent features of these states is also preserved*



## **An important aspect to water conservation and efficient usage of treated water comes from community participation**



**Karan Avtar Singh – Chairman, Punjab Water Regulation and Development Authority (PWRDA)**

A 1984 batch IAS officer, Karan Avtar Singh currently chairs the PWRDA. A former Chief Secretary, Mr Singh has had a significant role in implementation of multiple reforms in the state of Punjab.

**Start-ups today are becoming a key part for every industry and they should be handheld in the formative years to ensure they gear up and are able to achieve their true potential. Do you believe that start-ups can play an important role in this domain of water conservation and water resource management?**

Technologies and cutting-edge innovations are indispensable to tackle water related challenges and create a water sustainable future. Many start-ups today are developing smart solutions by working on advanced technologies that leverage remote sensing, IoT, AI, ML and GIS-based processes that offer Smart Water Conservation & Management solutions. Today, new technologies such as hydroponics have multiple advantages over the conventional methods and is eco-friendly approach to water management. These next-gen technology solutions that are being developed through the energy of agile start-ups and the scale of reach across the globe can help the country in solving today's water crisis.

**In your opinion, is the stress on ground water today a serious concern? What are some of the key initiatives that can be taken up by the Government to tackle this issue?**

Groundwater is the most preferred source of water in various user sectors and hence increasing dependence has resulted in indiscriminate extraction. Approximately 95% toll on water is because of agriculture and to address the increasing water shortage, there is a need for a National Agriculture Policy with defined scope of work which addresses the issues related to improper and inefficient uses of natural resources. The State of Punjab has taken up some progressive initiatives towards tackling this issue.

First, the State has engaged an Israel based company for preparing a comprehensive master plan for the conservation & management of water resources to tackle declining groundwater. Second, the State has come up with a unique scheme – Pani Bachao Paise

Kamao that will enable farmers to save water and earn money for every unit for electricity they save. This scheme is likely to be extended to the entire state of Punjab in the near future.

**What is your take on India's progress under the SDG 6 Goal for clean water and sanitation?**

SDG 6 is of prime importance because it has a direct impact on important issues like health, food security and livelihood. India has only 4% of the world's freshwater resources whereas it is home to almost 1.3 bn people and many still struggle to get access to clean water. Though the Government has taken various initiatives such as Jal Jeevan Mission to provide drinking water to households, awareness among citizens needs to increase manifold. The paradigm on water management needs to shift among citizens. In Punjab, we are doing pilot projects with Punjab Agriculture University on water efficient new crop varieties.

**Can treated wastewater be a reliable alternative water resource and what is its potential?**

The planned use of treated wastewater can increase resource efficiency and provide benefits to ecosystem along with balanced industrial development. In Punjab, the demand of treated wastewater is a lot because of its nutritional components and for this reason all STPs in the state are being upgraded to irrigation quality standards. Along with this, in Punjab we plan to come up with 'star ratings' to meet international standards of water safety, to ensure minimum water is wasted in the process of manufacturing specially for industries such as textiles.

An important aspect to water conservation and efficient usage of treated water comes from community participation. Presently, the incentive to free electricity is an incentive to waste water but we can flip it and make this as an opportunity. Therefore, awareness and community participation can play a very important role.

About Primus Partners

Primus Partners has been set up to partner with clients in ‘navigating’ India, by experts with decades of experience in doing so for large global firms. Set up on the principle of ‘Idea Realization’, it brings to bear ‘experience in action’. ‘Idea Realization’— a unique approach to examine futuristic ideas required for the growth of an organization or a sector or geography, from the perspective of assured on ground implementability.

Our core strength comes from our founding partners, who are goal-oriented, with extensive hands-on experience and subject-matter expertise, which is well recognized in the industry. Our core founders form a diverse cohort of leaders from both genders with experience across industries (Public Sector, Healthcare, Transport, Education, etc.), and with varied specialization (engineers, lawyers, tax professionals, management, etc.).



- PASSION**

for providing solutions to help clients achieve their goals
- RESPECT**

For all and alternate viewpoints
- INTEGRITY**

of thoughts and actions
- MASTERY**

of our chosen subject to drive innovative and insightful solutions
- US**

Representing the Primus collective, where each individual matters
- STEWARDSHIP**

for building a better tomorrow

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Write to us at: [feedback@primuspartners.in](mailto:feedback@primuspartners.in)  Primus Partners India  @partners\_primus

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